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TO

GEORGE NICHOLSON

The Seventeenth Volume of THE GARDENING WORLD *is dedicated.*

FOR over a quarter of a century the name, George Nicholson, F.L.S., V.M.H., of Kew, has been a household word throughout the British Isles, for enquiries concerning him have been addressed to us by all classes of people in the horticultural world, north and south, east and west, wherever Kew was mentioned, showing how closely he was in touch with horticulturists everywhere, both scientific and practical.

Mr. George Nicholson was born at Sharow, near Ripon, Yorkshire, in December, 1847. He commenced his gardening career at home, and after a time entered the service of Messrs. Fisher, Holmes & Co., Handsworth Nurseries, near Sheffield. From thence he turned his face towards London, entering the nurseries of Messrs. Hugh Low & Co., Upper Clapton. After sojourning there for a while, he went to La Muette, the horticultural establishment belonging to the city of Paris. Here he greatly increased his knowledge of the profession, and among other accomplishments acquired fluency in the French language, which he still retains, and must have found very serviceable, not only in an official capacity, when occasion required it, but in the numerous Continental journeys which he afterwards undertook, and in conversing and corresponding with the numerous scientific friends and acquaintances he made on the other side of the "Silver Streak."

From La Moutte he returned home. At the end of 1872 he sat in the competitive examination for a clerk to the Curator, Royal Gardens, Kew. Having been successful, he was called upon to fill the office, beginning his duties at Kew in February, 1873. In this capacity he continued till the resignation of his chief, the late Mr. John Smith, the second curator of that name in succession at Kew, in the spring of 1886. A few weeks after this event he was promoted to the post of curator, an office he filled with ability and acceptance till failing health compelled him to tender his resignation a few weeks ago, much to the great and sincere regret of his wide circle of friends everywhere, who spoke of it with bated breath wherever two or more of them were gathered together.

Early in 1884 he became editor of a work which has since earned a world-wide reputation, not only where English but other languages are spoken. This was *The Illustrated Dictionary of Gardening*, in four volumes, which has long been familiarly spoken of as "Nicholson's Dictionary of Gardening." He worked most assiduously at it, for to him it was chiefly a labour of love, repairing to the Herbarium, Royal Gardens, Kew, morning after morning at six o'clock, before the appointed hour for his official duties, in order to correct, add, and find out the recognised botanical names of plants, many of which were then known only under garden appellations. The style of this work and the amplitude of its illustrations found not only admirers but copyists in Continental Europe and in America. At home a second supplement to it of an extensive nature is now passing through the press. The dictionary will keep his name green amongst gardeners and horticulturists of all classes for many a year and day.

After taking up his residence at Kew or its neighbourhood, Mr. Nicholson spent his holidays by travelling in many European countries, and visiting all the famous gardens. After that he acquired a passion for mountain climbing, spending his holidays in that fashion in Switzerland, Tyrol, &c., under circumstances often not devoid of danger. He also did some climbing in the Highlands of Scotland, collecting British alpine plants. He is an excellent British botanist, having collected many rare subjects, some of which had not previously been recorded in the annals of botany. A new Rose he picked up at St. Cyrus, Kincardineshire, was named Rosa involuta Nicholsonii by Crepin, in compliment to its finder. Scutellaria Nicholsonii, a hybrid between S. galericulata and S. minor, he discovered at Virginia Water in 1883. Many other plants also bear his name. He also has a splendid knowledge of trees and shrubs generally, possessing a splendid herbarium of these subjects.

In the way of personal titles, he was elected an A.L.S. on December 16th, 1866, and F.L.S., on May 5th, 1898. The Royal Horticultural Society added V.M.H. (Victoria Medal of Honour in Horticulture) to his name in 1897, a title established to commemorate Queen Victoria's Diamond Jubilee. Besides being a Fellow of the Royal Horticultural Society, he is also a member of the Scientific and of the Floral Committee of that body, and is a life subscriber of the Royal Gardeners' Orphan Fund. He has been and is connected with various other societies, and has altogether had a very active life, notwithstanding his retiring and unostentatious nature.

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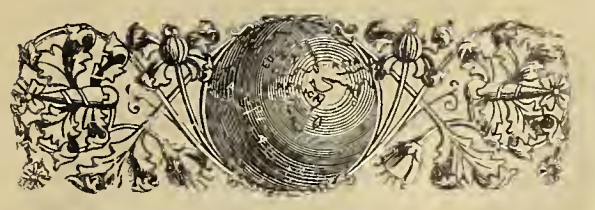

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, SEPTEMBER 1st, 1900.

NEXT WEEK'S ENGAGEMENTS.

FRIDAY, September 7th.—National Dahlia Society's Show at Crystal Palace (2 days).

THE FLOWERS THAT BLOOM IN SPRING.—Under this heading we propose to deal with all those bulbs and their allies which bloom in winter and spring, and which may be at the same time claimed as popular to some extent amongst the wide circle of lovers of flowers. At a fair computation we reckon about twenty-three genera of bulbous or tuberous plants that would come into this category. Something like fourteen of them belong to the Lily family, namely, Hyacinths, Tulips, Lily of the Valley, Solomon's Seal, Lily, Lachenalia, Grape Hyacinths, Squills, Glory of the Snow, Allium neapolitanum, Brodiaea uniflora, Ornithogalum arabicum, Fritillaria, and Dog's-tooth Violet. The above order may not represent their exact sequence in popularity, but very nearly so. Next in order come the members of the Amaryllis family that may be regarded as popular spring flowering bulbous plants, namely, the Narcissi, Snowdrops, Hippeastrum, and Urceolina pendula. The Iris family supplies Crocuses, Freesias, Gladioli, and Iris; while the Crowfoot family certainly supplies a widely cultivated plant in Winter Aconite (Eranthis). We do not advance the fact that all of the above are bulbs, but that a certain proportion are merely associates on account of their habit, time of flowering, and amenability to the same or similar cultural treatment under artificial conditions. For instance, the rootstock of Lily of the Valley, Solomon's Seal, and Winter Aconite is an underground rhizome; while that of a Crocus is a corm. Supposing we were to reduce the above number of the more popular genera to a dozen, they would include Hyacinths, Narcissi, Tulips, Crocuses, Snowdrops, Freesias, Hippeastrums, Lily of the Valley, Solomon's Seal, Lilium Harrisii, Winter Aconite, and Lachenalia.

Most cultivators have their favourites, but all of the above enjoy a very wide popularity in these islands, many of the most popular being amongst the oldest of cultivated plants. This is one of the most pleasing facts concerning them, and shows that, as the world never grows old, because young people are always growing up to take the place of the old ones, so Nature renews the green lap of earth every spring in all temperate countries, and bulbous plants are as fresh as ever when their annual flowering period arrives each succeeding year. Writers are wont every now and again to recall the Tulip mania as an instance of great popularity, the like of which we are never likely to see again; but we regard the matter in quite a different light, because the Tulips were not loved for their own particular sakes, but for the money they fetched. Many of the Tulips bought and sold did not even exist, so that this fact alone would prove our contention. Tulips at the present day in one strain or another are more extensively cultivated than ever they were before, their popularity being determined by their beauty and utility for decorative purposes.

Beauty, hardiness, and easy culture are no doubt three of the strongest or most potent factors in determining the popularity of spring-flowering bulbs. Recollections and old time associations cannot be ignored when searching for other causes at work. Taken altogether, but more particularly for pot culture and indoor service generally, the Hyacinth would would lead the way as the most popular and most universally cultivated race of bulbs. For outdoor work the Narcissi would no doubt take the lead for numbers and general utility; but who can tell us whether Tulips, Crocuses, or Snowdrops take any particular prominence, the one over the other in popular estimation. For bedding purposes or outdoor display generally, the Tulips, in their multifarious forms, are the most effective.

There are several species of Hyacinth in cultivation, but Hyacinthus orientalis, a native of the Mediterranean Region, stands head and shoulders above all others as the showiest, most variable and most widely cultivated species. It has undergone no hybridisation at the hands of cultivators and raisers, but is, pure and simple, the result of cross-breeding, seed-sowing, and selection through a long roll of years and generations. The Roman Hyacinth of commerce, so-called, is merely an early flowering variety of the Oriental Hyacinth. Hyacinthus romanus is quite a different thing, being a small flowered and unpretentious-looking species that seldom shows its face outside of botanic gardens. There are, however, two tiny but lovely blue-flowered species that cultivators ought not to overlook. These are Hyacinthus amethystinus and H. azureus, the specific names of which indicate the colour of the tiny bell-shaped flowers. The last-named is often classed amongst the Grape Hyacinths (Muscari), but it is a true Hyacinth, because the corolla is not contracted at the mouth as in Muscari.

The Narcissi include several species, many varieties and hybrids, even if we confine the list to the truly popular sorts. All the trumpet Daffodils are regarded by many good botanists as forms of N. Pseudo-narcissus. Then we have Peerless Daffodils, Jonquils, Campernelles, Polyanthus Narcissi, Poet's Narcissi, and others, all very distinct in their way. For general utility and extensive cultivation in several well-marked garden races Tulipa gesneriana takes the lead amongst Tulips, as it is the oldest, and has always been the most popular species. There are many garden forms or sub species of it, however, whose pedigree no man can unravel or relate. Many other true and distinct species, however, have been collected and brought home from their native wilds to do duty in garden decoration. Some of the most handsome of them are exceedingly difficult to cultivate and preserve for any length of time in gardens, and have frequently to be re-imported. Others, however, have evidently come to stay, and cultivators would do well to affect improvements upon them. The raising of garden forms has much to recommend it, because by such means new and beautiful races may be developed that will take a permanent place in gardens. Plants so raised are often of more easy culture and more durable than their parents. Tulipa Greigi, T. Eichleri, T. kolpakowskiana, and T. strangulata are

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EMPEROR, perianth deep primrose, trumpet rich full yellow, very large flower.
Strong Flowering Bulbs, per 1,000, **140/-**; per 100, **15/-**; per doz., **2/-**.
Extra Large Bulbs, per 1,000, **190/-**; per 100, **21/-**; per doz., **3/-**.

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Strong Flowering Bulbs, per 1,000, **90/-**; per 100, **10/6**; per doz., **1/6**.
Extra Strong Selected Bulbs, per 1,000, **120/-**; per 100, **13/6**; per doz., **1/9**.

SIR WATKIN, perianth rich sulphur, cup yellow, slightly tinged with orange, very large flower.
Strong Flowering Bulbs, per 1,000, **120/-**; per 100, **13/-**; per doz. **1/9**.
Extra Strong Selected Bulbs, per 1,000, **160/-**; per 100, **17/6**; per doz., **2/6**.

P. R. BARR, a handsome golden-yellow trumpet Daffodil of stiff, sturdy habit, very free blooming, and of refined elegant form.
Strong Flowering Bulbs, per 1,000, **110/-**; per 100, **12/6**; per doz., **1/9**.
Extra Strong Selected Bulbs, per 1,000, **160/-**; per 100, **17/6**; per doz., **2/6**.

BICOLOR GRANDIS, petals snowy white, large and broad, trumpet large and full yellow; late flowering.
Strong Flowering Bulbs, per 1,000, **120/-**; per 100, **13/-**; per doz., **1/9**.
Extra Strong Selected Bulbs, per 1,000, **190/-**; per 100, **21/-**; per doz., **3/-**.

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some of the species that might well be taken in hand by the would-be raisers and pioneers in the floral world.

Of the Grape Hyacinths, Muscari botryoides and N. b. album are the most popular, but by no means the most beautiful. The Feather Hyacinth (M. comosum monstrosum) ought to receive more attention; and the same might be said of M. conicum. The rich blue Scilla sibirica is the most widely cultivated; but S. hispanica, S. nutans (the British species), and S. peruviana ought to receive more attention. The same might be said of the spring-flowering Iris reticulata, I. Bakeri, I. Histrio, I. Danfordiae, and many other beautiful, early flowering species. Lilium longiflorum Harrisi takes the lead amongst the Lilies for early work.

The magnificently beautiful climber, Solanum Wendlandii has been found to succeed in sheltered parts outdoors during summer.

Jewish Wines and Fruit Trees at Paris.—The Jewish Colonies in Palestine have obtained at the Paris Universal Exhibition of 1900, a Gold Medal for their wines and Grape brandy, and a Silver Medal for fruit trees and fruits.

Royal Horticultural Society's Fruit Show at the Crystal Palace.—The Royal Horticultural Society's seventh annual show of British-grown fruit will be held at the Crystal Palace on September 27th, 28th and 29th. Intending exhibitors may secure schedules and other necessary information from the Secretary, R.H.S., 117, Victoria Street, London, S.W.

Tomato Disease.—Will growers of Tomatos on a large scale who have used "Veltha" give their experience of this much advertised remedy? The experiences of market growers would be more valuable than private gardeners who cannot, as a rule, grow large breadths, and, therefore, their experiments are not so conclusive. I will record our experience in another number and shall give, as I hope others will do, simply plain facts.—*A. P.*

Paris Exhibition.—For the sake of the many tradesmen who have restaurants or bazaars at the Paris Exhibition, it is unfortunate that so few are attending what is admitted to be a splendid show. In order to provide additional enticements a newly-formed Commission of Fêtes have arranged to hold three fêtes between now and the closing time in October. The first will be held from the 7th to the 10th of September, and will take the form of a floral procession of cars decorated by the horticultural exhibitors, followed by a battle of flowers. The second celebration will occur about the middle of the month with allegorical cars representing the Grape harvest or vintage, and then on the 22nd of September a grand banquet will be offered to the Mayors, who come to Paris from all the Communes of France. M. Vacherot, the chief gardener of the exhibition, forms one of the Commission.

Gloucester Fruit Market.—On Monday, August 20th, a fruit market was opened under the auspices of the Gloucester Corporation. The Mayor performed the opening ceremony, and stated that the Corporation would spare no pains to make the market a success, and if sellers of fruit and vegetables would come forward he felt sure they would obtain remunerative returns. The Corporation hoped it would be beneficial to both buyers and sellers. Messrs. Sandoe & Son have been appointed the official auctioneers, and Mr. Sandoe, in opening, said there need be no fears but that this market would be quite as successful as those at Hereford, Evesham, and other places. The prices realised at the initial sale were very satisfactory. Several lots of Jargonelle Pears (56 lbs.) fetched from 9s. to 9s. 9d. a lot, and a few hampers of Plums (90 lbs.) realised 9s. Apples sold at from 2s. 9d. per 50 lbs. to 7s. 9d. per 70 lbs. Plums varied from 3s. 1d. per 50 lbs. to 9s. per 90 lbs. The auctions will be held twice a week.

River Tinto, Spain.—This Spanish river is said to possess the extraordinary property of petrifying the sand of its bed. If a stone falls in the stream and alights upon another in a few months they become one stone. Fish cannot live in its waters.—*The Orcadian.*

Cricket.—A match by Hurst & Son *v.* Greyhound C.C. was played at Enfield Lock, August 18th, and won by the former. The scores were:—Hurst & Son, 119 for 8 wickets; Greyhound, 35. For the winners, Main took 7 wickets for 13; Delacourt, 3 wickets for 16; Squire, 51, and Portch, 32, batted well.

Tree Planting in Chicago.—During last season more than 205,000 young trees and shrubs were planted in the parks and boulevards of South Side, Chicago. Of this vast stock only an insignificant purchase was made, nearly the whole number having been taken from a nursery in Jackson Park, where 60,000 young trees yet remain. In Jackson Park, the site of the World's Fair, the work of reconstruction will cover some sixteen acres.

Sea-weed is Valuable.—According to the *Oil and Colourman's Journal*, Sea-weed seems to be as productive of bye-products as coal-tar. The following articles can be made from it:—(1) Sodium can be extracted through the aid of acids. (2) From the offal can be produced an admixture to so-called size-paint (instead of using Iceland Moss). (3) There is also obtained from Sea-weed a finishing material for use in cloth mills, and this stuff can also be used as glue for paper. (4) The half-fluid like pulp can be made into a kind of leather for binding books. (5) The pulp may be coated on sheeting whereby is produced a kind of oil-cloth, and the pulp can also probably be used in the manufacture of linoleums. (6) Mixed with silex the pulp can serve as an insulating material for piping. (7) Sea-weeds can be used in soap manufacture. (8) Finally they are a most valuable manure for sandy soils, containing potash and much nitrogen, and probably we only know half of their uses.

Northern Quebec.—This portion of the Dominion of Canada is, we are pleased to learn, wonderfully resourceful. In the virgin forests, Spruce, Fir, Tamarac, and Cypress or Banksian Pine are the chief Conifers. The deciduous trees are limited to species of Poplar, White Birch, Willow, Alder, Hazel, Pembina, and similar undergrowth, with an occasional Ash along the river and lake shores. Spruce abounds wherever the country has not been burned. Some of the above-named trees have grown up since various areas were burned a quarter or half a century ago, and these trees will furnish pulp wood for ages to come. The list of trees which flourish at James' Bay, or on its drainage basin, includes, according to Prof. Bell, the Spruce (2 ft. or more in diameter), Banksian Pine, Silver Fir, Arbor Vitae, Elm, white Pine, and red Pine, and of lesser importance the Poplar, Mountain Ash, and Mountain Maple.

Legend of the White Narcissus.

In lace and linen and silken slippers
  And sheen of satin they dressed the bride,
With a gossamer veil, and a wreath of blossoms
  To crown her beauty, the day she died.
With rich perfumes of the rose and lily
  They combed and plaited her locks of gold,
And under the tree where once she trysted
  They hid her down in the frozen mould.

With sun and shadow and balmy breezes
  Came the spring to her place of rest,
And a splendid blade like an emerald arrow
  Lifted the clods above her breast.
Crystal dews of the purple twilight,
  Silver rains of the morning cloud,
Coaxed the stem from its leafy shelter,
  Drew the bud from its folded shroud.

Pale and pure as a pearl of ocean
  It slipped the green of its dainty sheath,
Deep in its heart a hint of yellow
  From the braided tresses that lay beneath.
So it was born, the bride's fair daughter—
  The white Narcissus that buds and blows,
Sweet and starry in silent places,
  Over the grave of the winter snows.

—*Minna Irving, in Frank Leslie's Popular Monthly for June.*

Book on bulbous plants.—There is no really comprehensive, authoritative book on bulbous plants. Here's a chance for some energetic and able person—to produce one.

4,000,000 dols. for Carnations.—According to *Gardening* (American), Prof. B. T. Galloway, of the Department of Agriculture, Washington, D.C., states that the Carnation crop in America represents an annual value of over $4,000,000, and that it is constantly increasing.

Weather in London.—On Thursday, August 23rd, a sharp thunderstorm broke over London. On Saturday afternoon, the 25th ult., a fearful downpour of rain suddenly deluged the metropolis, many places being swamped. Sunday and succeeding days were better, though always dull and dismal, and at times slightly rainy. A cold north-east breeze has blown steadily for days.

Shrewsbury Show.—From Messrs. H. W. Adnitt and W. W. Naunton, the Hon. Secs. of the Shropshire Horticultural Society, we learn that the total receipts obtained at the society's show held at Shrewsbury (see report on page 11), was £4,600, which is the second best on record. The gate takings the first day was £797 (18,000 people present); second day, £1,808 (60,000 people present), and this notwithstanding the very bad weather.

Market Gardening.—An aged member of the Vegetarian Society, who has long been impressed with the desirability of having an orphanage in connection with the food reform movement, says the *Vegetarian Messenger*, commenced to cultivate, about two years ago, seven acres of land (of which he is owner) as a market garden. He wishes to secure the aid of an all round practical foreman gardener, who must be a vegetarian of sound Christian principles, married, to live on the place, and not less than thirty years of age. Good wages and every comfort will be given.

Silver-leaved Maple.—We agree with a contemporary, who said lately that "one author issues a book with one set of names, another a book with a different set for the same plants." In naming, there is a go-as-you please practice prevailing. We sadly need some recognised authority in nomenclature. There is certainly no need to rake up old names (prior though they be to Linnaeus) when another name is already universally known. The silver-leaved Maple is variously named Negundo aceroides variegatum, Acer Negundo fraxinifolium variegatum, and Negundo acerifolium variegatum. Tibouchina macrantha goes under four or five names, and there are hundreds of other plants likewise confused.

CRICKET.

HURST & SON C.C.

Sampson, c. Collins, b. J. Norden	0
Squire, c. Collins, b. Walton	44
Portch, b. Chesterton	38
Main, b. Chesterton	2
Purdy, st. Taylor, b. Walton	2
Thake, c. Taylor, b. Walton	1
Locke, F. W., b. Chesterton	1
Payne, not out	8
Locke, F., b. Chesterton	1
Shelton, st. Taylor, b. Walton	6
Morris, not out	2
Extras	4
	109*

ALLENBURY'S C.C.

Collins, c. Portch, b. Main	11
Norden, H., b. Sampson	2
Norden, J., not out	27
Chesterton, b. Sampson	1
Goldman, c. Sampson, b. Portch	14
Walton, c. Payne, b. Portch	0
Graves, c. F. Locke, b. Portch	0
Waterton, c. Squire, b. Main	0
Hagel, b. Sampson	4
Taylor, b. Sampson	0
Extras	1
	60

The above match was played on the Hurst & Son's ground at Wadham Lodge, last Saturday, and resulted in a win, as above, for the home team. W. J. Portch, in addition to batting well, took three wickets with successive balls, and thus performed the much attempted "bat trick." * Innings declared closed.

BEGONIAS.

The following ornamental foliage and flowering Begonias are perfectly adapted for cool greenhouses for winter flowering:—The value of Begonia Gloire de Sceaux does not appear to be yet fully appreciated. It makes a pyramidal plant 2 ft. to 3 ft. high, with large leaves, bronzy on the upper surface, crimson beneath and bright rose flowers, abundantly produced. To get these it must have all the light possible. It has been grown successfully in frames through the summer months, so that the wood is well ripened and makes a fine display from October onwards. B. haageana is perhaps the finest of the large shrubby Begonias, forming a bush 3 ft. to 4 ft. high, with light pink flowers and hairy leaves. B. ascotensis has small pink flowers and bright green leaves, very floriferous. B. President Carnot has large pendent racemes of bright pink flowers and brilliant foliage; the wings of the ovary, being very large and of the same colour as the flower, adds to its beauty. B. Sutherlandi is a very graceful form with small orange flowers. B. Froebelii, with cordate leaves, forms a rosette, above which the large scarlet flowers arise in loose cymes. Pot into 6 in. pots in ordinary soil and when flowering commences a sprinkling of Clay's Fertilizer will be beneficial. Pinching is necessary in some varieties to get bushy plants, and the cuttings will easily strike in a compost containing plenty of sand or crock dust.—*K.*

NEW ANNUAL DELPHINIUM "BLUE BUTTERFLY."

Few things, I think, will be more appreciated or prove more useful when well known than this splendid new annual. A good blue summer bedding plant has long been wanted, and nothing to my mind could fill the vacancy better. It grows to a height of about 15 in., has a very branching habit, and does not require staking. The flowers are a pleasing blue, with one violet spot on each petal, and the foliage is finely divided, giving the plant a very light appearance. The seed should be sown during March in heat, thoroughly hardened off, and planted out when large enough in May, a loamy soil suiting it to perfection. The plants here commenced to bloom early in June, and have been a mass of flower all through the summer. They stood the long drought well, and were not damaged by the recent gales. As a decorative plant in vases it has few equals, and lasts a considerable length of time in a cut state, and when well known it is sure to be greatly appreciated. Judging by the pot specimens shown at the Drill Hall some time ago I should also say it was excellent for that purpose. No doubt others will have something to say about this important plant, but for myself I cannot speak too highly of it.—*A. Thatcher, Aldenham, Elstree.*

CAULIFLOWER MANAGEMENT.

On reading Mr. M. Temple's interesting article on p. 805 under the above heading, I presume he is not troubled with clubbing. Fortunately, it does not give me annoyance to any extent, the ground here being of rather a heavy nature; but in not a few surrounding gardens it seems impossible to grow Cauliflowers other than the early batch, owing to the above cause. I am quite at a loss as to its origin, also its cure; so perhaps Mr. M. T. or some of your readers would inform me whether the insect found in the club is inserted into the stem above the surface of the soil and works its way down, or whether it is in the soil.—*W. Waite, Southfields.*

EUCHARIS GRANDIFLORA.

After reading Mr. Hogarth's interesting note on Eucharis, I am sending the treatment we give them here, with excellent results. We never dry them off at all, but always keep the plants well supplied with water summer and winter. Feeding with weak cow-manure water twice a week, well syringing and shading from bright sunshine. The plants are potted in loam, with a sprinkling of bone meal and silver sand, grown in an intermediate house the year through, the temperature falling as low as 40° in winter. We generally get them to flower three times during the twelve months; but the best display is at Christmas when they are highly appreciated for all classes of decoration. Last Christmas one large plant had over seventy spikes of flower, averaging six blooms to a spike. We even have them growing under the stages, and it is seldom that we are without a few spikes of Eucharis the season through. I am of the opinion that when a plant is well established it is best left alone for three or four years, without potting (if they are liberally fed with manure water) and given more water, instead of drying off so much. I think we should see better results with Eucharis growing in our gardens. All the pots here are filled with large healthy bulbs; the mite is a thing unknown.—*John Botley, Blythewood Gardens, Maidenhead, August 27th, 1900.*

Forced Bulbs and other Flowers at Chelsea.

BULBS FOR GREENHOUSE DECORATION.

The pleasure that may be derived from even a small collection of bulbs, properly grown, and tastefully utilised for the decoration of a cool greenhouse or conservatory is far greater than even the most sanguine could anticipate, except those who have actually grown and so used them; and we might go further by saying, those who have actually handled them in every stage of their development. Those who have the command of fire heat can commence having a display of Roman Hyacinths in bloom by November, keeping up a succession till the earliest of the ordinary Dutch Hyacinths come into bloom. In the meantime, the early Duc Van Thol Tulips can be had in bloom easily by Christmas. Later on, other early Tulips with large flowers come to the rescue, as well as Crocuses, Daffodils, Scillas, Freesias, Chionodoxas, Lilies, chiefly Lilium Harrisi, Polyanthus Narcissus, Lily of the Valley and many other things. All of the above many be brought on gradually without the aid of fire heat, and although later they will be more durable. Flower lovers can add variety by means of Spiraea, double flowering Cherries, Lilacs, Laburnums, &c., in pots. The accompanying illustration of greenhouse or conservatory decoration, kindly lent us for the purpose by Messrs. J. Veitch & Sons, Ltd., Chelsea, will give an idea of what we mean by the decoration of greenhouses and conservatories by means of bulbs in winter and spring. We have many times visited the cool flowering house at Chelsea, and been delighted with the rich and most delicious aroma arising from the flowers of Roman and Dutch Hyacinths, Lily of the Valley, Freesias, Jonquils, Lilacs, Mignonette, Boronias, and various other subjects. Of course, all this entails a certain amount of initial expense, but assorted collections of bulbs, including a large number of really useful things may be obtained at a cheap and definite cost.

Bulbs of Lilium longiflorum may be potted up and placed among Cocoanut fibre in a cool frame. They will bloom early.

Kitchen Garden Calendar.

SPRING CABBAGE.—Plants from the earliest sowing will now be large enough for pricking ont. It is advisable to do this so soon as two or three rough leaves are formed, that they may be kept as sturdy as possible. Seasons so vary, that one cannot judge as to a few days when crops may be cleared that others may take their place. We usually plant Cabbage on the Onion ground, and as this latter crop will be somewhat later this year than usual in maturing, the most forward Cabbage plants cannot be put out for some time to come. It will thns be seen that early pricking out is of great advantage, as the plants not only grow sturdy, but are far better rooted, and therefore do not receive any check when put out. Those left in the seed bed must be kept clear of weeds to prevent their becoming drawn.

CAULIFLOWERS.—As the difference of a few days in sowing in the autumn has such an effect on the growth of plants, it is advisable to take note of the various dates when seed is sown, as both seasons and situations vary much. Where there is any difficulty in procuring good Cauliflowers during the early part of August, it is a good plan to sow a pinch of seed of such varieties as Veitch's Autnmn Giant, Early Giant, or Autumn Mammoth, or like varieties at the present time. The plants produced from such sowings should be kept as sturdy as possible, by being pricked out when small, into cold frames. They are very apt to get drawn if not allowed plenty of room, for being of a tall character, the leaves help to draw one another. Walcheren should also be sown at this date, as it will turn in before those mentioned above.

WINTER TURNIPS—At this time of the year a good breadth of Turnips should always be got in. Where the ground is in good heart it is astonishing how fast these will grow during the autumn. If the seed is sown during the last week in August, fine crisp bulbs may be had till late in the spring, and any that do not grow large enough for this purpose will produce greens for cutting in spring. An open situation should be selected, such as that from which the midseason Potatos have been lifted. The ground will require no further preparation than rolling down, drawing out the drills, and putting in the seeds. If very light and of a sandy nature it is preferable to make it firm, as the moisture will then be more readily retained. Varieties such as Red Globe should be allowed a greater space between the rows than the strap-leaved kinds.

WINTER SPINACH.—This useful winter vegetable should by no means be neglected. Sowings made during the latter part of August will be found very serviceable in spring, as they will come into use long before that sown in spring. Last season, though the spring was a late one, we found "The Carter," sown early in September, most useful; particularly as green vegetables were so scarce. The prickly Spinach is that most frequently used for winter, but I think The Carter is quite as hardy; at least, this has been the case with us. The leaves are broad and fleshy, therefore fill up well. Sow in drills about 15 in. apart, thin early, and keep the plants free from weeds, and there need be but little fear of good results.—*F. W. J.*

ENGLISH IRISES.

MANY of the bulbous Irises are amongst the most beantiful of their kind; and indeed they are not only closely related to Orchids, but they rival many of the more gorgeous of them for the beanty of their quaintly-formed flowers and strlking colours. The old or typical form, which one may occasionally find blooming in perfection in old-fashioned gardens, has flowers of a deep rich blue, with an orange blotch on the falls. This grows wild on the French and and Spanish Pyrenees, extending to Burbia in the west of Spain. The garden varieties extend to pure white on one hand, and red on the other, while striped varieties are numerons. The accompanying illustration, lent us by Messrs. Ed. Webb & Sons, Wordsley, Stourbridge, shows the bold and band-some contour of the expanded flowers, as well as the rounded expanse of the falls. The standards are somewhat narrower, but when spread out are nearly orbicular. The various named sorts in cultivation come into bloom about a fortnlght later than the Spanish Irlses, and that may be in June in the south of England, particularly in warm, early summers; but usually their blooming time is in July and always so for the north of England and Scotland. The English Irises therefore keep up a succession to the Spanish. The name English is taken from that used by Parkinson for thls species, namely, *Iris bulbosa major sive Anglica*, that is, the "Greater bulbous or English Iris," so that it is really very old as names go. The culture of English Irises is of the easiest. The bulbs should be planted early in September in well drained, good garden loam. In places where the soil is of a clayey nature, the bulbs should

ED. WEBB & SONS, Wordsley, Stourbridge.

ENGLISH IRISES (IRIS XIPHIOIDES).

be surrounded with sand; but we should prefer to select a well-drained friable soil for them, or make a bed or border on purpose for them.

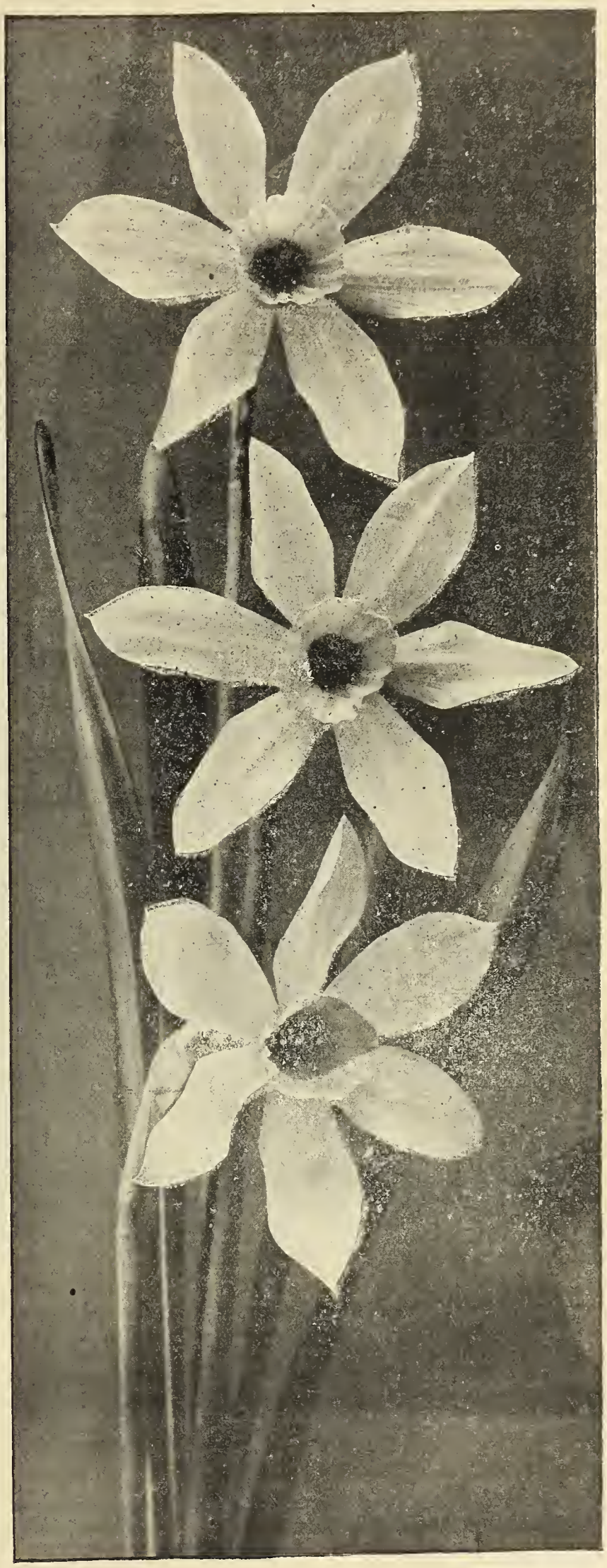
NARCISSUS POETICUS ORNATUS.

There are numerous varieties of the Poet's Narcissus in cultivation, but some of them stand out prominently and pre-eminently above the others. That under notice is the largest and finest of the early varieties, the segments being very broad, overlapping, and pure white, while the flowers are naturally early, whether under glass or in the open air. The small saucer-shaped crown is furnished with the usual orange-red rim. The bulbs may be potted up in the autumn or even now, exposed under ashes to the autumnal rains, and when thoroughly rooted brought into heat as required, and gently urged into growth and bloom. The flowers are most serviceable for cutting, affording a colour that is always much in demand, while they are delightfully fragrant. Under natural conditions in the open air this variety is in advance of most other forms of N. poeticus. (Of course, it must be remembered that the Daffodils proper bloom long before any of this section under the same conditions.) N. p. ornatus is also a lovely form for naturalising on the grass, and as a matter of fact it may be utilised for any purpose to which Daffodils may be put in the garden. The accompanying illustration, lent us by Messrs. J. Veitch & Sons, Ltd, Chelsea, will give a good idea of the form and general appearance of the flower.

Narcissus poeticus ornatus.

NARCISSUS SANTA FINA.

Some of the simplest of the Narcissi are amongst the most lovely for certain kinds of work. That under notice belongs to the Leedsii type, which is a garden race of hybrids between N. poculiformis and N. incomparabilis. They are characterised by lightness and gracefulness of form in every part, as well as delicacy of colour. They are therefore well suited for light and graceful table decorations as well as for vases, particularly those of glass or other light construction. They contrast beautifully with the darker flowers. N. Santa Fina is quite new, having been raised by the Rev. G. H. Engleheart, and now being put into commerce for the first time by Messrs. Sutton & Sons, Reading, who have placed the beautifully and faithfully executed illustration at our service. The flowers are of greater substance than many of the old N. Leedsii type, the starry segments being of a most delicate sulphur-white. The crown is creamy and tinted with apricot; while it is of moderate length compared with some of the older forms of this race. Being as hardy as any other Narcissi it may be planted unreservedly in the open; while it is equally amenable to pot culture and indoor decoration.



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Narcissus Santa Fina.

HINTS FOR AMATEURS.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Violets for Frames.—*H. Wilson*: September is the month when most frame Violets are planted. You may prepare now by getting together a quantity of fermenting material—leaves and stable manure. Turn the mixture frequently when you have collected it. There should be a good quantity of leaves—more than half, indeed—amongst the manure, because they economise the heat and make it extend over a longer period. About the 10th of September, fill in the fermented stuff to the frames and make it very firm by treading. Leave this for a day or two till it has somewhat settled, then place about a foot of good turfy loam compost over it. Old Chrysanthemum balls broken up and mixed with a liberal quantity of spent Mushroom bed dung, some new loam, sand and lime rubble will be found to suit them. Make this also firm, the surface being about 6 ins. or 8 ins. from the glass. Plant as soon after as you care to, allowing a foot or 15 ins. between the plants. Leave the sashes off until sharp frosty nights are evidenced.

Violets in Pots.—*H. Wilson*: Violets from runners which were taken last April or May, and have been growing during the summer in open borders or prepared enclosures, may be potted up in a nice fairly rich compost. Crock the pots well, and keep the neck of the plant well up. Place the pots in some shady corner, either by the side of a north wall or by a sheltering hedge. By the end of September or early in October take them into the greenhouse and place them on a shelf near to the glass. Do not feed nor even water too much. Remove any bad leaves.

Saving Seeds.—*K. F.*: As a rule, unless in very large places, the saving of seeds is not worth the trouble. We should certainly not advise you to try to save your own vegetable seeds—they rarely give satisfaction. The commoner flower seeds, such as Mignonette, Salpiglossis, Linarias, and the like, which you mention, should be cut almost immediately after the flowers wither or between that time and their period of ripening. Lay the cut inflorescences on blotting-paper or ordinary newspaper exposed to the light. Shade them a little on very bright days, and when they begin to ripen and open, shake them out and bag the clean seeds, stowing them in dry, cool drawers.

Treatment of Carnation layers.—*D. S.*: When rooted, sever the connection with the parent plant and lift the young offset as carefully as you can. Yellow loam is generally preferred by Carnations, though any friable compost consisting of two parts loam to one of good leaf mould and some silver sand will do. Three or four-inch pots are large enough to start with, and these must be well crocked. After potting moderately firm, place the border and tree Carnations for the present in frames. Malmaisons may be placed on the ash-bottom stages of a cool house. They should be watered soon after, and slightly dewed over each day afterwards till growth commences. Some of the hardiest of the border Carnations may be planted out in open-air beds in sheltered places.

Planting Trees and Shrubs.—*J. M.*: We consider October the best month in which to plant all sorts of trees and shrubs, though planting is carried on all winter and part of spring. You should prepare the ground in good time.

Pruning Trees.—*J. M.*: Many who have a large amount of pruning to do, and who wish their places to look tidy, are busy pruning trees and shrubs at this time. Keep a clean stem to your trees and open up the head and centre. Each of the main branches should also be kept clean by the close pruning of all small growth. Shorten any branches that may be taking too much lead. Hard spurring in, such as jobbing gardeners sometimes attempt with trees in villa gardens, is a barbarous practice. Ivy forming an edging may be thinned-out with a knife and not cut bare with shears.

Mealy Bug-Infested Vinery.—*J. T.*: If the vinery is much infested you will scarcely ever get rid of this pest. We have found mealy bug in the centre of coiled trellis wire, such as is used in Cucumber houses, and the house had been scrubbed, syringed, fumigated and all else. You may do what you can by fumigating when the crop is cut, and when the leaves have fallen, scrape the rods clean, going over every inch of them carefully. When scraped, wash them with Gishurst Compound. Every nook of the house should be scrubbed with hot water and carbolic soap, then syringed. The surface of the border should also be scraped, and the soil cleared away.

Taking Cuttings.—*Beginner*: Cuttings of Calceolarias, Pansies, Iresines, bedding Pelargoniums, Ageratum and plants of this sort may be taken next month. Prepare frames for Calceolarias, Pansies, &c. The bedding Pelargoniums, Ageratum, Iresines, Heliotrope, &c., may be potted or boxed and placed in a cool house. The cuttings from the Pelargoniums, of course, should be placed in shallow boxes filled with sandy soil, and the cuttings may be allowed to strike in the open air. Very little heat is needed to keep all these safely through the winter, and they should be kept on the dry side.

Plum Crop Infested.—*A. E. Hole*: We have examined many of the fruits you sent to us, but failed to find any grub or worm. We suspect the cause of the attack is the Red-grub of the Plum (Carpocapsa funebrana), but your samples are not badly harmed. Gather all infested fruits and burn them at once. Give the trees a slight shake and also burn the fruits that fall to kill the "worm" and prevent attack next season. Let plenty of light and air in amongst your trees by thinning the branches.

Lily of the Valley is very successfully grown in coke breeze and sphagnum by Mr. Wm. Turner, foreman to Mr. J. A. Paterson, of Cincinnati.

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Erythronium revolutum Pink Beauty (See p. 9).

ERYTHRONIUM REVOLUTUM PINK BEAUTY.

There is another name to this lovely Dog's-tooth Violet, to which the *Index Kewensis* gives preference, namely E. purpurascens. Neither name will add to nor detract from the beauty of this handsome hardy plant, which hails from California, and seems to be the only species confined to that part of the American Continent, whereas five others come from various parts of North America, particularly towards the west. Several flowers are produced on a scape, whereas they are solitary on our European species (E. Dens-canis). The flowers hang with their face downwards, on account of their modesty as the poet would say; but we should prefer to take some other reason. In the first instance it would serve to protect the anthers and stigma from rain and night dews; while on the other hand it has no doubt reference to insect [or other visitors. The tips of the segments are then revolute after the manner of a Lily. The whole bloom of the variety under notice is of a lovely soft pink with a golden-yellow zone in the centre. When it was first introduced to this country does not appear to be recorded; but flowering plants of it were first brought before the British public by Messrs. Barr & Sons, King Street, Covent Garden, on April, 18th 1899, at a meeting of the R.H.S. They kindly placed the accompanying beautiful illustration of the plant at our disposal.

DISHONEST COMPETITION.

Your article on dishonest competition and the dispute about the Onion prize, reminds me of a bit of sharp practice that happened to myself a good many years ago. At that time I was a keen Leek and Onion grower, and took the first prize for both at all the shows in the district; but there came a day when I was only second best, and this is how it came about. I had as usual taken first for my Onions and Leeks at L——, and a competitor, a stranger to me, declared that my Onions were not grown by me, and that I must have bought them as he was sure that they could not be grown to such a size in this country. As my neighbours all knew differently I took no notice of his remarks. At this same show I had also been successful with stove and greenhouse plants, and when the show was over my first care was for getting them packed in the cart. Then came the time to look up my vegetables. I got all but the Onions and Leeks, no one had seen them. I had intended them to do duty at another show that was to be held in a neighbouring town the following week. Of course I had more of both at home, but the stolen ones were my very best. When tabling my vegetables at show number two, there I found my lost Onions and Leeks, but not in my name. I hunted up the owner of that name who proved to be the very man that disputed with me the week before. Anyone could see that the Leeks were not newly lifted although still fresh. I claimed both Leeks and Onions, but he declared that they were his own. I brought it before the committee, but they advised me to let it pass. I gave him the chance to take them away and I would let the dispute drop; but he would not do so, he would compete, and did compete and beat me easily. That show day was not a very pleasant one for me for every time I looked at my Leeks and Onions they nearly brought the tears to my eyes.

Now, Mr. Editor, do you think England can produce a case in point stronger than this nip of Scotch?—*A. McM., Edinburgh.*

[We have heard of some strange doings at shows, but think this a piece of audacity quite equalling, if not exceeding, anything we have heard.—Ed.]

The Average Yield of Sugar to the acre of cane is greater in the Hawaiian Islands than in any other cane-growing country in the world.

FREESIA LEICHTLINII MAJOR.

There were at one time two genera of Freesia, but the name in one case was sometimes spelt Freesea. Even then it must have been an anomalous genus, and, happily, has since been broken up into several, including Acidanthera, Ixia, and Tritonia. Both genera belonged to the Iris family, which made the confusion very great. Now the name Freesia is entirely confined to a genus of sweet scented, South African plants now well-known to every gardener. Three species are recorded, namely, F. Leichtlinii, the well-known F. refracta, and F. xanthospila. A variety of the first named is that under consideration at the present time. The ordinary form of F. Leichtlinii may be described as having creamy or yellow flowers, with an open throat, abruptly narrowed into the tube and erect rather than spreading segments. F. L. major has delicate French-white flowers, with an orange throat; and they are much larger than those of the older or typical form.

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Sutton's Freesia Leichtlinii major

People who grow for market often plant out their Freesias on vinery horders; but gardeners find most use for them as pot plants. For very early work the bulbs require to be potted some time during August; but later batches may be put in any time during September, although we must advise readers that little is gained by keeping the bulbs too long out of the soil. They are small and must not be allowed to waste their substance by becoming shrivelled. The best plan is to pot them as soon as received, in any rich, light, loamy soil, and plunge the pots in ashes or cocoanut fibre under a south aspect wall. About the end of September transfer the pots to frames; and as soon as the foliage appears above the soil it must be well exposed to light and be freely ventilated on all favourable occasions. F. Leichtlinii major is as easily grown as the type. We have seen it well grown in Messrs. Sutton & Son's Portland Road Nursery, Reading; and the accompanying illustration lent us by them will testify to the same fact.

GLADIOLUS COLVILLII THE BRIDE.

THE original Gladiolus Colvillii was described as a hybrid in *Sweet's British Flower Garden*, t. 155, and had rosy flowers, with a tint of violet or simply rosy-lilac. It is still cultivated by many growers, but by no means to the same extent as the pure white variety under notice, now almost universally known simply as The Bride. Many cultivators plant them freely in the open ground in England; while we have seen some fine breadths of the variety in Guernsey. In Britain, however, the bulk of the gardeners in private establishments require the flowers for cutting or for conservatory decoration, and therefore grow the plants in pots, a method which is very convenient in many ways, and always safe and practicable. The stiff, slender stems and moderate sized, pure white flowers, gracefully poised on the upper portion of the stem, formed ample reason for the popularity of this particular Gladiolus. White flowers are always in demand, and in this we have a beautiful variation from other white flowers that bloom in spring. Friable or open but rich loam, with a sprinkling of sand is all they require in the way of compost; and if liquid manure is given from the time the flower stems commence to rise up, the plants will flower freely and strong. The accompanying illustration, lent us by Messrs. J. Carter & Co., High Holborn, shows the general aspect of the flowers admirably.

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GLADIOLUS COLVILLII THE BRIDE.

A BULB SALE.

ALL who are interested in, or connected with the production and selling of Dutch bulbs, are exceedingly busy at the present time. In Holland, that fertile and productive little country, thousands upon thousands of men and women are busy executing British bulb orders. The rush with them is now at its height; they will soon be freer. And on this, the British side of the water, the various agencies are active in their work of distribution to the gardens in almost every square mile of land comprised in these Isles. The "Bulb Sale," which I wish specially to mention on this occasion, was one—the first for the season—conducted by Messrs. Protheroe & Morris, at 67 and 68, Cheapside, London, E.C. I need say little about this firm of horticultural auctioneers—it is an old established, well-known, and popular firm, and is likely to remain appreciated and prosperous.

The sale took place last Monday, August 27th, and though regular readers of THE GARDENING WORLD may recall some previous impressions of these sales published in these pages, there is still a newness about a bulb sale such as this, that urges one to chronicle some additional notes on the same theme.

The one central point of wonder on every occasion is how enormous the quantities that are sold during the season must be. The average amount sold in one hour exceeds 70,000. And if this is multiplied by seven (about the number of hours the sales last) we have 490,000, nearly half a million bulbs! I started to reckon the exact total amount sold at last Monday's auction, but when I reached 43,456 in 150 lots I despairingly and involuntarily turned to see how many more "lots" there were to wade through. I only found a cool 3,674.

In looking through the catalogue of the sale, one is at first puzzled to know why all the various genera of bulbous subjects are "mixed up," as it seems. To begin with, there are a few lots of Tulips, followed, perhaps, by half a dozen lots of Hyacinths; then come Crocuses and Narcissi, only again to resolve upon some more Tulips. But it only requires a moment's consideration to see that among the fifty to seventy buyers, there are some who want only a few shillings' worth of this, or that kind of bulb, and the buyer does not want to wait long for it either. And so the system of rotation is maintained through the course of the sale. The auctioneers are also good enough to provide large, medium, and small quantities of the different bulbs. Some of the lots are sold in thousands, but these are mostly the smaller bulbs as Scillas and Crocuses. Special named varieties of Hyacinths, Tulips, and Narcissi are put up in comparatively small amounts, as, for instance, a lot of 36, 75, 100, or 125, and so on. As a rule, it is only the best known, present day popular varieties of any of the larger bulbs that are offered. All gardeners know Norma, a single red; Robert Steyger, red; King of the Blues, Grandeur a' Merveille, Charles Dickens, and other varieties of Hyacinths; the Duc Van Thol, Artus, Golden Crown, La Candeur, and similar popular Tulips; and such good things among Narcissi as Empress, Horsfieldii, Emperor, Golden Spur, the double Orange Phoenix, and many such as these. That is the style of those that are catalogued. Every bagful of bulbs is opened for inspection. A sample is rapidly spread upon a tray, and with but a glance at the samples (for nothing but good bulbs are sold) the bids mount one over the other, and there is no "hicking." Indeed, so fine are the sample bulbs that the stranger who did not know, might suspect that the best had been reserved specially for the public gaze.

On this, the opening sale of the season, buyers were numerous and keen, the stock being all exceedingly fine. It is always well to buy bulbs early, it pays in every way. It may be mentioned that some of the buying is done by commission. Anyone who may be unable to attend in person, if he or she applies for a catalogue before the date of the sale, and notifies Messrs. Protheroe & Morris of the lots they desire, these are left to the judgment of the commissary who bids to the figure he is allowed. It would be tedious to enumerate the average prices obtained for the lots, but it may be stated that they are exceedingly modest. The sales continue on set days for some weeks yet, during which time millions of bulbs will find their way through various channels to gardens far and near, where their beautiful flowers will bloom to cheer the owners in the dull days of winter and early spring.—*G. W.*

NARCISSUS POETICUS IN MASSES.

IT is not everyone who can grow fields of the Poet's Narcissus in private establishments; but there can be no doubt of the effectiveness of great white sheets of any one of the numerous varieties of this Narcissus, either fully exposed upon the grass or under the shade of deciduous trees. During the flowering period the trees are, of course, leafless, so that the shade is reduced to a minimum at that period, but later on the trees assume their summer garb long before the foliage of the bulbs dies down. Great clumps of irregular outline add immensely to the appearance of a place, and add no extra expense to its upkeep; for when once established they take care of themselves; and while affording unlimited supplies of deliciously scented flowers for home decoration, enough is left to keep the grounds gay while the flowering period lasts. The Poet's Narcissus is well adapted for our climate, which accounts for its easy cultivation. The accompanying illustration (see p. 11), lent us by Messrs. Hogg & Robertson, of 22, Mary Street, Dublin, shows what is possible in the sister isle, in parts of which a large number of different bulbs can be grown just as well as in Holland. Narcissi, including the Daffodils proper, and Tulips are the great specialities which

have been undertaken by the firm in question on their bulb farm at Rush, Co. Dublin, where an immense and unexpected success has attended the culture of Tulips, Narcissi, &c.

DARWIN TULIPS.

It appears that the origin of this strain of Tulipa gesneriana extends away back to 1860, the seeds having been sown between that year and 1872 amongst certain Flemish growers in French Flanders, in one family of which the process of selection had been going on for more than a century. To state the case plainly, they are simply a vigorous strain of seedling Tulips, generally spoken of by growers as breeders, a term used by florists to indicate the primary and self colours that appear in the seedling, and continue till the flowers become broken or rectified into flamed and feathered markings Very few have a desire that these Darwin Tulips should ever become rectified because the self colours are simple, beautiful, and highly effective in masses for bedding purposes. The varieties are very numerous, and exist in nearly all the colours for which Tulips are noted. From the most delicate pink they range through deep pink to rose, purple, scarlet, crimson, and black. La Tulipe Noire, or the Black Tulip, is considered as black as any flower in the vegetable kingdom. On the other hand, a pure white variety has not yet made its appearance, though we have seen a French gray or French white variety. They are of the easiest culture in any good garden soil, and are admirable for producing a late display in the open greund. Messrs. E. H. Krelage & Son, Haarlem, Holland, who placed the illustration of a group of them at our disposal, and who grow them very extensively, tell us that they prove admirable for forcing. We have seen them grown both in the open and in pots, those grown by the latter method of culture being very attractive. In the open they flower in May, being, therefore, well adapted for late work, and after the early bedding varieties are over. They are also taller and of very vigorous constitution, being better adapted for general cultivation than the florists' Tulips proper. The lighter colours are, in our opinion, the most handsome and effective for outdoor culture and bedding. Rembrandt Tulips are a newer strain of the Darwin race, having been derived from them by becoming broken or rectified into striped and blotched flowers, the darker colours being arranged on a white groundwork. Although these flowers occur amongst the Darwin Tulips they are not very plentiful, and differ from the rectified forms of the English amateur Tulips. They have been selected and collected by Messrs. E. H. Krelage & Son.

Field of Narcissus poeticus at Rush, Co. Dublin (See p. 10).

SOCIETIES.

SHROPSHIRE HORTICULTURAL.—

August 22nd, 23rd.

This famous horticultural exhibition, better known as Shrewsbury Show, was being held as we went to press last week, and too late for us to receive details. The Shrewsbury Show is the best horticultural exhibition in the United Kingdom, barr the Temple Show perhaps, and in fruit and vegetables of course, it beats the Temple display. The amount offered in prizes this year, in hard cash alone, was £1,000, and there were many Gold and Silver Medals.

The entries were more numerous than heretofore, filling as they did, the space of six huge marquees. Everything was of the very highest standard, quite a revelation to many and a great delight to all who are striving to obtain the best and the best only. Fortunately though the weather was showery and unpropitious, the attendance was "crushing," and we can use no more fitting word. Every reader of any gardening paper knows the names of the two hon. secretaries, Mr. H. W. Adnitt, and Mr. W. W. Naunton, who are the chief workers in all that pertains to the yearly preparations which the exhibition entails. The late show was the twenty-sixth that has been held in the beautiful Quarry grounds at Shrewsbury. From what the exhibitions were a quarter of a century ago, and to what they are now, how great a stride has been made. "Truth to tell," as a daily paper aptly remarks, "the exhibition is now too big for it to be possible to compare with confidence the merits of one year's display with another." The entries in the 199 classes were about 3,000, including 500 bunches of Grapes. Last year the society's receipts amounted to £4,739 (fancy that !), but the society has been very benevolent and has donated as much as £5,840 for improvements and to Shrewsbury charities, since its inception.

The judges, as our report proves, were numerous, and included many of the best known horticulturists. They were as follows :—

Plants (Class I. to XXIII.).—Mr. J. Hudson, V.M.H., gardener to Messrs. de Rothschild, Gunnersbury ; and Mr. Ranger (R. Ker & Sons), Aigburth Nurseries, Liverpool.

Bouquets, Cut Flowers, &c. (Classes XXIV. to XL., except XXXVII. and XXXVIII.).—Mr. Turner, V.M.H., Royal Nurseries, Slough ; and Mr. J. Wright, V.M.H., editor *Journal of Horticulture.*

Cut Flowers (Classes XXXVII. and XXXVIII., and XLI. to LXVIII.).—Mr. R. Dean, V.M.H., Ealing, London ; and Mr. James Douglas, V.M.H., Edenside, Great Bookham.

Collection of Fruit (Class LXXII.).—Mr. Owen Thomas, V.M.H., gardener to H.M. the Queen ; Mr. W. Crump, V.M.H., gardener to the Earl of Beauchamp, Madresfield Court ; and Mr. P. Blair, gardener to the Duke of Sutherland, Trentham

Dessert Tables (Classes LXXIV. and LXXV.).—Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton Hall ; and Mr. J. W. McHattie, gardener to the Duke of Wellington, Strathfieldsaye.

Grape Classes (Classes LXXVI. to XC. and CVII., CVIII. and CIX.).—Mr. W. Speed, V.M.H., gardener to Lord Penrhyn, Penrhyn Castle ; and Mr .J. Louden, gardener to Col. Barnes, The Quinta.

Fruit Classes (Classes XCI. to CVI.).—Mr. E. Gilman, gardener to the Earl of Shrewsbury, Alton Towers ; and Mr. J. Wallis, Woore, Staffordshire.

Vegetables —Mr. A. Dean, 62, Richmond Road, Kingston, and Mr. N. H. Pownall, gardener to F. Wright, Esq., Lenton Hall, Notts. (Classes CX. to CXIV.) ; Mr. J. Lambert, gardener to the Earl of Powis, Powis Castle, Welshpool, and Mr. H. W. Ward, Rayleigh Nurseries, Rayleigh (Classes CXV. to CXXVII.) ; Mr. R. Milner, gardener to Miss Talbot, Penrice Castle, Glamorgan, and Mr. F. W. Roderick, gardener to R. Myddleton, Esq., Chirk Castle (Classes CXXVIII to CXLVII.).

Wild Flowers.—Mr. W. Beacall, Shrewsbury ; Mr. T. P. Blunt, Shrewsbury ; and the Rev. W. Serjeantson, Acton, Burnell.

Cottagers.—Mr. Newman, gardener to E. B. Fielden, Esq., Condover Hall; Mr. Pearson, gardener to Lord Berwick, Attingham; Mr. Townsend, gardener to Col. Lloyd, Aston Hall; and Mr. W. Bremmell, gardener to H. France-Hayhurst, Esq., Overley, Wellington.

Besides the floral and horticultural displays, there were in addition crack military bands, horse leaping, stage and aerial performances, &c., the exhibition of honey, bee keeping appliances, &c., by the Shropshire Bee Keepers' Association, and lectures were given on bee keeping during Wednesday.

Fruit.—In the Champion Class for a collection of twenty-four dishes, the handsome prize of £25 and the Society's Gold Medal, was carried off by Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Hall, Derby. It seems unnecessary to say that the collection was marvellously grand. The second prize of £20 went to Mr. J. McIndoe, gardener to Sir Joseph Pease, Bart., Guisboro' Hall, Yorks, who scored 134¼ points. The third prize went to Mr. G. Mullins, gardener to Lady Henry Somerset, Eastnor Castle, Ledbury; and fourth, Mr. R. Davis, gardener to Hon. Mrs Ingram Temple Newsham, Leeds. For the collection of twelve dishes Mrs. F. Need (gardener, Mr. J. Jones), York House, Malvern, beat Lord Bagot (gardener, Mr. T. Bannerman), Blithfield, Rugeley. Hon. Mrs. Ingram came in third. Rev. T. M. Bulkeley Owen (gardener, Mr. J. Langley), Tedsmore Hall, was first for a collection of nine dishes, and second and third respectively came H. H. France Hayhurst, Esq. (gardener, Mr. Bremmell), Overley, Wellington, and Lord Trevor (gardener, Mr. W. Davis), Brynk Malt, Chirk. In all of the classes, superb fruits were staged. In a class confined to Salopians (local competitors), J. B. Wood, Esq. (gardener, Mr. H. Hunter), Henley Hall, Ludlow, was the winner.

Dessert table competition.—The class for a dessert table, 10 ft. by 4½ ft., and furnished with not more than fifteen dishes of fruits, brought forth four competitors. This is a class of extraordinary interest, and it is a wonder more exhibitors do not enter it.

Here again the Earl of Harrington's gardener showed his worth. In dessert table decorations few, if any, can better the style and tast of Mr. J. H. Goodacre. Sir J. W. Pease, Bart., came second; and Lady Henry Somerset, third, just the same order as for the large fruit collection.

Grapes.—For six bunches, three vars., the honours went to Rev. F. M. Bulkeley Owen, who was first; Messrs. D. and W. Buchanan, Forth Vine Yards, Kippen, N.B.; and third, C. E. Newton, Esq., Mickleover Manor, Derby (gardener, Mr. Campbell). Messrs. D. and W. Buchanan were first for four bunches, two white and two black, and likewise in the class for a "New Grape"; second, Sir Joseph Pease, showing the black variety Directenr Tisserand; while the others showed Diamond Jubilee. The chief winners in the remaining Grape classes were, besides those already named: G. A. Young, Esq. (gardener, Mr. A. Ruddock), Tan-y-Bryn, Bangor; Col. Plath (gardener, Mr. W. Coates), Llanfairfechan; Mrs. Wilson (gardener, Mr A. Salt), Market Drayton; C. J. Waterhouse, Esq. (Mr. A. H. Hall), Prestbury, Macclesfield; W. Neild, Esq., Holmes Chapel, Cheshire (County Council); and A. M. Barber, Esq. (gardener, Mr. E. Jones), Wellington.

The Earl of Harrington was first for a dish of 12 Transparent Gage Plums. Lord Kenyon, (gardener, Mr. H. Taylor), Gredington, Whitchurch, was the winner for six Apricots; and S. T. Bates, Esq. (gardener, Mr. R. Grindrod), Whitfield, Hereford, for Peaches. J. C. Waterhouse, Esq., had the finest dish of Nectarines, while the best green-fleshed Melon came from Rev. T. M. Bulkeley Owen, and the best scarlet fleshed from T. Dicken, Esq., of Wern (gardener, Mr. G. Gilbert).

Plants.—(Groups) Mr Cypher as usual was the leading winner in the plant classes. Mr. W. Vause, of Leamington Spa, run his fairly close; and Mr. W. Finch, of Coventry, was also prominently in evidence. Mr. Cypher won for the large group (300 sq. ft.), arranged for effect; and Mr. W. Finch, second. In class III. for a similar group to consist of ornamental foliage plants, he was again first; Miss Wright (gardener, Mr. Roberts), Halston Hall, Oswestry, second; and Mr. W. Vause, third. H. H. France Hayhurst, Esq., was first for a smaller group also arranged for effect. For twenty stove and greenhouse plants Mr. Cypher beat T. S. Timmis, Esq., Allerton, Liverpool; and third, Mr. W. Vause. For thirty ditto, Lord Harlech (gardener, Mr. T. Lambert), Brogyntyn, Oswestry, was winner, this time beating Mr. J. Cypher, who was second, and T. S. Timmis, Esq., third.

Cut Flowers.—Messrs. Jones & Sons, of Shrewsbury, led in the class for six bouquets, and six baskets in a space of 10 ft. by 5 ft. This, of course, was a superb arrangement. Messrs. Gunn & Sons, Olton, Birmingham, were second; and Messrs. Jenkinson & Son, Newcastle, Staffordshire, third.

Messrs. Keynes, Williams & Co., of Salisbury, were strong in Dahlias, winning a few firsts. Messrs. Campbell & Sons, Blantyre, N.B., and Messrs Jones and Sons, were also amongst the successful Dahlia exhibitors. Mr. S. Mortimer, Swiss Nursery, Farnham, was also a first prize winner; Mr. W. Treseder, nurseryman, Cardiff, and Messrs. H. Clark & Son, Rodley, Leeds, also took prizes. Messrs. Harkness & Son, of Hitchin, were first for twenty-four cut Roses; Messrs. D. and W. Croll, Dundee, coming second. And amongst other winners in the cut flower classes were Mr. B. R. Davis, of Yeovil; Mr. J. B. Backhouse, Bath; Lady Watkins Wynn; the Bishop of Shrewsbury; Messrs. Kerr Bros., Dumfries, N.B.; Messrs. Gibson, Leeming Bar, Bedale; Messrs. Pemberton & Son, Walsall, and Mr. R. Sydenham, of Birmingham.

Vegetables.—The vegetable exhibits at Shrewsbury are always a great feature, and indeed, fill a large marquee by themselves. On all hands the excellence of the products was remarkable. The leading vegetable growers throughout the kingdom were represented, the principal prize winners being Mr. Beckett, gardener to Lord Aldenham, Elstree; Mr. D. Gibson, gardener to R. W. Hudson, Esq., Danesfield, Great Marlow; Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Newbury; Mr. Wilkins, gardener to Lady Guest, Henstridge, Dorset; and Mr. Bastin, gardener to A. Henderson, Esq., Buscot Park, Berks. Mr. Gibson, gardener to J. B. Johnstone, Esq., Coombe Cottage, Kingston, was also a prominent winner.

A Group of Darwin Tulips (See p. 11).

Miscellaneous exhibits.

Messrs. J. Veitch & Sons, Ltd., Royal Exotic Nursery, King's Road, Chelsea, showed magnificent groups of Codiaeums, Nepenthes, Caladiums, greenhouse Rhododendrons in flower, Campanula Mayi, choice Orchids, &c. They secured one of the few large Gold Medals.

Messrs. Dicksons, Ltd., Chester, had a magnificent collection of herbaceous Phloxes, in the best named varieties. Their exhibit also included new hybrid Nymphaeas. (Gold Medal.)

Messrs. R. Smith & Co., Worcester, had a miscellaneous group of flowering and foliage plants, including Liliums, Bamboos, Codiaeums, Bouvardias, Palms, &c.

Messrs. Webb & Sons, of Stourbridge occupied a space of about 60 ft. by 4 ft. and exhibited a magnificent lot of Gloxinias representing their Excelsior strain. The plants, which were of good habit, carried well formed blooms of rich and varied colours, and good size and substance. A special feature was made of their new Seedling White Gloxinia, which, shown on two large domes, was

very effective. Messrs. Webb also showed a collection of Sweet Peas comprising all the leading sorts; and they also made a good show of vegetables, in which their Tomatos Viceroy and Royal Sovereign were very conspicuous. For their exhibit Messrs. Webb secured the premier award, viz., a large Gold Medal.

Mr. Edwin Murrell, Portland Nurseries, Shrewsbury, had a magnificent collection of pot and cut Roses, for which he received a Large Gold Medal.

Another winner of the highest award was Mr. John Green, Norfolk Nurseries, Dereham, who had a splendid display of Dahlia blooms, principally of the Cactus varieties. (Large Gold Medal.)

Mr. B. R. Davis, Yeovil Nurseries, Somerset, staged a very fine display of tuberous-rooted Begonias. They were principally double-flowered varieties of grand form and size. The depth of colour and its brilliance in the varieties E. J. Davis, crimson; Ariel, Duchess of Albany and others were remarkable. (Gold Medal.)

Messrs. Jones & Sons, Shrewsbury, as one might expect, made an extensive and handsome display with Dahlia and Sweet Peas chiefly. (Gold Medal.)

Messrs. Pritchard & Son, Shrewsbury, had a collection of the semperflorens type of bedding Begonias on view, obtaining a Large Silver Medal.

Mr. J. H. White, Worcester, for hardy and half hardy herbaceous cut flowers, was awarded a Large Silver Medal.

Mr. A. Myers, Shrewsbury, who staged Pelargonium trusses, also won a Large Silver Medal.

Messrs. W. & J. Birkenhead, for a choice and extensive collection of Ferns, secured a Silver Medal.

Messrs. Jarman & Co., Chard, for cut flowers, and Mr. S. H. Matthews for Tomatos, were each the recipients of a Silver Medal.

Messrs. D. & W. Buchanan, Forth Vineyards, Kippen, N.B., exhibited a collection of Grapes, including a new seedling variety.

Mr. Deverill, the well-known nurseryman of Banbury, had a very choice and handsome exhibit of herbaceous flowers. (Silver Medal.)

ROYAL HORTICULTURAL.—*August 28th.*

Two very large collections of Gladioli, mainly of the Gandavensis type, constituted the principal feature of the meeting on Tuesday last. Hardy herbaceous plants, greenhouse Rhododendrons, Roses, early flowering Chrysanthemums, and also collections of fruit were much in evidence. The attendance by the general public was also much better than on the occasion of the last meeting.

Orchid Committee.

PRESENT.—Harry J. Veitch, Esq., in the chair, with Messrs. James O'Brien, J. G. Fowler, E. Hill, De B. Crawshay, H. M. Pollett, H. Little, F. Sander, H. J. Chapman, W. H. Young, H. A. Tracy, A. H. Smee, and F. J. Thorne.

W. W. Astor. Esq. (gardener, Mr. H. Bacon), Cliveden, Maidenhead, received a Cultural Commendation for a huge plant, in a pot, of Peristeria elata, bearing eight tall spikes of bloom, the height from the floor to the top of the spikes being about 8 ft. Mrs. Briggs-Bury, Bank House, Accrington, exhibited Laelia elegans illuminata, a very distinctly coloured variety. Walter C. Walker, Esq. (gardener, Mr. Geo. Cragg), Winchmore Hill, exhibited a large and very tall (4 ft.) plant of Cattleya bicolor, carrying four spikes of bloom, aggregating twenty-eight blooms.

Messrs. Hugh Low & Co., Bush Hill Park, Middlesex, exhibited Cattleya Eldorado, C. E. splendens, Laelia elegans var., Cycnoches chlorochilon, &c., the ast-named being fine. Mr. Ed. Kromer, Roraima Nnrsery, West Croydon, staged a very distinct Cattleya named C. aurea jenseniana, with buff-yellow sepals and petals, and a huge, very wavy lip. Mr. H. A. Tracy, Orchid Nnrsery, Twickenham, exhibited Laelia elegans J. Davis with long, rosy sepals and petals, and a dark crimson-purple lip. J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford, exhibited Laeliocattleya schilleriana, bearing a spike of nine blooms. A Cultural Commendation was awarded to Captain Holford, Westonbirt, Tetbury, Gloucester, for two spikes of Dendrobium Phalaenopsis schroderianum, bearing eighteen and nineteen flowers respectively. He also exhibited Cypripedlum Milo Westonbirt var. and Odontoglossum crispum Countess of Morley. Sir W. Marriott, Down House, Blandford, exhibited Cattleya armainvillierensis (C. Mendelii × C. gigas).

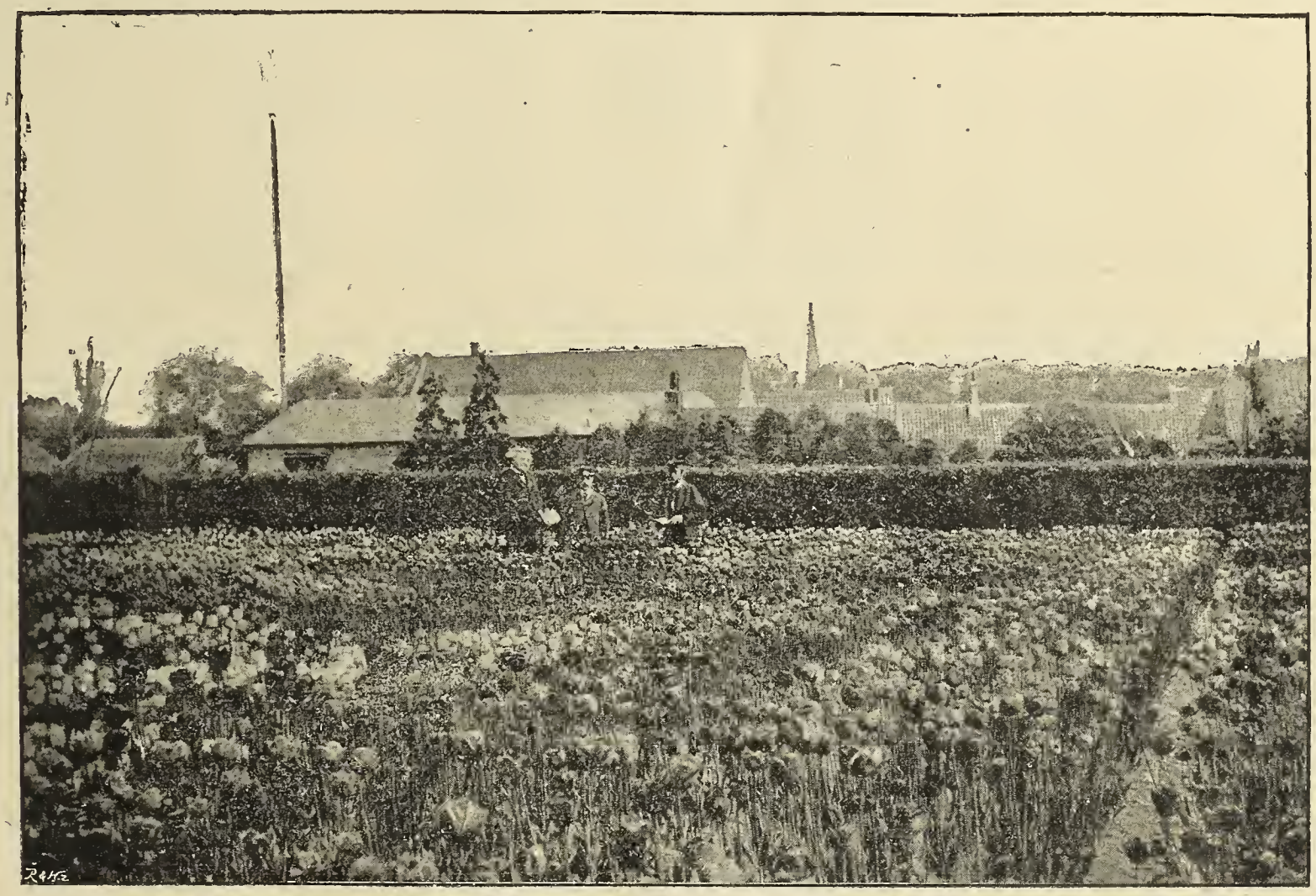
Floral Committee

PRESENT.—Geo. Paul, Esq., in the chair; with Messrs. Harry Turner, Maurice L. de Vilmorin, Jules Margottin, Geo. Nicolson, Charles T. Drury, H. B. May, Wm. Howes, Jas. Hudson, C. J. Salter, C. R. Fielder, J. D. Pawle, W. Bain, Chas. E. Pearson, James Walker, Geo. Gordon, Wm. J. James J. Fraser.

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, showed Lilium auratum, Phloxes, Campanulas, Gladioli, Haemanthus Katherinus, Cannas, Helianthus, Zephyranthes roseus, Verbena, venosa, Pentstemon barbatus, Lilium tigrinum Fortunei, Liatris spicata, Asters, and so on, a creditable display from this good old firm. (Silver Banksian Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, W.C., had their usual representative collection of hardy herbaceous cut flowers. Pentstemons, Dahlias, and Phloxes formed the bulk of the exhibit, and such fine things as Liatris spicata, L. pycnostachys, Pentstemon barbatus, Eupatoriums, Statice longifolia, Verbena Miss Wilmott, &c., were in evidence. (Silver Banksian Medal.)

Messrs. Frank Cant & Co., Rose growers, Braiswick Nursery, Colchester, set up a wonderful collection of Roses, mostly Teas and garden or decorative sorts. W. A. Richardson, Papa Gontier, Longworth Rambler, Mdme. C. Guinolsseau, and



FIELD OF DARWIN TULIPS (See p. 11).

Mr. Henry Eckford, Wem, Salop, set up about forty varieties of the best Sweet Peas in glasses. Cactus Dahlias were also shown. (Gold Medal.)

Mr. John Forbes, Hawick, Scotland, had Carnations, Pentstemons, Dahlias and other hardy florists' flowers. (Large Silver Medal.)

Mr. J. B. Blackmore, Tiverton-on-Avon, Bath, exhibited tuberous Begonia blooms, which were so meritorious as to receive a Gold Medal award.

Messrs. Hartland & Co., Seedsmen to the Queen, Cork, also showed tuberous Begonias and received a Gold Medal.

Messrs. Clibran & Son, Altrincham, Manchester, had an exceedingly fine group of plants. (Large Silver Medal.)

Mr. S. Mortimer, Farnham, Surrey, who showed Dahlias numerously and to perfection, received a Large Silver Medal.

Messrs. Laing & Mather, Kelso-on-Tweed, N.B., staged cut Carnation blooms, and secured a Silver Medal.

Messrs. Harrison & Sons, Leicester, who had Sweet Peas, &c., also won a Silver Medal.

Mr. W. L. Pattison, Cherry Orchard, Shrewsbury, for a fine display of cut Viola and Pansy blooms, obtained a Large Silver Medal.

such others, were largely shown. All were exceedingly fine. (Silver Banksian Medal.)

Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, opened the Chrysanthemum season by a bright exhibit of cut blooms of this plant. They showed the newer varieties Miss Ruth Williams, a sport from Mrs. Hawkins, Victor Mew a white sport from Mdme. Desgranges, Mytchett White, Flora, Louis Lemaire, Little Bob, &c. The canary yellow Miss Ruth Williams pleased us most.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, were also exhibitors of Roses. They showed Paul's Royal Scarlet, single Roses, Clara Watson, a pink Tea, Marie Van Houtte, Kaiserin Augusta Victoria, and others. They also showed a new black Grape, Lady Hastings, a fine looking variety which has had a F.C.C. from R.H.S. (Silver Banksian Medal.)

Mr. M. Pritchard, nurseryman, Christchurch, Hants, had an exceedingly select collection of hardy herbaceous flowers. We may mention Silphium perfoliatum, Helianthus rigidus, Montbretia Solfaterre, Trollius japonicus, Rudbeckia purpurea, Chrysanthemum Blushing Bride, Gypsophila repens monstrosum (Award of Merit); and Gladioli, Phloxes, Veronicas, Crinum Powelli, &c., &c. (Silver Banksian Medal.)

Messrs. Vilmorin, Andrieux & Co., 4, Quai de la Mégisserie, Paris, had a wonderful collection or group of cut Gladioli blooms, and there could not have been less than 600 spikes on view. If these lacked the size that we are accustomed to see they certainly were as brightly coloured as the best new English raised varieties. Amité, a large flowered pink and cream variety, was conspicuous; Magnificus was likewise good; Bress Burdett-Coutts, a mauve sort; Osmali, a brilliant scarlet crimson with a white throat; Sultane, a distinct lavender-mauve, with a white throat, were a few amongst this host, which was of special excellence. (Silver Gilt Flora Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, S.W., exhibited their Javanico-jasminiflorum hybrid Rhododendrons in pots on this occasion. Ceres, a deep yellow or gold coloured variety, was shown, Princess of Wales was prominent, Neptune, Indian Chief, and others were exceedingly showy, but, indeed, the collection as a whole is very desirable for a warm house.

Messrs. J. Veitch & Sons, Ltd., also staged a fine collection of annuals, including Hunnemannia fumariaefolia, Candytuft Hybrid Rose, Chrysanthemum Morning Star, a fine cream variety with deeper centre; Larkspur Empress, Calliopsis Tom Thumb, and Clarkias. Various ornamental Grasses were also shown. (Silver Banksian Medal.)

Messrs. Kelway & Son, Langport, Somerset, had a further display of their hybrid, and Gandavensis, Kelwayi, Childsi, nanceianus, and other Gladioli. These were as good as ever, large, brilliant, beautiful. Brice, Murray, Galatea, Remus, W. B. Childs, Colossal, Sappho, Grand Rouge, were amongst others, very conspicuous. (Silver Banksian Medal)

Messrs. John Laing & Sons, Forest Hill, London, staged a group of early flowering varieties of Chrysanthemums of more than usual merit, the plants being sturdy, well flowered, draped with dark healthy foliage, and set up to the best advantage. The flowers were pure, well formed, and of good size. Mdme. Desgranges, Lady Fitzwigram, Mrs. Burrell, Flora, and other varieties were included.

Messrs. H. Cannell & Sons, Swanley, Kent, showed the finest collection of annuals in the show, filling the whole length of a table, and admirably set up. The best Marigolds were here, as the Lemon Queen, African Marigold, and African Orange, Aurea floribunda, the French Legion of Honour, Swan River Daisy (Brachycome Iberidifolia), Helianthus cucumerifolius (fig. in THE GARDENING WORLD last spring), Dianthi, Phlox Drummondi in various varieties of cream, blue, pink, violet, mauve, and crimson. Sweet Peas, Asters, and Linarias were also fully shown. (Silver Banksian Medal.)

Messrs. J. Peed & Son, West Norwood, S.E., are still able to show a fine collection of specimen Caladiums The group exhibited on this occasion was scarce y inferior to the best of the earlier displays, and certainly the colour of the foliage was more decided and heightened. Louise Van Houtte, red; Mdme. Mitjana, Lady Mosley, Silver Cloud, Rio de Janeiro, and Henry Dixon were all put up. (Silver Banksian Medal.)

Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, had a wonderful display of Gladioli, strikingly distinct all of them. They represented the best varieties of Nancieanus, and Gandavensis, and others were included. Emperor Nicolas was very fine, as was Canrobert. Gen. Duchesne, Jean Dybowskii, Ocean, and Roi de Siam were also good. (Silver Banksian Medal.)

(To be continued.)

READ THIS.

The competition continues as usual next week.

The prize last week was awarded to Mr. Walter Hogarth, Norton Gardens, Ratho, Midlothian, for his article on "The Eucharis," p. 820.

QUESTIONS AND ANSWERS.

Large Striped Caterpillar.—*J. H. Saunders*: We frequently get samples sent us when about full grown, with inquiries respecting the same; so that evidently a great many people are interested in the creature, which is the caterpillar of the Death's-head Moth (Acherontia Atropos), which is widely distributed from the south coast of England as far north as Edinburgh and Glasgow at least. It feeds on the Potato, Jasmine, Lycium barbarum and possibly other subjects, but happily does not seem to be numerous as a rule in any one district, otherwise the damage it would do must be great, for it is a voracious feeder, and gives rise to a moth which is almost without a rival for size amongst British insects. You did not tell us what it was feeding upon, for it could hardly have been Cabbages, which you sent as luncheon with the insect. When making enquiries about insects please state the food plants upon which you find them.

Propagating Hollyhocks in Autumn.—*J. C.*: No advantage will occur to the deferring of propagation till the usual run of bedding plants is being put into pots and boxes. You should begin now by taking the unflowered shoots from the base of the plants, and cutting the stem into lengths of 2 in. or 3 in., with a bud or eye to each piece, Cut the stem sufficiently far below the bud to leave the same uninjured but with a good base. The rest of the stem may be above the bud. It serves to feed the bud and supply material for producing roots. These eyes may be dibbled rather thickly into light sandy soil in boxes. The latter should be stood in a slightly shaded place where the sun will not strike fully upon them so as to dry up the pieces of stem. Water will be necessary in case the soil should incline to become dry; otherwise no attention will be required till shoots and leaves are thrown up from the eyes and begin to get crowded. Each rooted cutting may then be potted off singly to encourage growth. At the end of September the pots or boxes, as the case may be, should be stood in frames to encourage growth, but kept well ventilated. By the end of March they will be fine plants.

Rootpruning Pear Trees.—*R. Singer*: If the weather keeps dull and showery you can at least commence operations any time after the middle of this month. The distance from the trunk at which you should cut the roots will depend upon the size of the tree to be root-pruned. If only 5 ft. to 10 ft. high and of pyramidal habit, you may take out a trench all round at 3 ft. from the trunk. This will leave a ball of soil 6 ft. through, which will be ample. Trees, particularly standards, 12 ft. high and more, should have a trench taken out at 5 ft. from the trunk, and all the strong roots cut. Dig underneath with a fork till it can be seen that no roots run straight down in the soil. All such should be cut off and removed. Get together some fresh compost, consisting of old potting bench material, and soil generally which has once been used for pot work. If your soil is light, also get some fresh fibrous loam of a substantial kind, chop it up and use it for covering the roots and filling the bottom of the surrounding soil. Fill up the trench with the soil taken out, except room to give the trees a good watering before completing the work. Finally fill up the remainder and tread it firmly.

Names of Plants.—*W. P. S.*: 1, Lonicera involucrata; 2, Bartsia Odontites; 3, Polygonum lapathifolium; 4, send when in bloom; 5, Prunella vulgaris; 6, Potentilla anserina; 7, Achillea Millefolium.—*Sigma*: The weed is Chenopodium polyspermum; The scarlet flower is Pentstemon barbatus.—*R. M.*: 1, Anemone japonica; 2, Veronica virginica; 3, Digitalis ferruginea; 4, 5, Helianthus rigidus; 6, Chrysanthemum lacustre.—*D.G.*: 1, Spiraea Douglasii; 2, Genista tinctoria; 3, Pyrus pinnatifida; 4, Amelanchier canadense; 5, Rhus Cotinus.—*Western*: 1, Fuchsia Riccartoni; 2, Tamarix galica; 3, Escallonia macrantha; 4, Cupressus macrocarpa.—*A L*: 1, Impatiens Roylei; 2, Aconitum japonicum; 3, Coronilla varia; 4, Achillea tomentosa; 5, Silene Armeria; 6, Veronica longifolia subsessilis.—*Stevens*: 1, Eryngium olivierianum (not amethystinum); 2, Eryngium giganteum.—*T. E. W.*: 1, Amobium alatum; 2, Antennaria margaritacea; 3, Xeranthemum annuum.—*Philomathus*; 3, Helianthus decapetalus; 4, the seed shells of Buckwheat (Fagopyrum esculentum).

Communications Received.—Ed. Webb & Sons.—Adnitt and Naunton.—A. W. Young & Co.—A. D. Webster. — Philomathus. — Cornell University.—W. Dick.—A G.—W. D. R. S.

TRADE CATALOGUES RECEIVED.

DICKSONS, The Nurseries, Chester.—Select Roses; also Choice Flowering Bulbs, &c.; also List of Strawberries.

FISHER, SON & SIBRAY, Ltd., Royal Nurseries, Handsworth, near Sheffield.—Catalogue of Bulbs and Flower Roots.

JAMES COCKER & SONS, 130, Union Street, Aberdeen.—Select List of Dutch Flower Roots.

LEONARD BROWN, F R H.S., Brentwood, Essex.—Bulbs.

ALBERT CHATWIN, 35, Wheeleys Road, Edgbaston, Birmingham.—List of Yellow Ground Picotees, and Self and Fancy Carnations.

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SHOW FIXTURES FOR 1900.

SEPTEMBER.

7.—National Dahlia Society's Exhibition (2 days).
12.—Royal Caledonian Horticultural Society (2 days).
13.—Boston and District Dahlia and Chrysanthemum Society.
27.—R.H.S. Fruit Show (3 days).

OCTOBER.

9.—National Chrysanthemum Society (3 days).

NOVEMBER.

6.—National Chrysanthemum Society (3 days).
7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).

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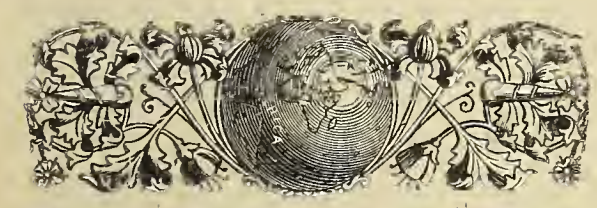

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, SEPTEMBER 8th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, September 11th.—Royal Horticultural Society, in Drill Hall, Buckingham Gate, Westminster, S.W.; Paris Exhibition (temporary show).

WEDNESDAY, September 12th.—Royal Caledonian Horticultural Society (2 days); Derbyshire Agricultural and Horticultural Show, at Derby (2 days).

THURSDAY, September 13th.—International Pomological Congress, at Paris (2 days); Boston Dahlia and Chrysanthemum Society's Show.

SIR JOHN BENNET LAWES, BART., A PIONEER IN AGRICULTURAL IMPROVEMENT.—By the death of Sir John Bennet Lawes, Bart., D.C.L., LL.D., Sc. D., F.R.S., of Rothamsted, Herts, the science of Agricultural Chemistry loses one of its most devoted students and ablest exponents. Horticulture may also be said to lose by his death, for it is closely akin to its sister science of agriculture. Sir John Lawes was born at Rothamsted, Hertfordshire, in 1814, and passed away at the ripe old age of eighty-six, on Friday, August 31st last. He came into his ancestral inheritance when he was only about eight years old.

While being educated at Eton and Oxford he became fascinated with the science of chemistry, then in its infancy and full of the glamour of possibilities in a little known field. Being also of a practical turn of mind he resolved to turn his knowledge of the subject to some useful purpose, and, accordingly, decided to dedicate himself to the task of improving the fruits of field and garden by means of chemistry. Soon after entering into possession of Rothamsted, his hereditary property, or say when he had attained his majority, he commenced experimenting with manures of various kinds, first upon pot plants and afterwards in the field. This was in 1834, at which time he was an admirer of De Saussure, and an ardent student of that worker's researches on vegetation. Amongst his earliest experiments, the manufacture and application of superphosphate of lime to various root crops gave the most striking results. The superphosphates were obtained from bones, bone ash and apatite by the application to them of sulphuric acid, otherwise known as vitriol. The results obtained during 1837, 1838 and 1839 were such as to lead to much more extended trials in the field during 1840, 1841 and subsequently. His discoveries in this field gave rise to marvellous results. The superphosphate of lime which he manufactured and used in his experiments were but the infantile beginnings of an industry which has grown to millions of tons of an annual output from the various British factories all over the land. He may therefore be said to have made many blades of grass grow where only one grew before; so that British agriculture and horticulture are greatly indebted to his initiative, zeal and life long industry on their behalf.

In 1843 he commenced experiments in the field on a more systematic plan. A barn that had been utilised to some extent as a laboratory was from henceforth entirely devoted to agricultural investigations. The Rothamsted experiments may, practically, be said to have commenced in 1843, and have been carried on in the same elaborate manner, and scientific spirit ever since. Thus while it may be said that Sir John has been experimenting for the last sixty-five years, the Rothamsted Experiment Station, being founded in 1843, has had an existence of fifty-seven years. By the date just mentioned the experiments had assumed a promising character, and Sir John enlisted the services of a practical chemist, Dr., now Sir Henry Gilbert, F.R.S. From this date the Rothamsted establishment may be said to have become a national agricultural laboratory, and a Mecca for the farmers and others interested in field researches in Great Britain. A splendid laboratory has since been fitted up and well equipped with all appliances and means for carrying on elaborate experiments on a far reaching scale. It was built by a public subscription of agriculturists in 1854 and 1855. The Rothamsted Experimental Station was carried on entirely at the expense of Sir John, and without connection with any other institution or organisation. He set aside a sum of £100,000, the Laboratory and certain areas of land for the purpose of carrying on investigations after his death. While in 1889 trustees were appointed, as well as a committee of management to superintend and direct the working of the establishment.

The new laboratory built and presented to Sir John Lawes in 1854-5 has become packed to overflowing with a collection of 40,000 bottles of samples of vegetable produce, animal products, ashes, soils, &c., as well as thousands of samples not stored in bottles, but mostly produced on the estate, and affected or connected in one way or another with the experiments in hand. An additional "sample house" was built in 1888. The investigations being carried on fall under two headings, namely, "Experiments on Vegetation," and "Experiments on Animals." The former of these includes the investigation of soils, rainfall and drainage, amount of water transpired by plants, botanical characteristics, and experiments on the assimilation of free nitrogen. His studies in the latter field of research have been of a far reaching character, and many a farmer all over the land has been guided by the instructions emanating from Rothamsted. Many a field of research has been thoroughly explored, and the how, why and wherefore of utilising nitrogenous manures has been placed at the service of plant growers and farmers.

The results of his labours, combined with those of his assistants, have been communicated to the world in a great variety of ways. Papers and pamphlets have been published and disseminated from Rothamsted itself, as well as by the Royal Agricultural Society of England, the British Association for the Advancement of Science, the Chemical Society of London, the Royal Society of London, the Society of Arts, the Royal Dublin Society, &c. He was created a baronet in 1882. Other honours conferred upon him, include a fellowship of the Royal Society, the Royal Medal (in conjunction with Sir J. Henry Gilbert, F.R.S.), a Gold Medal from the Imperial Agricultural Society of Russia, a Gold Medal of Merit from the German Emperor, &c. In 1842 Sir John married a daughter of the late Mr. Andrew Fontaine, of Narford Hall, Norfolk, who pre-deceased him in 1895. A son and heir was born to him in 1843, and now succeeds to the ancestral estate, namely, Mr. Charles Bennet Lawes, a sculptor of eminence.

Mr. George Courtauld, J.P., has engaged a lady to take charge of his beautiful gardens at Cut Hedge, Essex.

Crystal Palace Fruit Show, September 27th, 28th, and 29th. Intending exhibitors should note that entries close on September 20th.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, September 11th, in the Drill Hall, James Street, Westminster, 1—5 p.m. A lecture on "Garden Manures" will be given by Mr. F. J. Baker at three o'clock.

United Horticultural Benefit and Provident Society.—A special meeting will be held at the Caledonian Hotel, Adelphi Terrace, Strand, W.C., on Monday, September 10th next, at 8 p.m., for the purpose of taking into consideration the recommendation of the committee upon that part of Rule 8 which relates to the secretary's salary.—*W. Collins, Secretary.*

"Anglo-Saxon Guide to the 1900 Paris Exhibition."—Though it may seem late to be sending out a guide for the great Paris exhibition, which now has less than two months to run, we may hasten to say that this is a second edition, and it includes the awards which "Anglo-Saxon" firms have received over the way. It is the only English guide sold at the official bookstalls inside the exhibition, and is by far the best which has reached us. Included within the covers we find a large map of Paris (20 in. by 15 in.) with all the important streets, railway routes, places of interest, &c., marked and numbered to correspond with the names which are tabled conveniently by the side of the map. This alone is worth the shilling, which the guide costs. Illustrations and other maps are lavishly employed, and the publication in its entirety is exceedingly well drawn up, and we feel sure will meet all the wants that any visitor will ever have. Those of our readers or their friends who may yet intend to make a visit, we advise to secure this Anglo-Saxon guide. It may be had from Messrs. Boot & Son, Ltd., 24, Old Bailey, London, E.C.; at 100, Broadway, New York; and 44 Rue Vercingetorix, Paris, &c.

Harvesting at Deerness, Orkney.—From *The Orcadian* we glean the news that Bere cutting is now general around Deerness. Bere is a species of Barley, having a fruiting head with six rows of seeds. Crops are all looking well except Turnips, amongst which finger-and-toe disease has ruined almost whole fields.

Weather in London.—We have been having October conditions of weather during the last week. The thermometer has been down to 40° Fahr. on at least two occasions. Rain fell heavily on Saturday, though the day was very close and oppressive. Sunday was fine, Monday and Tuesday were dull and cold.

"A View in a Garden."—The illustration placed at our disposal by Edward Owen Greening, Esq., of the Agricultural and Horticultural Association, Ltd., and figured by us in last volume, p. 823, under the title "A view in a garden," represents a view at Whitton Park, Twickenham. The photograph was selected from the first prize collection of garden views, exhibited at the "One and All" Flower Show by Mr. Byrne, of Richmond.

A Gold Medal was awarded to Mr. J. H. Cumming, gardener at Grandtully Castle, Aberfeldy, N.B., by the Aberfeldy and District Horticultural Society for an essay on the "Cultivation of Hardy Annuals." The prize was awarded by Mr. Wiseman, nurseryman, Elgin, and competed for by a number of the gardeners, who are members of the society. Mr. Cummings will be one of the judges at the Edinburgh Show to be held on the 12th and 13th September.

The Autumn Catalogue of Messrs. Ant. Roozen & Sons.—It will pretty generally be admitted that one of the most complete of the bulb catalogues which are published annually, is that of Messrs. Ant. Roozen and Sons, the well-known bulb growers and exporters of Overveen, near Haarlem, Holland. The issue for 1900 has lost none of its old qualities, and it is up to the requirements of the day. The catalogue is arranged in alphabetical sequence, Dutch and Cape bulbs, and herbaceous plants being enumerated and described, though the latter are confined to only the most popular genera. Among the bulbs that are included we would point out the valuable, but little grown Albucas, Antholyzas, Brunsvigia or Candelabra Flower, Dietes (lovely Irids), Haemanthus, Moraeas and others, all of which succeed under ordinary care in pots or frames. All who are interested in bulbous plants and hardy border subjects should have a copy of the above by them; they will find it useful. The general agents for Great Britain are Messrs. Mertens & Co., 3, Cross Lane, St. Mary-at-Hill, London, E C.

Abridged list of Swest Peas.—Nothing definite has been done by any official body in weeding out too-much-alike varieties of Sweet Peas. We have received an abridged list, however, selected from their numerous trials by Messrs. H. Cannell & Sons, Swanley, Kent. What they consider good and distinct older varieties are as follows:—White: Blanche Burpee, Emily Henderson, and Mrs. Sankey. Scarlet shades: Brilliant, Cardinal, Firefly, Invincible Scarlet, Mars, Salopian. Mauve shades: Celestial, Countess of Radnor, Creole, Lady Nina Balfour, New Countess, Princess May. Maroon shades: Boreatton, Shahzada, Stanley. Dark standards, blue wings: Duke of Clarence, Indigo King, and Monarch. Blue and purple shades: Captain of the Blues, Carmen Sylva, Emily Eckford, Golden Gate, and Sultan. Pink shades: Blushing Beauty, Countess of Aberdeen, Lovely, Mrs. Gladstone, Peach Blossom, Princess Beatrice, Princess Victoria, Prima Donna. Striped: Aurora, Mrs. J. Chamberlain, Mikado, Pink Friar, Princess of Wales, Senator, Striped Celestial. Blue and white: Butterfly and Maid of Honour. Salmon shades: Coquette, Lady Beaconsfield, and Venus. Rosy-purple: Captivation. Rose and white shades: Apple Blossom, Countess of Shrewsbury, Crown Jewel, Empress of India, Gaiety, Little Dorrit, and Painted Lady. Carmine and Rose shades: Adonis, Fashion, Her Majesty, Novelty, Ovid, Prince Edward of York, Royal Rose, and Triumph. Blush shades: Alice Eckford, Duchess of York, and Fairy Queen. Yellow: Primrose and Queen Victoria. Orange and salmon shades: Bronze King, Countess of Powis, Duke of York, Gorgeous, Lady Penzance, Meteor, and Orange Prince.

Death of Mrs. Leonard Sutton.—With regret we announce the death of Mrs. Leonard Sutton, the wife of Mr. Leonard G. Sutton, of the firm of Messrs. Sutton & Sons, Reading. She was only thirty years of age, and leaves a family of six children, the eldest of whom is not yet seven. The funeral took place at Reading Cemetery on Friday, the 31st August, when a large concourse of relatives, friends, and other mourners attended the obsequies, and sincerely sympathised with Mr. L. G. Sutton in his sad bereavement.

Orchids at the Sale Rooms.—On Friday, the 31st ult., at the Sale Rooms of Messrs. Protheroe & Morris, Cheapside, a spotted yellow variety of Odontoglossum crispum fetched 5 gs. At the same time ordinary forms ranged from 6s. to 45s. each. Two plants of a Laeliocattleya (L. cinabarina × C. Schroderae) went for 12s. each; while Cattleya aurea ranged from 15s. to 18s. each. Dendrobium nobile ballianum was knocked down at 18s.; D. n. amesianum at 12s.; D. Juno, 11s.; D. Wiganiae, 15s.; and D. melanodiscus at 12s. Of course, these were only holiday prices; but they show what advantage is gained by those attending during the off season for Orchids.

"The Culture of Flowers from Seeds and Bulbs."—The above is the title of a little book in green covers recently published by Messrs. Toogood & Sons, of Southampton. Mr. E. Kemp Toogood, F.R.H.S., is the author, and he has endeavoured in 190 pages, to set out, as concisely and simply as may be, the systems of flower culture which his firm has found most successful after extended work in this direction for nearly a century. The table of contents embraces seed sowing, watering, potting, greenhouse pests, monthly sowings and plantings, cultures from seeds and bulbs, and classification of flowers. One of the most valuable features of the little book is the simple yet expressive illustrations which appear almost on every page. These figures have been chosen to represent how one can best plant a border, make a beautiful walk, protect a bed of tender plants of seedlings, etc. The book also portrays many fine hardy flowers. Technical gardening terms are lucidly explained, and altogether we think the amateur or young gardener with this book in hand, will have not a bad idea of flower-culture in its entirety; and by careful reading will find answers to many questions which perhaps are as yet a puzzle. It is a good amateur's book and well worth the shilling it costs to buy.

Royal Horticultural Society of Ireland.—On Tuesday, August 28th, the R.H.S. of Ireland held their annual autumn fruit and flower show in the grounds of Merrion Square, Dublin. Begonias, Gladioli, and Dahlias formed a large and interesting section of the floral display, and on all hands the cut flower section was voted noteworthy considering the season. There were twenty-five classes for cut flowers, nineteen for fruits, ten for plants, and three for vegetables, or fifty-seven in all. Two Challenge Cups and several Silver and Bronze Medals were offered. Countess Cadogan and many visitors from the Viceregal Lodge attended the show, music being supplied by the band of the Rifle Brigade. Chief amongst the prize winners in the various sections were Messrs. Coglan, Byrne, Kearns, Geoghegan, Toner, Stringer, McKellar, Bradshaw, Rigg, Mitchison, Tyndall, Porter, M'Linden, and others. Amongst the nurserymen who exhibited the chief were Mr. Hugh Dickson, of the Royal Nurseries, Belfast, who was first for thirty-six Dahlias; Messrs. Alex. Dickson & Sons, Newtownards, came second; and third, Messrs. Watson & Sons, Clontarf. Mr. A. Dickson beat Messrs. A. M'Gredy & Sons, of Portadown, for a stand of forty-eight Roses; and third, Messrs. A. Dickson & Sons. Messrs. M'Gredy were first for twenty-four spikes of Gladioli; second, Messrs. A Dickson & Sons; and Messrs. R. Hartland & Son, Lough Nurseries, Cork, were third. A very choice group of flowering and foliage plants from the Royal Botanic Garden, Glasnevin, formed a worthy feature. Messrs. R. Hartland & Son received a Gold Medal award for a particularly fine group of zonal Pelargoniums, Gladioli, fruits, &c. Messrs. M'Gredy received a like award for a collection of Begonias, &c. Some of the English and Scotch nurserymen also exhibited.

Journal of the Department of Agriculture of Western Australia.—We have received copies of this journal for each month, back to last December. The publications contain such matter as one may find in the "leaflets" compiled, printed, and distributed by the Agricultural Department of the British Government, but Australia being a large and continually unfolding country, where agriculture is a greater power than at home here, there are many more matters to attend to and exploit by means of a monthly journal. The whole range of subjects which have a bearing on the progress of the science and art of agriculture are studied and explained in the pages of this journal, new ideas, experiments, and the proceedings of the various societies and special conferences, which come within the scope of the department's business, are ventilated in this valuable monthly journal.

Receipt for Currant Wine.—Some years ago, when living in Bath, I happened to call at Kensington Nursery, and Mrs. Scammel gave me a glass of her home-made wine from the Black Cluster Grape which covered the front of her cottage. I asked her to give me the receipt, which is as follows, and I have proved it to be a very good one:—Boil the water half-an-hour and allow it to cool; then gather the fruit, stalks and all. I prefer a mixture of fruit, Red and Black Currants, Raspberries, &c.; leave them in a tub for *ten days*; every day bruise the fruit with the hand, then strain the fruit in a clean tub. To every gallon of the wine add 3 lb. of moist brown sugar from the bottom of the cask. Then put it into the barrel and allow it to work for about eight days, then cork up the cask for a few months. After this, bottle if wanted. Gooseberries require to be made by themselves, and they make a fine sparkling wine not easily known from champagne. I also made wine from Grapes with the same receipt. I may add that no spirit was required. I have often been surprised to find how ignorant many people are about using unfermented wine for the Communion. All wines made from fruit must ferment to make it pure and keep in summer, especially. Wine made from this receipt is delicious, and, especially in summer, very refreshing.—*William Carmichael*, 14, *Pitt Street, Edinburgh.*

Croydon and District Horticultural Mutual Improvement Society.—The August meeting was held in the society's room, the "Sunflower" Temperance Hotel, George Street, Croydon, on Tuesday evening, the 21st ult. Mr. W. J. Simpson, The Gardens, Falkland Park, presided, the vice-chair being occupied by Mr. M. E. Mills, The Gardens, Coombe House. Thirty-four members were present and seven new ones elected. The chairman announced that an excursion had been arranged to Horsham, to visit the gardens of C. J. Lucas, Esq., Warnham Court, and "Leonardslee," the residence of Sir E. G. Loder, Bart., by kind permission of the gentlemen named. The chairman next introduced Mr. W. Harris, who read an excellent paper on "Bulbs." Having described the methods of cultivation, propagation, and harvesting, adopted by the English and Dutch trade growers, Mr. Harris gave a selection of the best and most useful varieties of Hyacinths, Tulips, Narcissi, Lily of the Valley, Freesias, Ixias, Iris, Anemones, &c.; the treatment of each section for early forcing as cut flowers and in pots, &c.; for general decoration, and planted out in beds, borders, and among grass. Attention was called to the charming Spanish Irises, on account of their cheapness, beautiful colours and effectiveness, either in pots, beds, or as cut flowers for vases. Mr. Harris advised early planting of bulbs to enable them to become well established before their flowering seasons. Soils were next mentioned. On the invitation of the chairman an interesting discussion followed the reading of the paper, several members taking part. A hearty and unanimous vote of thanks was accorded Mr. Harris. Mr. Reddam, Manor House, West Wickham, exhibited some fine seedling double Begonias. The secretary announced that the next meeting would be held on September 18th, when a paper will be read by Mr. C. A. Blogg (secretary National Cactus Society), on "Cacti of the U.S.A., Mexico, and California, and how to grow them." A vote of thanks to the chairman concluded the meeting.—*J. Gregory, Hon. Secretary*, 60, *Canterbury Road, Croydon.*

Stirling Horticultural Society held its eighty-ninth successive show on Thursday and Friday, August 30th and 31st. This is a wonderfnl record.

Royal Aquarium, Westminster: A Cacti Show of over 200 varieties of Cacti and Succulents from South America, California, Mexico, Cape of Good Hope, and various Islands will be on exhibit at the Westminster Aquarium, from Wednesday, the 5th September, and following days. The collections are the largest and rarest ever seen in London, and include many growths of great value: Cereus, Echino-Cactus, Echino-Cereus, Euphorbias, Mamillarlas, Echinopsis, Opuntias, Yuccas, Aloes, Agaves, Dasylirions, Rhipsalis, Echeverias, Sempervivums, and Paper Spined Cacti—the latter a very great novelty from South American and very rare even to Kew Gardens. Some of the varieties are of 150 years' growths and weigh as much as six tons. There are also varieties of the "Old Man" Cactus, Pin-wheel Cactus, Rock of Ages, Living Rock, Turk's Head, Fish Hook, and a series of growth of Cacti from 1 in. to 5 ft. The Cacti and Succulent Plants Exhibition, which is organised by Messrs. Cannell & Sons, of Swanley, and Eynsford, will be followed by a Dahlla Show on the 18th, 19th and 20th inst.; and the National Chrysanthemum Society will hold at the Royal Aquarium its first show of the year on the 9th, 10th and 11th of October.

Messrs. Barr's General Bulb and Daffodil Catalogues.—The annual autumn bulb catalogues sent out by Messrs. Barr & Sons, King Street, Covent Garden, W.C., are as complete and correct ln their many points as nurserymen's catalogues could well be. It is the study of this firm how best to make others love and cultivate hardy bulbous plants, and much of their success is due to the pains bestowed by them in making their catalogue what it is—easy for reference, fully descriptive, helpful in its supply of cultural hints, and jottings of Individual interest about the genera and species. THE GARDENING WORLD has endeavoured to illustrate the qualities of the numerous sections of Tulips and the opportunity may here be embraced to point out the lists of collections to be found at page 54 of the general bulb catalogue. Amongst the new Daffodils which are described in the special Daffodil catalogue, we would call attention to Duke of Bedford, Hillside Daffodil, Lucifer, Maggie May, Stella Superba, The Twins, Una and Willie Barr, all of which we have seen and have been described in our columns. Daffodils and Narcissi are the finest of all hardy spring flowers. The other spring flowering bulbs, as Hyacinths, Tulips, Crocuses and the summer flowering Gladioli, &c., are fully described.

TO YOUNG GARDENERS.

How often we hear of young men leaving their places for no very good reason; all they vouchsafe is that it was a "rongh shop," all outside work, or such like. I need hardly point out that there is not half enough good places to go over all the budding horticulturists. Some of us must get the "middling" or "bad" places. It is very doubtful, however, if the really bad places are so plentiful as we are led to suppose. I quite admit that the great majority of places might with advantage be made much more comfortable for the gardeners. At the same time, if we can only bring a contented mind to bear on our circumstances, it is wonderful how well we can get along in this world. I know as well as anyone the pleasure of working in a place where there is a large amount of glass. There one is somewhat independent of the elements. There is also, no doubt, that nowadays the chief gardening honours are gained by those who have the command of large ranges of glasshouses. To take a common-sense view of the case, however, it should, I think, be clear to most people that the gardener who has the ability and patience to provide a full supply of flowers, frnits, and vegetables in season in the outdoor garden is at least as much entitled to praise as the more fortunate neighbour with his hot-water pipes and glasshouses. I would, therefore, counsel all young gardeners to give the utmost care to all outside work, for there is, no doubt, that the great majority of us will not be able to secure places where glass is the most important feature.—*Chas. Blair, Binny, Uphall, N.B.*

THE FRUIT GARDEN

CALLS for especial attention jnst now, as a good deal of fruit (stove and other) is on the verge of ripening and too much care cannot well be bestowed upon it. Early Apples should be gathered when ripe, and if possible consumed within a week or so, for if kept long they loose a good deal of their flavour. Where it is possible nets should be placed over Apples and Pears to prevent birds from sampling the same. We were obliged to take this precaution some few weeks back, as these marauders abound far too plentifully around here. Peaches and Nectarines require extra care in gathering not to bruise the delicate fruits more than can be helped or decay soon sets in. These can be placed in the fruit room where a day or two will improve matters; and if wasps and flies are troublesome put small mouthed bottles on the trees, three parts filled with beer, or cider, with a good quantity of treacle ln, keeping it strained every day or so, burying the prisoners so captured. The earliest Plums too must be gone over every other day, removing the ripe ones, which gives those remaining a chance of swelling up a trifle larger. We have cleared Early Favourite, Orleans, Washington, Czar, Kirkes, and Old Greengage.—*J. Mayne.*

"ALLAMANDAS"

ARE all bold growing and very free flowering plants. I think it a great mistake that they are not more grown and used for mansion-house decoration. They form splendld objects trained on a balloon-shaped trellis, or upon the rafters or pillars of the stove, their rich golden flowers keeping up a display for several months. I am sure nothing would look more attractive in a vase in the drawing-room than a nice flowered plant of Allamanda Hendersonii or A. nobilis. Their dark green foliage shows off their large, bell-shaped, yellow flowers to advantage. If used in a cut state for table or room decoration, they will last much longer if a few drops of water are placed inside the flowers, the hot dry atmosphere of rooms belng very trying on cut bloom. The soil best adapted to their wants is a mixture of equal parts loam, leaf mould, peat, and sand. They enjoy strong heat and moisture when growing, always spraying them overhead twice a day which helps to keep them free from pests, which would otherwise attack them in a dry atmosphere. Give occasional waterlngs of strong liquid manure, which will be of great assistance to the plants, as their roots very soon fill the pots, being all vigorous growers.

After the flowering season water must in a great measure be withheld, and early in spring before new growth commences, cut the shoots back to within a few eyes of the old wood.—*Walter Hogarth, North Gardens, Ratho, Midlothian.*

PROFITABLE WORK

INCLUDES planting out good breadths of Cos and Cabbage Lettuce for autumn as well as for spring use. In the former case Sutton's Dwarf Perfection and Veitch's Superb Cos, with Sutton's Favonrite Cabbage, we hope to have in plenty towards the end of this month. For early spring and summer use we rely chiefly upon Hicks' Hardy White Cos and Lee's Hardy Green. Choose an open position, planting 9 ln. apart ln rows, 12 in. asunder. The same remarks apply to Endive, which comes in most useful where Lettuce cannot be had after November. We planted out ours the last few days of August, as the weather proved showery. We also pricked out our earliest batch of Cabbage which will make nice sturdy plants by the time the Onions are harvested, which ground comes in for this crop. If the late fruiting Raspberry canes have not been cut out, lose no time in doing this, as well as some of the weaker young growths where too thick; and the Strawberry beds or plots ere this should have been divested of all runners, rough leaves and weeds, working the flat hoe well amongst all the above at every opportunity, not omitting the water pot, if dry weather prevails, among the salads and young Cabbages.—*Grower.*

AUTUMN SOWN ONIONS.

THERE are many points to be advanced in favour of the autumn sowing of Onions. They are seldom attacked by the dreaded "maggot." They require very little more work, and they are larger and finer that the spring sown ones. They can be used before the latter, and are good keepers. The land best adapted to the requirements of this fine bulbous vegetable is a rich, well drained, friable garden soil, inclined to a sandy, rather than a heavy character. Deep digging is necessary to ensure the most perfect samples. Liberal dressings of soot and wood ashes are always advisable, and good farmyard manure should be supplied at the rate of ten tons per rood. This is heavy manuring, but Onions enjoy rich feeding. The ground must also be firm, and in a fully exposed position to light. A sandy soil requires more manure and greater persistence in firming it than any other soil. Indeed, when the soil is light it ought only to be surface cleaned at this time, for the firmer the soil is during the winter, the drier and warmer it is reckoned to be. In the earlier days of spring the young crop will be benefited by light dressings of superphosphate applied between the rows and hoed in. Almost any variety of Onion will succeed as a winter sort, but the Tripolis and white Spanish varieties are generally sown.—*D. K.*

THE BULB SEASON.

To have bulbs in flower at Christmas, a start at potting must be made. The Hyacinths take the lead in bulbs. Hyacinths are not particular as to soil, but what suits Hyacinths best ls, rotted cow dung one part, leaf mould one part, heavy loam three parts, with enough coarse sand to make it porous, also some charcoal broken up in pieces about the size of hazel nuts. Turn it all over several times. Use it ln a rather rough state. Crock a number of 6-in. pots, which will hold three bulbs. Fill up the pots with the compost to within 2 in. or so of the top. Place a layer of sharp sand over that, then fix your bulbs in position. Fill in between with soil, so that the crown of the bulb is on a level with it, leaving at least ½ in. clear space for wateriug. After the first batch is potted off place them in a frame or any spare corner. Cover the pots with fine ashes, cocoa-nut fibre or such like material to the depth of 6 in. The object for plunging is to let the roots get in advance of the stem; it also keeps the bulb from rising out of the pot. In five or six weeks' time, the stem will be up about a ½ in. They should then be removed to the forcing pits, vineries, greenhouse, or wherever desired. Do not expose them to the full light for a day or two.—*Adam V. Main, Morton Hall Gardens.*

BEGONIA GLOIRE DE LORRAINE.

THIS has now become quite interesting. In the first place let me point out to Mr. Mayne that the subject under discussion was the successful propagation of this plant, and I was only tempted to send in my article through a desire to show that it can be most successfully propagated from the leaf, and especially when so much doubt has been expressed as to this method of raising it. All I have seen goes to prove that they root and break freely ln this way, while on the other hand your correspondents confess failure. My friend has doubts as to being able to send a good specimen to place on the editorial table (it would be rather a bulky package to send 400 miles), but if Mr. Mayne should have any doubts as to his ultimate success I refer him to Mr. Jones, of Ryecroft Nursery, Lewisham, or Mr. Logan of that firm. Let him ask these gentlemen their opinion of the plants they saw in the Waverley Market last November, and if they do not satisfy him as to results he will be ill to please. These were struck and grown in one season, were shown in 5-in. pots, and it was freely admitted that nothing like them for cultivation had ever been seen in the market. Should all go well with my friend's stock this year, he will again, most likely, have a batch in the market in November, when I hope Mr. Mayne may honour our "'Mum" show with a visit, and he will be able to see for himself. —*W. Dick, Rosehall.*

LILIUM BROWNII.

THERE are few gardens in which the true Lilies are really well represented. That under notice is said to have been named after Mr. F. E. Brown, a nurseryman of Slough, near Windsor. It is a native of China and Japan, and is really one of the most handsome of the long-tubed section. The plant grows only 2 ft. to 3 ft. high, and for many years was believed to bear only a solitary flower on a stem; but strong bulbs will give rise to two, three

and four flowers. The latter are tubular and expanding upwards in a bell-shaped form. The interior is pure white, presenting a beautiful contrast with the rich brown anthers and orange-yellow stigma. The back of three outer segments and the midrib of the inner series are tinted with a rich purplish-brown colour, thus making a very striking flower. The linear-lanceolate leaves increase in length from the base of the stem to the uppermost ones which are close to the flowers. The latter assume a nodding position when expanded. The late Dr. Wallace wrote the book entitled *Notes on Lilies*, and which is a mine of information upon this noble genus of plants. The species under notice is hardy and may be flowered in the open, but it is also admirably adapted for pot culture and conservatory or greenhouse decoration.

Group of Barr's Spanish Irises.

SPANISH IRISES.

The Spanish Irises, otherwise known as June and Juno Irises, have all arisen by variation from Iris Xiphion, one of the bulbous species of this genus. These variations are remarkable both for their number and the striking diversities of colour presented by the same. The whole flower is smaller, with narrower segments than those of the English Iris, and the blossoms appear a fortnight earlier in the open ground when both types are grown under the same conditions. They do not clash with each other therefore, so that Spanish and English Irises have equal claims for recognition on those lines. The upright segments are spoken of as standards, while the drooping ones are termed falls. These respective portions of the flower are usually of different colours. Thus, we may have Spanish Irises having china-white, violet, full yellow, rich dark azure, rosy-purple or sapphire-blue standards, with, at the same time, snowy white, azure-blue, deep golden yellow, Cambridge-blue, yellow with orange blotch, and white and orange falls respectively, all in half a dozen varieties. We are not at all surprised therefore at their popularity with gardeners and the flower-loving public generally. Their cultivation is of the easiest, whether grown in pots or planted out in greenhouses or in the open border. The latter method gives the best results with the least trouble, and is, therefore, most often adopted by gardeners in private establishments. The flowers are lovely in the cut state for vases, bouquets and various other methods of decoration. The accompanying illustration placed in our hands by Messrs. Barr & Sons, King Street, Covent Garden, shows the habit and general contour of both plant and flowers. Those who have not yet given these Spanish Irises a trial should do so this coming season.

THE PLANT HOUSES.

Plants for winter blooming must by careful attention be encouraged to grow freely while yet the days are long and warm. Some may need a shift to a larger pot. Others may be nourished and benefited by the application of manurial liquid. But the winter blooming plants flower much better and more freely if their wood growth is well firmed, not to say ripened. Winter flowering Begonias should not be rushed on; and Justicias, Poinsettias, Browallias, and other things, likewise require to be brought on slowly. The wood should be built up firmly and well.

Besides plants for the stages, the climbers must not be forgotten. Euphorbia jacquiniaeflora does well when planted out in a border, a small indoor rockery for instance. Passiflora racemosa, and Ipomoea digitata, I. Horsfalliae, and other things may be watched and kept growing in the meantime.

Tillandsias are remarkable plants in their way, and if anyone has a stock in hand, they will find it a help to maintain a rather high temperature, a moist atmosphere, and a fair amount of shade. They like a peaty compost, but the best colour is obtained when they are infrequently shifted.

Flowering Plants for Christmas should be placed more in a position where they can receive the attention they will require. Some of the best are Azalea Deutsche Pérle, Begonia Gloire de Sceaux, Richardia africana, which may shortly be brought from the open; also Cyclamen latifolium, Chinese and Star Primulas, Cinerarias, Zonals, Heliotropes Statice profusa, Clivias, Roman Hyacinths, Paper-white Narcissus, &c. There was some question about the probability of having Freesias in flower at Christmas when I mentioned the fact last year, but they can be had. Choose the finest and best matured corms, and pot them into 5-in. pots, using a friable loamy mixture. Place the pots in a corner of a pit having a temperature of 55° as a minimum, and 60° during the day. Cover the pots over with cocoanut fibre, and keep them no more than damp. When growth has started place them in a house with a minimum temperature of 60° on a shelf a few inches from the glass, and keep them well furnished with water. When the foliage is about 3 in. high begin to feed them gently. If they are making satisfactory growth, and are timing for Christmas, be content. If they are slow in moving on, a slightly warmer house must be accorded. It is surprising the amount of nourishment and heat that real good corms will appreciably make use of.

Most of the other forcing bulbs, including Amaryllis, may be potted up now. Neriums or Oleanders may be fetched indoors if they have been growing in the open air. Wash the pots and plants and top dress if need be. Keep them in a cool house for five weeks. Shift on and by all means keep clean the young plants of Daedalacanthus nervosus, also called Eranthemum pulchellum. Young Plumbago capensis in pots should be pinched to make them throw out lateral shoots which will flower later.

The shading, if any has been used, may be removed from the Croton and Dracaena house.

All plants out of doors which are meant to lift and pot for the greenhouse such as Violets, Eupatoriums, Cinerarias, Salvias, Heliotropes, &c., may be potted at the present time. Stake and pinch the Salvias or Eupatoriums if they are in need of it, and keep all of them in a cool and shaded part in the open air for some time. Young Mignonette plants in pots should be placed on cool shelves in a greenhouse, and must be carefully watered, staked, and top-dressed or potted on, as the case may be. Gloxinias and Begonias should shortly be dried off. —*J. H. D.*

NARCISSUS RUGILOBUS.

This trumpet Daffodil was originally described by Haworth as a species. In the days of that botanist they made species of plants, differing only to a very small extent from others, because they believed in the immutability of plant forms. In more recent

times the tendency has been to link together all those forms that closely resembled one another in all important particulars, making them varieties or forms of one species. At present there is a tendency again to separate the more distinct into species, a proceeding that has some good points to recommend it, one of which would be a shortening or simplification of names. Another point is that because no one is able to lay down a rule or rules that will gauge or define a species precisely, we need not be too particular or far reaching in the lumping together of a great many forms under one specific name if nothing is to be gained by it. The description of N. rugilobus, as defined by Haworth, was that it had pale sulphur-yellow segments that were longer than the trumpet. The latter was much plicate and of a rich or dark yellow. The other way of naming this Daffodil would be to call it Narcissus Pseudo-narcissus var. rugilobus. The illustration of it was lent us by Messrs. J. Peed & Son, Roupell Park Nurseries, West Norwood, and should have appeared in our last issue.

NARCISSUS JOHNSTONI QUEEN OF SPAIN.

Several forms of the beautiful little Daffodil named N. Johnstoni, a native of Portugal, have received distinctive names; but none of them are so gracefully beautiful as N. J. Queen of Spain, which is characterised by reflexed and often slightly twisted, lemon-yellow segments. The botanists make it a form of N. Pseudo-narcissus, but for garden purposes it is sufficiently distinct to be regarded or rather named as if it were a separate species. The tube of the flower is ¾ in. long, and much narrower towards the base than in other forms of the Daffodil, and the lemon corona is usually truncate as if clipped short at the mouth. The accompanying illustration of it, placed at our disposal by Messrs. J. Peed & Son, Roupell Park Nurseries, West Norwood, shows the contour of the flowers and their graceful disposition on the stalks. None of the forms of N. Johnstoni have flowers of large size, so that they appear diminutive alongside of such as N. Emperor and N. Empress, but when grown in clumps or beds by themselves, or used for decorative work in pots or in a cut state, they are charmingly graceful, but none more so than N. J Queen of Spain.

Narcissus rugilobus.

Narcissus Johnstoni Queen of Spain

The Orchid Growers' Calendar.

Oncidium tigrinum.—Keep a sharp look-out for plants pushing up their flower spikes with the young growths, for they are a tempting morsel to slugs. The best way is to isolate the plants, and stand them on inverted pots, or the "Murray Orchid Stand" in saucers containing water. Or one may put some cotton wool, rough side outward, round the base of the spikes, which impedes their progress, but does not at all times effectually stop them. All spikes should be protected by either suspending the plants, or as stated above. Afford plenty of moisture at the roots, as this beautiful Oncidium is just now making plenty of roots.

O. Macranthum.—This is one of the best of the genus, but differs from the preceding by being constantly on the move, requiring but very little, if any, rest, on that account. The flowering season is extended over a longer period. There is no stated or set time for repotting this variety, but we generally catch them just as the growths have attained a good height and are pushing new roots. Some may have their spikes just showing, but that makes no difference if they are not too far advanced. We favour rather loose potting for this one, as the roots are larger and require an open compost of moss and peat in equal parts. A naturally moist situation suits it best.

O. Rossii majus.—This little Mexican Odontoglossum is fast making up its new pseudobulbs, and will be pushing spikes forthwith; indeed, some of ours are already showing. For some time past they have had very little water, only just enough to keep them from shrivelling unduly, the result being very strong, healthy growths, which are making up bulbs larger than the imported ones. And with few exceptions the points of the leaves have not turned brown as is usual with this species. Too much moisture at the roots for these Mexican Odontoglossums is, I am sure, a mistake. Nature has provided them with a little, rough, clubby pseudobulb that will stand a lot of draught; and although at times we can go one better than nature, we must so far as possible take our cue from her if we are to keep the plants in good condition for long. Anyone with anything like a proper structure can do pretty well with imported stuff for a few seasons, but few can keep them going and flowering year after year unless they treat them in a rational manner. Large sappy pseudobulbs that will go off pop! without giving you blooms is not what should be aimed at, but good, hard, healthy growths with leathery foliage, that will produce highly coloured flowers of great substance. To do this, then, you must be in love with your work, noting every little peculiarity in the different species, and at the same time make up your mind that you will master every detail. It is, of course, to the younger generation of gardeners that I am addressing these remarks, for it is to these we shall in due course have to hand over our favourites, which have given us so much pleasure to look after.—*S. C.*

HINTS FOR AMATEURS.

Hardy Plants.—Though the pages of THE GARDENING WORLD have lately described a large number of beautiful and interesting hardy plants suitable for small and large gardens, as the year advances there are still others appearing, and which one cannot allow to pass unnoticed.

Polygonum divaricatum.—Amongst the species of this varied genus there are at the present time some which must be classed with the most outstanding ornamental subjects of the garden in early autumn. P. divaricatum grows 4 ft. to 5 ft. in height, is of loose, bush-formed habit, the numerous slender, twisting shoots being woven about each other. Each shoot all over the plant, terminates in a straw-coloured inflorescence, while the Willow-like leaves are bright shining green. This species is sometimes subject to the attentions of a parasitic plant of the Dodder family and named Cuscuta reflexa. This pest twines and retwines around the slender stems of the Polygonum and can scarcely be detected, so like are the stems of parasite and host. P. divaricatum would appear to be propagated by means of layers and suckers, though seeds or division are more general. An open position, some slight support, and a deep sandy soil will answer all that it requires.

Polygonum lanigerum.—Only those who have seen a bed of this plant on the edge of a large lawn or such-like place can form a proper appreciation of its worth. In such a place and used for that purpose, when well treated, it will grow 5 ft. or 6 ft. high, and it always produces large and somewhat curving leaves, broad in the middle, and tapering to each end. They are sinuous along the edges and covered on both sides with a silvery coat of downy hairs. It is this covering which gives the plant its greater merit as a decorative subject. To see a bed of this handsome plant all dewed over and glistening in the sun, gently shaken by the winds, it certainly is effective to say the least. A deep and well enriched soil should be chosen. The stems of the plants are rounded, the basis of the leaves, or rather their stalks, forming each a sheath around the stem. The leaves, by the way, are 1 ft. or more long. It is a plant to be recommended.

Polygonum orientale.—This species is better known than the two which I have just described. It is also a greater favourite with me than the others, though this is not meant to detract from what I have said about them. This species grows erect, attaining about 5 ft. in height, and has large drooping, pea-green leaves of an irregularly oval shape, and they are glabrous. The inflorescences are drooping spikes of crimson-purple flowers. These spikes are some inches in length, one or two appearing at the apex. The drooping character of the plant, and its freshness and distinctness, make it a very desirable subject for the shrubbery or hardy plant border. It is a native of the Orient, and will succeed under exactly the same conditions as its neighbours of the genus, though the warmer the conditions the better. Being a hardy annual it is raised from seeds, whereas the perennial members are mostly propagated by division of the root-stock.

Salvia Horminum bracteis-violaceis.—Though probably not so well known by this long name, this is at the same time an old favourite border plant in gardens. It is of bushy form, with cordate-oval leaves, and crenate, the somewhat crinkled surface being also gray. The habit is bushy, and in height it varies from 1 ft. to 2 ft. At the apex of the erect flowering spikes or racemes (the pale flowers being in verticels), these violet coloured bracts, described in the name, appear to the number of eight or twelve. They are about 1-in. long and broad, furnishing a far more attractive feature than the flowers which very speedily perish. This, like most of the Salvias, can easily be raised from seeds, it being an annual. It flowers for the greater part of the summer and keeps the bracts when the flowers have long disappeared.

Cedronella mexicana cana.—In this we have one of the showiest and best dwarf border plants now in bloom. It might almost be mistaken for a well grown specimen of Centranthus ruber, only that the foliage is greener and lacks the metallic hue found in the Red Valerian. It should be set toward the edge of the border and may be planted in large enough masses to make it effective at a distance. Seeing that flowers of a pink colour begin to get scarce in August, it ought to find a place in every garden. This is regarded as only half hardy, so that growers in any unfavourable situations would do well to strike cuttings of it or raise young plants yearly from seeds. A deep, rich, warm sandy soil should be chosen for it. The foliage is deliciously scented.

Mimulus cardinalis.—I do not know whether many gardeners grow this particular species or not. It certainly is worth even pot culture, for it is a showy annual. The flowers are orange-scarlet, and are of a peculiar shape, the top-most of the petals being folded right back, and the others are variously contorted. They spring from the axils of the pliable, dark green, hairy leaves, and but for their size and brilliance the plant would not otherwise be worth growing. A moist, half shaded border suits it.

Monarda fistulosa.—In all the more important points this species resembles the well-known M. didyma, commonly called Bergamot. The subject under notice is, perhaps, slightly taller and slightly more slender than M. didyma; the flowers, too, are pink-mauve, and the heads are larger. Still, it is not such a likely favourite as the old and better known species, though it may be included along with it. The treatment is the same.

Incarvillea elegans.—This elegant annual I recently saw for the first time, and I liked it. The leaves are dissected in the manner of those of a Pyrethrum; the flowers are almost the same as those of Incarvillea Delavayi.

Lythrum alatum.—This must satisfy us in the present notice of herbaceous plants. It is dwarfer than the common Loosestrife, and altogether a finer flowered plant, having a dense rose-purple spike almost an inch in diameter, and a foot or more in length. It is an easily grown plant, and very handsome.

The Dracocephalums, or Physostegias, as some of them are now named, are also amongst the best plants now in bloom. Calceolaria mexicana is a pretty little thing, and there are quite a host of annuals and ornamental grasses now in bloom.

Ivies.—A well-chosen collection of Tree Ivies for training erectly to supports which may reach 10 ft. high, or for covering wall space and various other ornamental purposes, forms a distinct and beautiful feature of any garden. Where trained to posts, &c, at distances of about 15 ft. apart bordering the sides of paths, they are permanent objects to be proud of, and as a rule they improve as they become more established. Plants grown in pots may be set in the ground at any time with perfect success. They do not demand any special site or soil, nor any peculiar method of treatment. Once they begin to grow (and they are sure to, if planted carefully in a free loam), the attention given is generally that of keeping the surface-soil free from weeds, and a yearly trimming of the foliage. The Irish Ivy (Hedera Helix canariensis) is a fine old sort; and other varieties of the most ornamental character are aurea spectabilis, latifolia maculata, dentata, lucida, caenwoodiana, algeriensis, arborescens variegata, chrysocarpa, chrysophylla, elegantissima, madeirensis foliis variegatis, Silver Queen, and Taurica. Nice specimens sell at from 18s. to 24s. the dozen.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Eryngiums.—*L. S.*: All of those named in this paragraph should be acceptable to you. Eryngium alpinum is a popular species. Seedlings attain a height of 2½ ft. to 3 ft., bearing fine heads of their prickly inflorescences. The colour in this case is soft gray-blue. E. giganteum grows 2 ft. or 3 ft. high and has the largest bracts of any, and these are of a silvery-gray colour. E. olivierianum is another good sort, the foliage leaves in this case being heart-shaped at the top and deeply three-lobed on the lower part of the stems. An interesting little species, but one not always found true, is E. maritima, which grows in sandy stretches on the coasts of the British Isles. It is also silvery with large-sized flower heads, but it is only about 1½ ft. high. E. planum has a fine branching habit, and has small bluish flower heads. This is one of the oldest species. E dichotomum is one of the finest as a decorative sort, being much branched and having dark blue flowers with a narrow leaved involucre. E. amethystinum succeeds (as they all do) in a sandy border. It grows 1 ft. to 1½ ft. high.

Laying lawn edges.—*J.H. Berwick*: Cut about a foot and a half off the edge which at present is trampled down. Level the soil by slight digging and adding to, if need be. Having looked out nice pieces of turf, proceed to lay these, and make them firm with a beater. A few pins may be driven down through the turf to keep it steady. Use borning rods and spirit levels when making the soil even.

Crinum Powelli.—*A. K., Dunoon*: Though this handsome liliaceous bulbous plant exists through the winter in open-air sheltered borders around London and southward, it is doubtful whether yours would succeed, being so much further north. Still, the west coast of Scotland is generally milder and better adapted for hardy plants than along the eastern sea board. Provided you cover the crowns well with dry leaves and some mould, we shall say they may carry through. C. Powelli is a hybrid, got from a cross between C. longifolium and C. Moorei. During the growing season it is benefited by a moderate quantity of manure water.

Perennial Lobelias.—*M.*: We are pleased to think THE GARDENING WORLD has been the medium of guiding you in a selection of the choicer hardy plants. The Perennial Lobelias are beautiful flowering plants. The difficulty in most gardens is to carry them successfully through the winter—they are so liable to damp off, or otherwise succumb. But if lifted about the middle or end of the present month, according to weather and other circumstances, they may be boxed off, and if kept on the dry side through the winter, and in a cool greenhouse they do well. Cuttings, or division of the plants in spring, are the means adopted to increase the stock. Pick off any decomposing leaves, shoots, &c.

"Christmas Roses."—*L. F.*: We think if you could place a frame over the plants as they stand, it would be wiser than lifting and potting the plants for the greenhouse. This latter method has much against it, and everything favours the frame protection.

American Tuberoses.—*E. C. T.*: Pot the tubers during January, placing them in a cool house, and keep them comparatively dry for some weeks. In due course they will send up their green shoots, when additional nourishment in the form of liquid manure may be given. Later in the season, top-dress with a rich compost; 5-in. pots per tuber are large enough, employing a turfy loam, leaf mould, soot, sand, and charcoal. A little sand and charcoal should likewise be placed beneath each bulb to prevent decay. If the Tuberoses are wanted for Easter you may allow them warm treatment from the start, say 60° to 75°. A moist atmosphere is desirable.

Schizanthus Sowing.—*L. M.*: Sow seeds of S. retusus and S. pinnatus in 5-in. pots as soon as convenient. Keep them, after germination, in a house with a day temperature of 60° down to 50° for the night. Stake and water carefully. They will flower in spring.

Ferns for a Back Wall of Greenhouse.—*Florist*: Your idea is right so far; some Maidenhair and Pteris Ferns will succeed right well in the chink of the wall if young sporelings are inserted at an early stage. If there is room enough to place a facing of small meshed netting against the wall probably this would be even better. It would help the appearance of the house, provided the plants grew well. What you would require to do would be to knock into the wall "bolts" of wood, but leave them projecting about 4 in. from the surface. If placed in lines at distances of a few feet apart, the wire netting could be fixed by means of staples. Then a suitable com-

post of turfy loam, peat, and lots of sand being mixed should be filled in to form a rooting area for the Ferns you could then plant.

WEBBS' VEGETABLES AT SHREWSBURY.

In our brief report of the Shrewsbury show in last week's issue, we noted that Messrs. Ed. Webb & Sons, Wordsley, Stourbridge, made a grand display with flowers and vegetables, for which they received a large Gold Medal, the highest award made at the show. The accompanying illustration gives a view of the vegetables put up by the Wordsley firm. Tomatos, which were set up along the back of the collection, were highly conspicuous on account of their fruitfulness. Very prominent were the new Tomatos named Royal Sovereign, Viceroy, and Regina. The two first named are good for exhibition as well as for general purposes. Tomato Regina is a smooth, early variety, useful for open-air culture or under glass. Other vegetables shown in fine condition were Potato Webbs' Express, Webbs' Selected Hollow Crown Parsnip, and Little Winter Savoy, a small and neat variety for table use. Market Favourite Carrot, a large variety of the short horn type, Webbs' Stourbridge Marrow, and Webbs' new Silver Ball Turnip were also specialities shown in this exhibit. The various kinds were shown in quantity and set up to the best advantage for effect, so that the exhibit, as a whole, had a very imposing appearance, interesting a large number of the exhibitors.

Webbs' Vegetables at Shrewsbury.

TREE AND SHRUB GROWTH ON CONEY ISLAND.

This beautiful island, recently purchased by the Earl of Charlemont, is situated on Lough Neagh, about two miles from the village of Maghery, on the south-eastern side of the lake. It is an ideal place of abode for rest and quiet, and is so taken advantage of by its noble owner for a week or so now and again throughout the summer season. Well wooded, well watered, with beautiful views of the adjacent mountains and valleys, and with a lawn by the house front, which for elasticity and tint of green has no equal in the British Isles, one might well envy the owner of his occasional stay on this lovely but lonely island. But his lordship is considerate, for does he not allow visitors to ramble at will—see the remains of the round tower, the tree with a never failing supply of water, the beautiful residence which he has lately erected, the extensive views, and fine old Irish Yew and other trees which are planted promiscuously about?—the only favour asked being that the visitor will assist in preserving plant life, and refrain from committing damage.

The Irish Yew referred to is, indeed, a noble specimen, about 30 ft. high, and a spread of branches 8 yds. in diameter, the foliage being remarkably healthy, and of a glossier green tint than I have ever before noticed in this particular species.

The rare and curious Japanese Yew, Cephalotaxus pedunculata fastigiata, is represented by two sturdy specimens, one at each end of the dwelling house, and in which the curious double habit of growth—upright and spreading—is well illustrated. Never before have I seen the pretty Thujopsis dolabrata so covered with cones as on this island, and strange, too, the specimen producing these is only of moderate dimensions.

Retinospora (Cupressus) plumosa and R. plumosa aurea here will bear out their names, for certainly plume-like is the soft bluish branchlets of the former, and deep golden-yellow the hue of the latter, the results, no doubt, of ample moisture and an insular position. Both the Magnolia and Fig do well on the house front, while Roses, Lilacs, Berberis, and hosts of other flowering subjects would seem to revel in the pleasant climate of this part of the Emerald Isle.

Bambusa Metake is well represented, and Spiraea Douglasii thrives to perfection. A Beech tree is pointed out on the island, from which at breast high a never failing spring of cooling water may be seen. On examination, however, we found that a natural hollow in the trunk contained the water, which was conducted thither during rainy weather by the curiously fluted stem of the Beech. The ample foliage above prevents undue evaporation, while the excessive rain on the island contributes to the never failing supply of water.

The numerous walks around the island are well laid out, and every advantage taken of the lovely views afforded by the hills and dales on the surrounding shores of the lake. Many wild flowers are to be found along the shore and all over the island, but the rabbit, from which the name of Coney was no doubt derived, is quite extinct, his attention to the trees and shrubs being rather too pressing. An interesting experiment in stocking the island with a cross between the golden and common pheasant will, we hope, be amply rewarded by success, for the cross is an excellent one.

To what an immense size the Oak grew in Ireland centuries ago may be gathered from an inspection of a boat that was recently unearthed by the shore of the Lough nearest Coney Island, and which had been hewn from one solid block of Oak.

Judging from the present dimensions the tree must have been fully 20 feet in girth, but in all probability much larger, and with very little taper for 20 ft. in length. Oars of Oak were also found, all the timber being black as jet, and extremely hard where not subjected to the action of the air. Alongside were discovered five other smaller boats, each about 6 ft. long, and hewn from a single log of Oak. About thirty stones, each as big as a man's fist, were found in a pile towards one end of the larger boat.

Some antiquarians consider this rude boat a remnant of the Danes, but in my opinion it is of much earlier date.—*A. D. Webster.*

NOTES FROM SOUTH AFRICA.

From the classic slopes of Norwood to the base of Table Mountain is rather a pleasant journey in fine weather; and thanks to Donald Currie & Co.'s magnificent mail steamers, it is now a comparatively short one, a matter of seventeen days transferring us from the capital of the British Empire to that of her (at present) most-talked-of colony. As numerous friends are eager to hear some news regarding our favourite profession in the Sunny South, I thought (instead of writing to each individually) a few notes in The Gardening World might prove of interest to other readers also.

This one of course must be purely preliminary, snapshots, or first glances, as it were, of floral Cape Town; but if the editor can spare me the space, I will endeavour, as my time permits, to send a few more notes in detail of places of interest I may have the good fortune to visit, or other things that would be likely to prove of interest.

Of course gardening here is very different to what it is at home, and to me at first sight it seemed intensely disappointing, a bad beginning surely, though this by no means always, makes a bad ending, especially in S. Africa. There is a certain newness, a roughness, if I may say so without disrespect, that to anyone used to the smoothly cut lawns, hard rolled walks, neat edges, and general finished appearance that characterise British gardens, takes the eye some little time to get familiar with.

Still the eye, like all other organs in the animal and vegetable kingdoms, is (luckily for us) capable of changing to suit new environments, and so it proved here.

A silver lining was soon found to the somewhat dull cloud of first impressions, in the form of hosts of old friends in changed circumstances; of course we greeted them as old friends, amongst the first being two fine plants, 10 to 12 feet high and proportionally wide, of Metrosideros (Callistimon) speciosus, with hosts of its curious red bottle bushes. A little further on was a perfect mass of a double Poinsettia (Euphorbia) pulcherrima, its flaming scarlet bracts rivetting the attention at a great distance and forming on closer inspection a pretty picture indeed, as flowers are not very plentiful here just now, this being about mid-winter (23rd July), though to untravelled Britishers it hardly appears so. The glass on several days lately registered over 70 degrees in the shade. Still we expected changes, and here is surely one, a raised mound round a wood and surmounted by a row of a large green Agave, with hosts of what appear to be seedlings growing among them, a perfect barrier without doubt. A few have the flower spikes remaining, 15 or 16 feet high, though the flowers have gone.

Palms also form a conspicuous feature everywhere, and nearly all are bearing fruit; while Conifers seem to do remarkably well, though our colonial friends appear to have a preference for flowering trees and shrubs. Still there are some fine specimen Conifers. Here at Mount Nelson we have several magnificent trees of Araucaria excelsa, I should say 70 ft. or 80 ft. high, with the lower branches sweeping the ground, the trunk at 5 ft. from the ground measuring a little over 10 ft. in circumference.

Oaks are also planted very extensively, Government Avenue being formed of these, and though they are all leafless just now, it must be a fine sight in summer, and well deserves its place as one of the principal sights of Cape Town. It runs from Adderley Street, an even incline for over a mile, right to the Mount Nelson Hotel, on the right being the South African Library and Reading Room, the Cape Municipal Gardens (of which more anon), and the South African Museum; while on the left we have Parliament Buildings and Government House, a rockwork in the gardens at the latter place being surmounted at present by an irregular row of Aloe virens covered with its beautiful racemes of red flowers, and forming a nice combination with some large plants of the always curious Cacti Order.

In the same garden Alternanthera makes a very effective edging to most of the walks.

There are many other plants here also worthy of note. These are only a few that took my eye as I passed up the avenue. We will leave the others for closer inspection on a more favoured occasion.

As I am perhaps already overstepping the space at my disposal, it may be best to leave you there, though I might go on writing indefinitely. I have only mentioned a few that took my eye, and I happened to be familiar with; while many others I purposely omitted as it is not their flowering season.

Fruit is mostly at the pruning season, and will have to await visits to the country. I have tried the flavour of Monstera deliciosa not many hundred yards from here, however. So you see, if we have not the polished finish, we have plenty of raw material with a climate that appears perfectly suitable to a large percentage of our temperate plants as well as a goodly proportion of the gems of the tropics. This gives us a wide field to work in, a field in which Nature, though lavish with her favours, is also lavish with her frowns.

But of course our profession being—

"The Art that mends Nature,"

we hope to accept the favours and protect them from the frowns so that one day the beauty and order that characterise English gardens to-day may be united in perfect harmony with the more luxuriant growth and more extensive variety of South African vegetation.—*James Good.*

SEASONABLE HINTS.

Roman Hyacinths.—Now that Roman Hyacinths have arrived in such numbers, thousands of these bulbs will be potted or boxed before the month is spent. There are one or two points of importance in their treatment, that are not always so attentively heeded as is desirable. They should not be allowed to lie about in warm sheds, nor to be exposed for any length of time to light and air, which soon dries them. The earliest batch for flowering at the New Year will now be potted; later successive batches should be kept packed in fibre, sand, or moss, until they are to be potted. Roman Hyacinths may be grown in all sorts of conveniences—flats, pots, pans, and little ornaments large enough to hold a few bulbs and some soil. Afford good drainage and pot them in a moderately rich fibrous compost. Place the receptacles, whatever they are, in a cold frame and cover them over to the depth of 3 in. or 4 in. with sifted coal ashes. If the soil in which they are potted is damp to start with, growth should start by the end of the month, or early in October, whence they may be brought into the greenhouse and forwarded at a later date to a house with a temperature of 60° to 65°. Keep them in a light position.

Paper-white Narcissus should be treated in all respects similarly. They do best when grown in 6-in. or 7-in. pots.

Liliums.—Bermuda Lilies for next Easter flowering should be secured any time from now. Many growers pot them straight away, and if they do not want to start them at once they stow the pots beneath a bench where no drip will harm them, and there they remain safe and sound till they are wanted.

If they are not to be potted stow them away in dry sand in boxes, and place in a cool shed. These Liliums take a long time to perfect their flowers from the time they start, so that growers must use judgment.

Freesias for Christmas should at once be potted. —*H.*

A VISIT TO SWANLEY.

The floricultural visitor to Messrs. Cannell & Sons' nursery at Swanley may go there at almost any season of the year, in the assurance that he will see something to satisfy his fancy. At the present season of the year he will find Cannas, lovely Gloxinias now just passing out of bloom, single and double tuberous Begonias, Zonal Pelargoniums, and Fuchsias. These are all specially represented, though they by no means embrace the tenth part of the subjects cultivated under glass. The Gloxinias, as is stated, are now pretty well run to seed. Begonias are also past their best, and the doubles are being allowed to run themselves "out," so that pollen for cross-fertilising purposes may be obtained. The Cannas are coming strongly into flower, and to most people the never ending wonder is, how such massive plants and such magnificent spikes can be produced from 5-in. pots? Certainly Messrs. Cannell's Cannas deserve attention. Then of course the Fuchsias are splendid, and are at their best at this time. In a few long span-roofed houses the famous Swanley Pelargoniums are blooming, and these will continue onwards through the autumn and winter, and will accompany the Cannas to some of the later metropolitan shows. It will be sufficient for all, and more useful too, if only the best varieties of the "Zonals," Cannas, &c., are here described.

Zonal Pelargoniums.

Everyone is agreed that our conservatories, at least in many gardens, would furnish anything but a pretty show were they without the utilitarian and handsome "Geraniums," commonly so-called. Though it is many times reiterated; it may again be said that "Geraniums" proper are hardy herbaceous border plants differing very much in the character of foliage and habit from all the sections of Pelargonium, which includes the bedding, the scented, the zonal, the Ivy-leaved, the show and fancy species and varieties.

Pelargoniums are so tractile and simple of management, that people with limited experience can cultivate specimen plants with success. They do not call for any elaborate structures, nor for a complicated or high-class heating system to supply a physical defection of our climate; and it is for these reasons and the merits of the plants themselves that they are so numerously grown. What we want in the first place is good culture, and secondly, a selection of the most up-to-date, improved varieties. Try only a few to begin with and it is more than likely that their superiority will be the means of leading to higher ideals. The interest falls dead flat when one always sticks to the same old run. There is, for instance, Raspail Improved. The old Raspail is a splendid sort for cutting, for it possesses long stalks and the trusses of scarlet flowers are large; and yet in Raspail Improved they are larger and more freely produced still. The latter resulted as a sport from the parent Raspail, Jean Rameau, a mottled purple variety, having a white ground and faintly margined with purple, is very distinct. Aimé Henriot is remarkable for its distinct and peculiar shade of colour, which may be described as peach-pink of a lively shade; the trusses are large and each of the individual blooms are of exceedingly fine form. Another worthy double variety which was exhibited frequently at the autumn shows last year by the Messrs. Cannell, is H. M. Stanley, a name easy to remember. The flower is deep pink, and as the plant has a finely branching habit, and bears a profusion of large trussed blooms, the variety may be regarded as an acquisition.

Pink as a colour meets with general appreciation,

and the further to supply this cheery shade one might suggest the variety Rosa Bonheur, which has large trusses, though the plant itself is dwarf. Tenderesse cannot be definitely described, it is so quaint and sweet. But if we say that the flowers are a shade of soft satiny-pink with a tint of lilac, the colour may be approximately gauged. Lord Derby is a fine rich pink, and so is Gyp. One of the most distinct of the scarlets is Charles Gounod, whose great merit lies in the fact of its having a distinct white centre and deep scarlet edge. The size and form is all that the most exacting florist could wish for. Althaea is a rich cerise scarlet, and a variety that is exceedingly effective when well grown. In the class of deep crimson sorts the double Jacoby stands pre-eminent, and as a winter-flowering variety we can name none to surpass it. Le Congo is also a free-flowering, dwarf-habited plant. Among double white varieties Hermine may well be called to notice. White Pelargoniums are useful in many respects, but only one or two of the best sorts need be included even in full collections. Jean Lahor is a good rosy-purple sort, very dwarf and free. This variety ought certainly to be grown, and none will be disappointed with it. Salmon varieties, such as Joyful, Reine Bazin, and Mdme. Turquin Noizet, are remarkably fine, and in general represent an advance upon older sorts. But now a fair selection of the more distinct kinds has been made, and we may turn for a moment to the

CARNATIONS.

Among the recent introductions to the classes of selfs and fancies one may mention Nautch Girl as an acquisition. It is described as a blush-white self, and as a flower of good form, habit, and free-flowering propensities it is to be recommended. Mrs. Gascoigne is held in repute by growers of collections. It is a beautifully formed self of a decided rose-pink. Pelegia is another of those that one frequently meets, this being a distinct and handsome fancy with a ground colour of deep pink, and regularly flaked with lavender or silvery-slate. Queen of Scots, rose-pink; Queen of Sheba, buff-yellow self; Amy Rohsart, a dark scarlet self; Calipha, reddish-cinnamon, peculiar but attractive; Zingara, a yellow ground fancy flaked and barred with maroon; Czarina, also a fancy with yellow ground, edged and marked with scarlet, are among the best to choose. Among new varieties sent out last year may be mentioned Boadicea, Dick Donovan, Endymion, Lady Hindlip, Perseus, Mrs. James Douglas, and Silver Strand, descriptions of most of which have lately been given in THE GARDENING WORLD.

BEGONIAS.

Single Begonias are year by year being more widely used in summer bedding. Dwarf and suitable, hardier, free flowering strains are being introduced and accepted because they are in a manner needed. The double Begonias find favour as pot plants in place of the singles which were recently almost exclusively grown. They require extra care to do well, and it takes skill and attention to bring them up to the height of perfection. For this reason the double tuberous Begonia has yet a long lease of popularity before it.

An able cultural note from Mr. John C. Dick, of Champfleurie, appeared on p. 759, July 28th, and this may be commended for consideration by beginners and others in double Begonia culture. It is scarcely opportune to make much of any special varieties in the meantime, but among others which the Messrs. Cannell have shown grandly are Lord Llangattock (F.C.C.) with massive flowers of a clear reddish-crimson; Harry Laing, bright orange-scarlet, a splendid variety; Lafayette, deep rich claret-crimson, not an exhibition variety, but a Begonia which, as a bedding plant, is excelled by nothing in its way. We heartily recommend it to every gardener, being certain that it will find vast appreciation. Cannell's Gem is also a first-rate bedder, with deep red double flowers; Lord Stradbrook of a deep rich claret-crimson; Mdme. Coulouire, rose-pink fimbriated; Lady Gertrude, also rose-pink, and suitable for basket use; Mrs. T. Wood, a splendid large-flowered blush; Rose Bud, lilac-rose, suitable for table decorations; Miss Bradbury, a large rose-pink; Dr. Nansen, crimson-scarlet; Dr. Hay, pale primrose; and Lady Evelyn Ward, a bright clear yellow; are all highly beautiful and distinct, and would furnish a nice collection for anyone. Mdme. E. Tourtel is one of the best pure whites.

GLOXINIAS.

Few gardeners care to grow special named varieties of Gloxinias when they can get such splendid mixed strains as are offered by the good seed-houses. The Swanley Gloxinias have attained a high state of perfection. The pure whites, the glowing velvety-scarlets, and the pink varieties, or the white and pink spotted sorts are generally greater favourites than those with a depth of violet or blue. Thus the advantage of having named varieties is that one can pick just those sorts that pleases most. Selections may be left to the growers, or by reference to the seed catalogue some assistance in choosing varieties may be had.

CACTI.

Probably the finest collection of ornamental and decorative Cacti in Great Britain is to be seen at Swanley. Even those who are not strictly admirers of the grotesque and somewhat "mummified" Cactaceous plants would find a considerable amount of real beauty (beauty of colour and form) in the collection grown in these nurseries. The little Mamillaria pusilla with its round little scarlet fruits is as pretty or prettier than the Fairy Orange Moss (Nertera depressa). The Grizzly Bear and Old Man Cactus are quaintly realistic of characters found in a bear's paw on the one hand, and seen in the gray beard of the patriarch, on the other. The Phyllocacti and Euphorbia jacquiniaeflora are among the best of the early summer flowering plants, and when the nurserymen develop greater continuity and lasting qualities in the Phyllocacti, then this genus will be as liberally cultivated as the Gloxinias we have been writing of. Of course, they are found in every garden now, but when a more persistent strain has been produced we should hope to find them in far greater numbers. As propagation is active at all times among the Swanley Cacti, applicants can secure young and finely formed plants at any time.

(*To be continued.*)

LILIUM KRAMERI.

KRAMER'S Lily is a native of Japan and is the Lilium Krameri, of Hooker, though modern botanists are of the belief that it is the L. japonicum of Thunberg. The flowers are produced singly at the apex of the leafy stems, and are widely funnel-shaped, and held horizontally so that the beholder looks into the interior of the bloom which is of a beautiful pink hue, recalling the more recent introduction L. rubellum, though rather paler and very much larger. When first introduced Mr. Baker suggested that it was a hybrid between L. japonicum (odorum) and L. speciosum; while Mr. T. Moore suggested L. auratum and L. japonicum, if indeed it was not a mere selection from L. auratum itself. This will give an idea of the differences of opinion regarding it; but really it is very distinct and well worthy of specific rank. It grows wild at an elevation of 3,000 to 4,000 ft. and should prove very hardy in well drained soil. It is a lovely Lily for outdoor culture, and well worthy of a place in the most select collection. The illustration of it, lent us by Messrs. R. Wallace & Co., Colchester, will give the uninitiated a good idea of the magnificent size and well expanded form of the flowers, as well as their disposition.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on August 14th.

Orchid Committee.

LAELIOCATTLEYA HERMIONE.—The parents of this bigeneric hybrid were Laelia Perrinii (female) × Cattleya luddemanniana. The sepals are rose coloured, and the oblong-elliptic petals of a deeper hue. The lip has a rosy tube, a crimson-purple lamina and a large white throat. The outspread character of the flower and the shape of the lip recall L. Perrinii. (First-class Certificate.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

CATTLEYA ELDORADO ENFIELDENSIS.—The sepals and rhomboid petals are white. The lip has a white tube and a deep purple lamina, with a white band above the orange blotch, and running round upon the side lobes, which are edged rose. (Award of Merit.) Messrs. Hugh Low & Co., Bush Hill Park, Middlesex.

Floral Committee.

NEPENTHES SIR W. T. THISELTON-DYER.—This magnificent new hybrid Pitcher Plant was the result of crossing N. mixta (female) with pollen of N. dicksoniana, itself a hybrid. The pitcher is about 12 in. or more to the base of the lid, which is 2½ in. to 3 in. in length It measures about 3½ in. across the back, and is of a light green, splashed with brownish-crimson. The annulus is broad, revolute at the sides, finely ridged transversely, glossy, and of various shades of buff-yellow and brown (First-class Certificate.) Messrs. J. Veitch & Sons, Ltd.

THALICTRUM CHELIDONII.—The leaves of this pretty, dwarf, herbaceous plant are bi-tri-ternate, that is, twice or three times divided, each of the divisions being in three equal portions. The leaflets are roundly reniform, crenate, and glaucous-green. The flowers are violet-purple. The species comes from the Himalayas, and is beautifully distinct. (Award of Merit.) Lady Breadalbane (gardener, Mr. W. Wright). Taymouth Castle, Kenmore.

GLADIOLUS MRS. WOOD.—The flowers of this distinct and striking variety are of a rich purple, shaded with maroon at the tips of the segments, and violet in the throat. In the bud state the blooms are almost black. (Award of Merit.) Messrs. Kelway & Son, Langport, Somerset.

LILIUM KRAMERI.

Vegetable Committee.

POTATO PIONEER EARLIEST KIDNEY.—The tubers of this variety are kidney-shaped, slightly flattened, of moderate size, smooth and white. This as well as the two following had been tried at Chiswick. (Award of Merit.) Messrs. Dicksons, Ltd., Chester.

POTATO BEAUTY OF HEBRON.—In this case the tubers are oblong, early, tinted with pink, and though not particularly handsome, are very abundantly produced. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

POTATO SHARPE'S VICTOR.—For this variety the tubers were smooth and unusually large. It is one of the earliest in cultivation. (Award of Merit.) Messrs. Sharpe & Co., Sleaford.

The awards mentioned below were made by the Royal Horticultural Society on the 28th August.

Orchid Committee.

CATTLEYA ILLUMINATA.—This would come under Laeliocattleya elegans, and we have no doubt it is a natural hybrid. The sepals are khaki-coloured, while the oblong-obovate petals are rosy and shaded with yellow along the centre. The tube of the lip is rosy externally, while the wavy, crisped, orbicular lamina is crimson-purple with scarcely any claw. The side lobes are deep purple. (First-class Certificate.) Mrs. Briggs-Bury, Bank House, Accrington.

CATTLEYA BICOLOR.—This old and distinct species

was shown in very fine form by Walter C. Walker, Esq. (gardener, Mr. Geo. Cragg), Winchmore Hill. The stems were 4 ft. high, and four spikes carried in the aggregate twenty-eight flowers. The sepals and petals are buff greenish-yellow and glossy. The lip has a deep purple lamina, edged with white. (Award of Merit.)

LAELIA ELEGANS J. DAVIS.—The flowers of this form are notable for the great length of the segments. The sepals are rosy-pink, and the petals deep, clear rose. The lip has a crimson-purple lamina and raised veins, the colour running to the base of the tube in the form of a band; the rest is white, outside and inside.

ODONTOGLOSSUM ADRIANAE COUNTESS OF MORLEY.—In this case the size of the flowers is moderate, but they are beautifully rounded, with short clawed segments. The sepals are blotched with rich brown on white. The petals have fewer, orbicular brown spots. The lip has a brown blotch in front of the crest, and a few small ones round the sides. It is a natural hybrid and belongs to the same type of O. Adrianae as O. A. E. Ashworth. (Award of Merit.) Capt. Holford (gardener, Mr. Chapman), Westonbirt, Tetbury, Gloucester.

Floral Committee.

PLATYCODON GRANDIFLORUM SEMIDUPLEX.—No more striking new hardy herbaceous plant has appeared for a long time. The flowers are of large size, freely produced, more expanded than in the type, and consist of two or three perfect corollas of a deep blue, and placed one inside the other. The calyx is quite normal. This semi-double character is indicated in the varietal name. The variety should prove a handsome subject for the rockery or even for pot work in a cool greenhouse. (First-class Certificate.) Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford, Dorking.

GLADIOLUS JULES TOUSSAINT.—The flowers of this handsome variety are large, well expanded, rosy and shaded with purple towards the edges. The two lower segments have large, violet-purple blotches. (Award of Merit.) Sir Trevor Lawrence, Bart.

GLADIOLUS OCEAN.—The mauve-blue flowers of this variety are very distinct in their way. Usually four of the lower segments have a deep crimson blotch, above which on the disc is a white blotch of varying size and outline, but two of them are generally triangular, thus giving distinctive character to the flower. (Award of Merit.) Sir Trevor Lawrence, Bart.

GLADIOLUS SIR EVELYN WOOD.—The handsome and distinct flowers of this variety are of a rich velvety-crimson, flaked with maroon towards the edges of the segments. (Award of Merit.) Messrs. Kelway & Son, Langport, Somerset.

GLYCERIA AQUATICA FOLIIS VARIEGATIS.—The leaves of this bold and handsome variety of a British grass have broad creamy edges, and several slender lines all over the surface. The variegation is conspicuous and good. For the margins of ponds, streams, &c., as well as for pot work this hardy subject ought soon to become very popular. (Award of Merit.) Messrs. Paul & Son, Cheshunt.

GYPSOPHILA REPENS MONSTROSA.—The stems of this plant are three times as tall as those of G. repens and the flowers are likewise vastly more numerous than in that plant. It is possibly a hybrid. The flowers are white and about ¼ in. in diameter. They have been produced continually on the plant since the end of June. (Award of Merit.) Mr. M. Prichard, Christchurch, Hants.

Fruit and Vegetable Committee.

STRAWBERRY ST. ANTOINE DE PADOUX.—This is evidently one of the Quatre Saisons type of Strawberry, valued chiefly for fruiting in autumn when all other kinds have long ceased to bear. The fruit is large and of good flavour, judging from its quick disappearance from the table. The plant is of close habit. (Award of Merit.) Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford, Dorking.

Tar a bad dressing for tree-wounds.—According to Mr. C. E. Curtis, who wrote some time ago in the *Estates Gazette* on pruning and the healing of wounds, trees heal better without a dressing of tar than with it. By the application of tar, the cambium layer, or region of active growth is injured and development is interfered with.

COWDENKNOWES, EARLSTON, N.B.

"O' the broom, the bonnie, bonnie broom,
The broom o' the Cowdenknowes;
I wish I were at home again
Milkin' my daddy's ewes."

This fine old place standing high up on the banks of the Leader, and within a stone's throw of that water, is most pleasantly situated amongst grand plantations, and is an ideal country seat. The house is a fine old redstone building of dates 1554 and 1574. This is the charming home of Col. and Mrs. Hope. The gallant Colonel and his lady take a lively interest in all around them, and the whole place has undergone considerable alteration and improvement since they took possession. The site for the house seems to have been levelled out of gradually rising ground. A fine stretch of lawn reaches away from the east side of the house, finished off to the east and north with finely rising wooded slopes, between which, from the south-east corner of the house, a pretty peep of the Black Hill takes the eye. In the north corner of the lawn is a fine specimen of the Cedar of Lebanon, which has stood the snows of many a winter, while on the wall of the house is one of the finest specimens of Wistaria one might wish to see, in splendid health, and which flowers freely.

On what looks like an old gun battery, but now beautifully covered with fine Crimson Rambler and other Roses, a fine look-out is got. Just across the stream in front of us, and stretching away to the left, is a beautiful meadow (I should call it the Cowdenknowes), with the water circling round it in a beautiful sweep until lost to sight, beyond which stretches finely wooded country for miles. On our left we seem to look up a thickly wooded avenue of tall trees, with the water gliding through it until it bursts into the open, a neat wooden service bridge adding to the beauty of the whole scene.

The gardens are some little distance from the house, but a pleasant retreat is to be found in a fine conservatory of 50 ft. in length attached to the house, where we found some fine flowering and foliage plants. Of special merit was a very fine batch of Sutton's hybrid, Streptocarpus. The batch we noted was arranged to the best effect in one mass, and occupied a good part of the front stage. The flowers were equal to many a fine lot of Gloxinia, their colour and markings being so various and pleasing as would make it difficult to describe. Mr. Robertson remarked they had never felt heat, and by keeping the seed pods off them they would last a long time. Amongst a fine lot of Cannas we noted Cousin Jacob, General de Marabel, Souv. d' Antoine Crozy, &c., all beautifully marked. Here also were some fine climbers, the old Habrothamnus, Plumbago capensis, and also, most attractive, a pretty sample as a climber of Fuchsia Lillie Ley, a perfect mass of bloom. Some fine tree Ferns, Palms, &c., made up a pretty house. A few yards from this house is a fine fernery cut into the bank and built up in rockwork and lighted only from the top; this is nicely planted with Ferns, and, with a few Palms added, looks very nice.

From here to the garden we pass along a beautiful winding walk amongst tall trees, the ground rising up on the one hand, and on the other falling away down to the level of the water. From this walk we enter a pretty little flower garden, sloping down on our left and nicely dotted with clumps, and specimen ornamental shrubs. Amongst some fine things here was a pretty bed of Fuchsia Dunrobin Bedder, with an underground of Pyrethrum Sutton's Golden Ball, and edged with small white variegated Pelargonium. Another fine bed was filled with Nemesia strumosa Suttonii, a pretty half hardy annual of most pleasing colours. Nemesia Suttonii nana compacta is another novelty which deserves a trial. We found here also a fine bed of that grand old Calceolaria amplexicaule, which for a yellow has nothing to match it. Another thing dotted in the borders here, and which took our fancy very much, was that pretty new Sweet William, Sutton's Pink Beauty, a real gem of pretty salmon-pink colour.

Mr. Robertson has under his charge a splendid collection of herbaceous plants in which he takes a special delight. Amongst those of special merit we noted Eryngium oliverianum, fine bright blue; Erigeron speciosus superbus, fine purple with yellow centre; Anthemis tinctoria Kelwayii, a grand bloom and most useful for cutting; Rudbeckia hirta, a showy and pretty plant; Galega officinalis alba, G. orientalis, both very pretty; Alstroemeria aurantiaca, fine orange; A. chilensis, orange-scarlet and pink, very fine; Lychnis chalcedonica, fine scarlet; L. rubra fl. pl., a good double variety; L. alba, fine white; Helenium Bolanderi, yellow with dark centre; and H. pumilum, yellow, are both fine things. Cimicifuga racemosa produces a most handsome spike, and is well worth growing. The above were but a few amongst a host of grand border plants which ought to be more widely known.

The kitchen garden is split up in four squares by interesting walks, one of which is laid down in grass and arched over at intervals by wire trellis, which are connected by rods sweeping from the one to the other. These are all covered by fine climbing Roses, &c., and have a fine appearance. The glass is not extensive. A nice span-roofed house recently erected stands north and south, and is void of any staging, the sides and pillars being planted with a fine collection of Roses. At the time of our visit a good crop of Tomatos occupied the centre, and once these are over the space will be free for the "mums," a fine lot of which was doing well outside. At the end of this house is a tidy little stove filled with nice useful stuff, and at right angles to this are two small vineries with excellent crops. A long range of pits in another part of the garden proves sufficient for their requirements.

The first crop here this season is beyond the average, Apples, Plums, Raspberries, and Strawberries all being good. We had the pleasure to sample the last named and can vouch for their quality. Some years ago the Black Currant break was cleared out, so had were they with the bud mite; and a fresh plantation was made on new ground. A gathering was being made on the day of our visit, and from a remark overheard between Mr. Robertson and one of his assistants, there seemed to be some concern as to where baskets sufficient to hold them were to be found. The fruit was clean and of best quality.

Much more time could have been delightfully spent, but our train would not wait. We had another pleasant walk with shady trees overhead, the rabbits popping out and in from their burrows in the glade to our right, the privet and bracken, &c., amongst our feet. Higher up the water is sweeping gracefully around fine open fields deep down below. The banks up to our feet were lined with Birch, Broom, trees, &c., but this is just what it is, a continuation of "leichs and howes and cow-den knowes," and herein lies its beauty.—*Richard.*

BEDDING AT EARL'S COURT.

GAY and beautiful though the grounds at Earl's Court, London, S.W., are, from the profusion of painted scenes, artificial representations and the general glitter and glare of the numerous buildings, which cover the acres of ground, all this, as we have said before, would grow very wearisome were there not a dash of the natural and living elements brought into it. The beds of flowering plants, filled by Messrs. John Laing & Sons, Forest Hill, S.E., the lawns and the shrubs, the neat paths, fountains, and Water Lily tanks, which are placed about in all quarters, give evidence by the crowds of people that throng around these areas, that they have a charm which many of the other entertainments fall short of. On a visit on one of the warm evenings we have lately had, it was noticeable that where there's a good soldiers' band, and pleasant gardens with comfortable seats, brilliant light and coolness, there could be found by far the larger throng of pleasure seekers.

As usual the beds have been exceedingly well planted. There is not much alteration nor any radical use of new subjects in any of the bedding, for it has long ago been proved what best can stand the dry and sometimes smoky atmosphere which pervades Earl's Court. Around the outer borders in Imperial Court a broad mass of white Marguerites, glowing crimson "Jacoby" Pelargoniums, yellow bands of Golden Feather Pyrethrum, and an outer line of deep blue Lobelia, enlivens all this outer edge, and which acts as a fringe to the inner circle of bazaars, booths and bars. In the centre of the Court, beds of numerous forms are intricately designed and filled generally with a Palm in the centre, a few standard Dracaenas here and there, fine masses of Pelargonium Henry Jacoby, P. Mrs.

Pollock, P. Lady Chesterfield, P. Flower of Spring, P. Raspail, and Fuchsia Meteor, and having linked and heart-shaped lines of Pyrethrum Golden Feather, spaces filled with Alternanthera, and the beds in most cases edged with Lobelias or Echiveras. Of course all these varieties of Pelargoniums are not found in any one bed. One variety generally fills nearly the whole of a bed and furnishes something worth looking at. The colours are well blended both in the beds themselves and the beds one with the other.

From the pergolas and verandahs which shelter the bazaars, beautifully filled baskets containing Ivy-leaved Pelargoniums Lysimachia Nummularia, Musk, and Lobelia, are suspended; while showers of Ampelopsis bend down among the flowers, and plants of the same cover all the pillars. The Woman's Exhibition (which includes "A Dinka (Soudanese) Village," "Women of all Nations," representing the homes and home life of some twenty-three countries; the never failing Canadian Water Chute, &c), is quite successful, and we are pleased to think that the Messrs. Laing, of Forest Hill, have again aided toward this success.

GARDENING MISCELLANY.

STRAWBERRY THE MONARCH.

I QUITE recently had an opportunity of comparing this with Royal Sovereign and Leader growing on the same piece of ground. The crop of each kind was magnificent, while all three were in this respect about on a par. Monarch withstood the wet weather far better than the other two, and in this instance it was a trifle later. It carries better than the others, and is the best flavoured one of the three. Possibly, like some other fine varieties, it may not succeed everywhere alike.—*W. B. G.*

ELISMA NATANS.

THIS pretty little aquatic, whose tiny, dark green, oval leaves float flatly on the surface of still-water, is further meritorious in the meantime, because of its clusters of showy white blossoms. In pot culture, when plunged in water, this, when successful, is a fine little subject.

ARALIA CORDATA.

THIS is sometimes just a trifle too lank and lax to be perfectly handsome or commendable as a hardy ornamental foliage plant. In a good heavy loam and given an open site, it develops huge leaves, the pinnules of the divisions being of large size individually. The flower trusses are very little of an improvement, being greenish-white. The plant is sometimes planted among dwarf shrubs on the higher parts of rockeries.

LOBELIA SESSILIFOLIA.

THOUGH not particularly beautiful, L. sessilifolia, the stalkless-leaved Lobelia has yet some claims to merit. It is tall—2½ft. to 3ft., and has bright sky-blue flowers, which are arranged closely to form a raceme of 1½ft. in length. The leaves are dark green, oblong and tapering, being about 4ins. long. For a border or rock garden the plant is worthy of notice.

CANARY CREEPER IN THE OPEN.

"IN the open" is a technical phrase of gardeners which dismisses the small word "air," yet implies it. But a plant on an out-door wall is perfectly "in the open," as the Canary Creeper always is, but I apply the phrase here to trained groups of the pretty plant in open borders, or grown like Sweet Peas trained to stakes out in the borders, free from warm walls or such protection. When sufficient seeds are planted to make a bushy figure, the Canary Creeper in the open border is quite a success. Perhaps some readers may try a border sowing, nursing the seedlings till they are well advanced.

A RUSSIAN GARDEN.

IN *To-day* of August 2nd, a neat little photograph and a description of "A Russian Garden" appears. When the (sometimes) broiling Russian summer approaches, they of Moscow, as well as the dwellers in other large towns of the Tsars, flee to country houses situated in the neighbourhood of the city and easily accessible to the men-folks of the family whose business calls them to town every day. The photo spoken of represents such a house, having a spacious balcony. Magnificent Birch and Pine trees surround the house, and they form the verge of a forest, which extends, with slight breaks, for a few hundred miles or so. This is at Fili, on the right bank of the river Moskow, within forty minutes' drive of the Pont des Mare Chaux, the principal street of the city.

SOCIETIES.

FALKIRK HORTICULTURAL SOCIETY.—*August 24th.*

THE Falkirk Horticultural Society held their annual summer show on Friday, August 24th, in the Town Hall, Falkirk. From reports we find this long-established show is, to put it mildly, not increasing in prosperity or popularity. Every committee of management over the destinies of any affair should understand that nowadays people want a great deal for their "bawbees." If the exhibition as a purely horticultural effort fails, then follow the lead of such other eminently successful provincial societies as those of Shrewsbury, Hanley and York. Otherwise the fates pronounce their decree. The Falkirk show this year was poorer than that of last year, and last year, if we remember rightly, was surpassed by the one immediately preceding. Many of the "old hands" are falling off, and for want of time and the means, the younger ones cannot, or will not, fill the places left vacant.

The nurserymen's exhibits of Roses, hardy herbaceous cut flowers and other displays were valuable and welcomed. Mr. D. Waddell, of Dunmore, was a chief exhibitor in the floral decorative classes. Mr. Wm. Robertson, of Bainsford, also gave evidence of his skill. Amongst Carnation growers the names of Mr. Robert Brown, Wallacestone; and Mr. E. Mackie, of Polmont, appeared. In the fruit classes, Mr. T. C. Sutherland, gardener to — Learmouth, Esq., of Parkhall, did well. Mr. John Ogilvie, of Larbert, was awarded the first prize for a collection of vegetables; whilst for Potatos, Mr. Allen Caldwell was successful. Messrs. Murray & Son, of Parkhall, was one of the chief exhibitors of table plants. He also showed some fine Grapes and Tomatos. Mr. John Fleming, High Street, Falkirk, as secretary, assisted by the committee, carried through the show arrangements.

The judges were—For plants and fruits, Mr. Hutchison, of Giffnock; and Mr. Paul, Armadale. Cut flowers, Mr. Airdrie, Larbert House; and Mr. Johnston, Hay Lodge, Trinity, Edinburgh. Vegetables, Mr. Murray, Parkhall; and Mr. McMurrick, Falkirk. Honey, Mr. Tweedie, Bo'ness. The committee, the judges, and other officials enjoyed luncheon at the Crown Hotel, when toasts and speeches followed the repast. During the evening the Falkirk orchestra provided a musical entertainment. In an open class for twenty-four Rose blooms, not less than twelve varieties, Mr. Hugh Dickson, of the Royal Nurseries, Belfast, who has won everywhere this season, was also first on this occasion. Messrs. W. & R. Ferguson, Dunfermline, were second; and Messrs. D. and W. Croll, Dundee, third. For twenty-four Show Dahlia blooms, Mr. H. Dickson again led. For six table decorative Ferns, Mr. Wm. Robertson, Hendry Street, Bainsford, was awarded first. The principal winners for pot plants were Messrs. Wm. Robertson, John Ogilvie, James Jarvie, Peter Tait, Allan Caldwell, and Peter Wilson. For cut flowers, besides some of the above, there were also J. McArthur, Thos. Morrison, R. Brown, J. Fleming, and F. Anderson. Messrs. Caldwell, Sutherland, and Jarvie were chief among the fruit exhibitors.

NEWTON-STEWART FLORAL FETE.—*August 17th.*

THE annual show of the Newton-Stewart, Minnigaff, and District Horticultural Society took place in the McMillan Hall, Newton-Stewart, on Friday, August 17th. Though the society has in years past held their show in conjunction with sports held out in Kirronghtree Park, this they abandoned on this occasion. With the fine weather which prevailed, it might have been better under canvas, but then there are always such great risks where tents are in use. The show, we are glad to learn, was better than the year before, and the number of entries reached 700. Fruits, flowers, and vegetables were good. Floral decorations were also a popular feature, and some fine original work was designed by Mr. J. Henderson, of Cumloden. His arrangement imitated a landscape planned in flowers, and proved what wonderful patience and skill Mr. Henderson must possess.

The principal prize-winners in the gardeners' classes were Messrs. James Day, The Gardens, Garlieston; Young, Craiglaw, and Kirkcowan. The aggregate prize was won by Mr. Young, who had 105 points; Mr. Day having 99. Mr. Young also won Messrs. Dobbie & Co.'s prize for the highest aggregate, including specials.

In the amateurs' classes, the principal winner was Mr. J. Devey, Stranraer, who had many firsts. The show was opened by Mrs. Fleming Hamilton, of Craiglaw, who was introduced by Sir Herbert Maxwell. Pianoforte recitals were given during the afternoon and evening by various skilful performers.

Those responsible for the judging were:—Messrs Hall, Penninghame, and Cowburn, of Minigaff, in the amateurs' and cottagers' sections; with Mr. Kirk, of Norwood, Alloa, and Mr. Buchanan, Bargany, South Ayrshire, in the gardeners' classes. Mr. A. S. Morton, hon. secretary, and the committee of the Newton-Stewart Horticultural Society must feel satisfied with the success of the exhibition of 1900.

ROYAL HORTICULTURAL.—*August 28th.*

(*Concluded from p. 14.*)

Fruit and Vegetable Committee.

PRESENT.—Philip Crowley, Esq., in the chair; with Messrs. Jas. Cheal, C. Shaw Blaker, H. Esling, Geo. Kelf, Alex. Dean, W. Bates, F. L. Lane, G. Norman, Geo. Bunyard, and W. Poupart.

Messrs. Geo. Bunyard & Co., Maidstone, staged thirty baskets and dishes of Apples and Pears. In all respects these were magnificent. The colouring of Lady Sudeley, William's Favourite, Red Astrachan, Cardinal, and Duchess of Oldenburg was surprisingly bright, and on many there was a deep "bloom," proving how much care had been laboured upon them. Emperor Napoleon was also very creditable, and among cooking sorts Lord Grosvenor, Ecklinville Seedling, Lord Suffield, and others were up to a high standard. The James Welsh was well shown. Petite Marguerite, William's Bon Chretien, Dr. Jules Guyot, Mdme. Treyve, and Doyenné Bussoch, of the Pears, were large and fine. (Silver Knightian Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, staged a number of dishes of Apples, &c.

Messrs. Cross & Son, Daffodil Nurseries, Wisbech, showed Apple Duke of York.

Mr. Charles Turner, Slough, exhibited a tree of Early Rivers Nectarine lifted from the open ground. The tree was a good specimen, and carrying a few fine fruits.

Messrs. John Laing & Sons, Forest Hill, S.E., had a large exhibit of Peach and Nectarine trees in pots, bearing moderate crops, but specially meritorious in their fine form and good bearing wood, the pinching which had been performed having plumped up the wood of the current year. A collection of Apples was also on view, including Duchess' Favourite, Lady Sudeley, Lord Suffield, Early Transparent, and others. (Silver Banksian Medal.)

Messrs. S. Spooner & Sons, Hounslow Nurseries, Middlesex, had forty dishes of well coloured Apples, and a few dishes of Plums and Pears. Amongst the Apples Worcester Pearmain showed up well, Lady Sudeley and Beauty of Bath were also high-class, as were Duchess of Oldenburg, Councillor, and Red Astrachan. (Silver Banksian Medal.)

Mr. T. W. McHattie, gardener to the Duke of Wellington, Strathfieldsaye, Mortimer, Berks., obtained a Gold Medal for a magnificent collection of fruits. The exhibit included seventeen bunches of black Grapes, five bunches of white Grapes, eight Melons, eight baskets of Peaches, with five to nine fruits each, and Nectarines, Pears, Apples, and Figs. The Golden Hamburgh Grapes were very fine, Gros Maroc and Madresfield Court were also of great merit, fine in form, large berried, and thoroughly well fruited. It was truly a fine display. (Gold Medal.)

Lord Wantage, V.C., K.C.B. (gardener, Mr. Fyfe), Lockinge Park, Wantage, sent up an exceedingly creditable table of Grapes, Melons, Plums, Cherries,

Nectarines and Peaches. The three bunches of white Grapes were not so well finished as one would like, but the six bunches of black Grapes were A.1. The other subjects were very fine. (Silver Gilt Knightian Medal).

Messrs. Jas. Veitch & Sons, Ltd., had an assortment of Tomatos of the variety Chiswick Peach, in 7-in. pots. These were strong and fruitful plants, carrying and furnishing heavy trusses of fine moderate-sized fruits, all of which are usable for either dessert or cooking.

STIRLING HORTICULTURAL.—*Aug. 30th and 31st.* In respect to the general quality of the Stirling society's show, held in the Public Hall, Stirling, on Thursday and Friday, August 30th and 31st, the entries all round were up to the average. It was a good show, and larger than last year, though the vegetable section showed a decrease in the number of entries. Mr. Lunt, of Keir, was awarded the principal prizes for Grapes and table plants. The nurserymen's exhibits were appreciated, and these formed an interesting section of the exhibition. Music was provided on both days of the show, and, of course, was in itself an attraction. Mr. A. McKinnon, of Scone Palace, Perth, and Mr. John Leslie, Pitcullen House, Perth, judged the vegetables; Mr. James Smith, of Hopetoun Gardens, and Mr. D. L. M'Intosh, Ballinkinrain, gave the awards for plants and amateurs' vegetables; while cut flowers were judged by Mr. James Smith, Deanston, and Mr. L. McLean, Greenfield. Mr. D. W. Soutar, Stirling, adjudicated the honey classes. Ex-Provost Yellowlees opened the show. In the few remarks he made, the speaker said that the society had begun its shows so early in the century as 1812, so that this was their 89th successive exhibition. Mr. W. J. Clark, secretary to the society, and the committee of management must have a peculiar satisfaction in being able to continue this annual show, which is still vigorous and possesses such a grand record. Our brief report refers only to the principal prize winners.

Plants.—Mr. Thomas Lunt, gardener to A. Stirling, Esq., of Keir, Dunblane, was first in the gardeners' classes for six stove and greenhouse foliage plants; three stove and greenhouse Ferns, and six plants for table decoration. For three British Ferns, Mr. A. Ferguson, of Woodville, beat Mr. W. D. Stevenson, of Feus, Bannockburn. Other prize winners were Messrs. J. D. Kemp, St. Ninians, W. Cullens, and W. D. Stevenson.

Cut flowers.—Mr. R. Marshall, of Micklewood, was first for twelve double Dahlias in six varieties. Mr. J. Craik, Gargunnock, was second. Mr. D. McNeill, Gargunnock House, was first for eighteen trusses of single Dahlias, at least six varieties; while for six Gladioli, Mr. S. Bain, Inch of Leckie, Gargunnock, led. Mr. Gray, Wright Park, Kippen, was first for twelve Cactus Dahlias. Other names which appeared on the winning cards were those of Messrs. J. Waldie, of Dollarbeg, for twelve Comet Asters; D. M'Michan, J. Peebles, of Stirling; T. Hall, A. Gray, W. Cullens, R. C. Dickson and others.

Fruit.—For two bunches of black Grapes, Mr. T. Lunt, first; Mr. A. Carran, Inglewood, Alloa, second; and Mr. D. McKerracher, East Plean, third. For ditto Muscats, Mr. T. Lunt, first; Mr. D. McKerracher, second; and Mr. D. McNeill, third. Messrs. Lunt and McKerracher stood thus for two bunches of any sort of grape (white). For one bunch, Mr. Waldie beat Mr. W. W. Ritchie. Mr. McMichan, Hillfoot, Dollar, won for six Peaches, and Mr. Lunt for six Nectarines. For eight kitchen Apples Mr. D. McNeill beat Mr. J. Waldie and Mr. W. Rogers. Mr. W. W. Ritchie was placed first for Pears and for Plums.

Miscellaneous exhibits.—Messrs. Wm. Drummond & Sons exhibited greenhouse and other plants. They also showed a collection of Coniferae.

Mr. John Craig, nurseryman, Stirling, set up plants and floral decorative displays. Mr. Mark Hodgson also had a floral exhibit.

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. John Botley, Blythewood Gardens, Maidenhead, for his article on Eucharis grandiflora, p. 5.

QUESTIONS AND ANSWERS.

Apples cracking.—*Worcester Pearmain*: From what you said in your last letter we supposed that the fruits on your trees might be affected with the fungoid disease known as Cladosporium dendriticum, a skin disease; but we fail to find anything of that kind on the specimens sent. The skin has, however, been very badly hurt by something while yet in a very young state, and now that the Apples are swelling they are cracking because the injured skin is scaly, dead, and unable to increase in size so as to accommodate the growing fruit. The stems are affected or overgrown with lichens, suggesting that the roots are in a cold and wet subsoil, which ought to be drained to make it warmer by getting rid of the superfluous moisture in the subsoil. It is possible that the fruits might have been hurt by frost in their early stages of growth. The specimens sent are, however, infested with the Apple Mussel Scale (Mytilaspis pomorum). If you examine the fruits as well as the bark on the branches you will find that they are infested with a small brown scale, shaped like a mussel, but longer and narrower than the Peach Scale. To get rid of this scale you must scrub the trunk and branches of the trees in winter with concentrated lye of wood ashes or coarse potash, or with a mixture of one gallon of gas-water to ten of water. The eggs hatch out about the end of May or beginning of June, at which time the larvae are easily killed. About this time the trees should be washed at intervals of a week with a gill of kerosene in five gallons of water, or with soft soap and sufficient water to reduce it to the condition of a thin paint. Possibly your Apple trees want shelter from a hedge or belt of trees; but the drainage of the soil and the washing of the trees as above recommended are necessary proceedings to get the trees to thrive. Possibly lifting and replanting them would be a great advantage by bringing the roots near the surface.

Chenopodium polyspermum.—*Sigma*: The form figured by Sowerby under the name of the Round-leaved Gossefoot must be the variety Chenopodium polyspermum cymosum, otherwise named C. p. var. obtusifolium, by Syme. As far as we remember the sample you sent us was only the ordinary C. polyspermum with ovate leaves. The plant you now send is Atriplex hastata, Linn., or, as it is given in *The Student's Flora of the British Islands*, Atriplex patula, L., sub.-sp. hastata, L. The Chenopodium acutifolium mentioned by Babington is the variety C. polyspermum acutifolium, characterised by acute leaves and nearly simple, leafy spikes of fruit.

Hedge Trimmers Workable from the Ground.—*X. Y. Z.*: Can you or any of your readers tell me where I can get the best hedge trimmers workable from the ground, and so saving mounting a ladder?

Violets Attacked by a Fungus.—*Omega*: Violets get attacked by various things, including red spider, which, of course, is not a fungus at all, although its effects may give the Violets the appearance of being attacked by a fungus. We should like to see some of the leaves of which you complain, so as to get an idea of what is really the cause of the evil. It is mere guess work to imagine it is any one thing in particular when, in reality, it may be something different altogether. Send us some of the worst leaves and one or two not so bad, and we shall do our best to help you.

Names of Fruits.—*Philomathus*: Apples: 1, Duchess of Oldenburg, very badly coloured; 2, this variety appears to be the stock, the variety upon it probably having died. In any case, it is worthless.—*Hazel*: Keswick Codlin.

Names of Plants.—*A. J. B.*: 1, Veronica virginica; 2, Helianthus multiflorus flore pleno; 3, Lathyrus latifolius; 4, Cotoneaster microphylla: 5, Chrysanthemum lacustre.—*A. M.*: 1, Anemone japonica; 2, Phlox paniculata, garden variety; 3, Montbretia Pottsii; 4, Kniphofia aloides.—*T. H.*: 1, Rhus typhina; 2, Ailantus glandulosa; 3, Spiraea Douglasii; 4, Spiraea bullata; 5, Berberis vulgaris folius purpureis; 6, Tilia petiolaris.—*W. Carter*: 1, Lilium tigrinum splendens; 2, Veronica longifolia subsessilis; 3, Eutoca viscida; 4, Veronica spicata alba, usually known as V. amoena; 5, Platycodon grandiflorum.—*Sigma*: The Veronica is V. longifolia; the weed is Atriplex patula, sub-species hastata (see separate note).—*J. West*: 1, Nertera depressa; 2, Sibthorpia europaea; 3, Disandra prostrata; 4, Nepeta Glechoma variegata; 5, Othonna crassifolia.—*R. M.*: 1, Pelargonium tomentosum; 2, Pelargonium Lady Plymouth.—*A. T.*: Agapanthus umbellatus; 2, Cassia floribunda, more correctly termed C. occidentalis; 3, Heliotropium peruvianum var.

Communications Received.—C. Macquarie.—C. B. G.—M. Temple.—G. R.—A. F.—W. B. G.—R. Wallace & Co.—Barr & Sons.—R. D.—J. M.—A. C.—H. W.

TRADE CATALOGUES RECEIVED.

Wm. Cutbush & Son, Highgate Nurseries, London, N.—Border, Tree and Malmaison Carnations, Pinks, Cloves, &c.; also Circular concerning Carnation Mrs. Thomas W. Lawson.

Vilmorin-Andrieux et Cie, 4 Quai de la Mégisserie, Paris.—Catalogue of Flowering Bulbs and Strawberries.

Ant Roozen & Son, Overveen, near Haarlem, Holland.—Catalogue of Choice Dutch Cape Bulbs, &c.

Barr & Sons, 12 and 13, King Street, Covent Garden, London.—Barr's Hyacinths, Tulips, Narcissi, Crocuses, Gladioli, &c.; also Barr's Gold Medal Daffodils.

M. Cuthbertson, Rothesay, N.B.—Cuthbertson's Autumn Catalogue.

Benj. Soddy, 243, Walworth Road, London, S.E.—Soddy's Catalogue of Bulbous Flower Roots.

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SHOW FIXTURES FOR 1900.

September.

12.—Royal Caledonian Horticultural Society (2 days).

13.—Boston and District Dahlia and Chrysanthemum Society.

27.—R.H.S. Fruit Show (3 days).

October.

9.—National Chrysanthemum Society (3 days).

November.

6.—National Chrysanthemum Society (3 days).

7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).

December.

4.—National Chrysanthemum Society (3 days).

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, SEPTEMBER 15th, 1900.

FAVOURITE FLOWERS IN A SURREY GARDEN.—Whatever garden one happens to enter, certain flowers will be found to prevail, especially if the owner or any of his family take an intelligent interest in the same. This is certainly true of the gardens of Sir Trevor Lawrence, Bart., Burford, Dorking; but as his taste is fairly catholic, the number and variety of the occupants of the garden are chiefly limited by the dimensions of the garden, and size and number of the glasshouses. The President of the Royal Horticultural Society, it is hardly necessary for us to reiterate, is exceedingly fond of his gardens, which, owing to limitation of space, are filled with specialities—another name for favourites. Orchids take a leading place, while the other flowers and plants are fairly divided between hardy and tender subjects, many of the latter being grown with remarkable success out-of-doors, either entirely, or during summer only, as experience may determine and skilful cultivation may direct.

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In a sheltered angle between two greenhouses two plants of Solanum Wendlandii are at present conspicuous objects. The larger one was left out all last winter with some protection. The old or last year's stems having been cut down, the whole of the growth had to be made afresh before flowering could commence. This has been going on for some time, and if the present month continues fine, a large quantity of flowers will develop. The smaller plant had been outside for three successive winters, but was taken in during the past one. This had the effect of giving it an early start, and it has been flowering profusely for some time past. At the foot of the same wall Gloriosa superba is flowering beautifully, but G. Plantii is not so strong and seems to feel the effects of the recent cold weather. What was received as a hybrid of Abelia rupestris has white flowers tinted pink and abundantly produced. Swainsonia galegifolia and S. g. alba put out last spring are flowering profusely and look quite happy, judging from the fine colour of both foliage and flowers. Aristolochia gigas Sturtevantii, put outside in spring, made fine growth (10 ft. to 12 ft. high) and showed flower buds during the hot weather, but the sudden drop of the temperature at the beginning of August caused the buds to fall. The Pelican Flower, as it is called, is flowering well, however, in one of the stoves. A. elegans, outside for a twelvemonth, has grown well, but not flowered. Close by these plants is an iron tank, entirely unheated, yet the hybrid Nymphaea devoniensis, a near ally of the Egyptian N. Lotus, is flowering in it.

Many interesting things are to be found in a rectangular area of ground between some of the hothouses. Amongst aquatics, a species of Nelumbium has made fairly good growth and is showing flower buds. Several tubs plunged to the rim in soil are occupied with fine varieties of the new hybrid Nymphaeas, many of which are flowering freely, including N. Leydekeri rosea, N. gloriosa, N. rubra punctata, and the lovely salmon-red N. Aurora. A plant of Streptosolen Jamesoni in standard form is very handsome. Alstroemeria peregrina and A. p. alba, out all winter with a slight covering, are flowering freely. Dolichos Lablab is a curiosity in its way, being an edible species of Runner Bean with purple pods, stems, and flowers, the latter being in racemes. It is very little known in this country, although originally introduced from Egypt in 1694. Roscoea purpurea, belonging to the Musa family, is flowering freely at the foot of a wall. The curious Eucomis punctata, a Lilywort, has done equally well, the flowers being still fresh although the seed pods are about full grown. The fine masses of Crinum Powelli, C. P. alba, and C. Moorei are outstanding features of Burford, especially the first named, but all flower splendidly. Tecoma grandiflora bloomed during the heat, but the change checked it, as it likes more heat than T. radicans. A fine plantation of Richardias, put out in spring, includes R. Pentlandi, R. elliottiana, and R. aurata; the latter, with sulphur yellow spathes and a black base, bloomed by far the best. A dense row of Zephyranthes candida, near a wall, is flowering profusely. Many fine dwarf Cannas of the more recent raising have flowered grandly, though now slightly dashed with the rain.

Gladioli are great favourites at Burford, all the hybrid types such as Gandavensis, Lemoinei, Nancieanus, and Childsi being represented by the newer and best types. The last named has much the same parent-

age as the Nancieanus strain. G. Childsii Columbia is a grand orange-salmon bloom with violet stripes. G. Atlas holds its flowers well, the colour being soft pink, striped and splashed with purple. Other grand Gladioli include Emperor Nicholas, James H. Veitch, President Faure, Nuage (blue, with crimson blotch at the base), and Le Chat Noir (the black cat), with violet-purple flowers, almost black in bud, are the cream of a very fine collection, as far as they are at present in bloom. Romneya Coulteri, cut to the ground and covered up in winter, makes huge bushes, 6 ft. high, and blooms well, but the fighting of the caterpillars which attack, it is a very trying task. Another lovely Poppywort from the opposite side of the globe (China) strongly recalls Sanguinaria canadensis, but it has only four white petals and blooms in August instead of April. This is the rare Eomecon chionantha. The New Zealand Glory Pea (Clianthus Dampieri) is flowering magnificently in a handlight without the top. There are two plants about 2½ ft. high, but the larger one nearly fills the handlight. We have never seen it finer.

Pelargonium endlicherianum is said to be the only hardy species, but it does not look particularly happy. Montbretias flower well, and include the large-flowered Imperialis and M. crocosmiaeflora flore pleno, with orange and double yellow flowers respectively. Pentstemons are great favourites in this Surrey garden, and, it must be said, they have been brought to great perfection here by Mr. W. Bain, the gardener, who is as enthusiastic amongst the hardy plants as his employer. Mr. Bain raises a fresh lot annually from seeds of the best varieties, and these come into bloom about the end of August. Cuttings are taken from the best, and these, flowering earlier the following summer, supply seeds. The flowers are of enormous size and beautiful colours, the late blooming seedlings giving the finest spikes. The Mexican Lobelias and their hybrids receive marked attention here. The best of the lighter colours is L. Rivoirei, soft salmon-pink. L. atrosanguinea has nearly black foliage, but it greatly neutralises the glowing crimson flowers. L. Queen Victoriae and L. Firefly are fiery scarlet forms of first-class merit, the latter differing from the former by its slightly narrower leaves. Lilium auratum rubro-vittatum, with its central red rays, is a grand Lily. Handsome also in its way is Lilium thunbergianum wilsonianum, with its huge orange and richly spotted flowers. Platycodon grandiflorum semiduplex, recently honoured with a First-class Certificate from the R.H.S., is a grand subject. A batch of seedlings was raised and gave rise to several very distinct things, including the semi-double blue and a semi-double white, the two best in the batch. The new hybrid Clematis Countess of Onslow, with cup shaped, purple flowers and scarlet centres to the sepals, is really a grand thing and flowers profusely in the open air upon an iron arch, the other leg of which is occupied by C. Duchess of Albany, having blush pink flowers.

A short walk to the lawn in front of the house brings the visitor face to face with the precipitous slopes or escarpment of Box Hill, clothed to the summit with Beech, Yew, and other trees, and presenting a feature or picture of the Surrey downs not soon to be forgotten. One may go far before matching it. Soft and yielding as the lawns at Burford have always been they are now greatly improved, the grass and clover having made excellent growth and a delightfully green sward. That rare Cypress, Cupressus Arizonica is now forming beautifully pyramidal trees of a rich glaucous hue. Nymphaea ellisiana, in a tub, has dark crimson-red flowers, but in the tank on the grass the blooms are of a very pale pink, as if the variety were given to sporting. The darkest here is N. Leydekeri purpurata, having dark carmine flowers, those of N. L. fulgens being much paler, though still dark as is N. robinsoniana. A very distinct looking tuberous Begonia is that named Fleur de Chrysantheme, having long, narrow, salmon-pink petals, and evidently a descendant of B. boliviensis. A large bed in front of the mansion contains a glorious mass of the new Nicotiana sylvestris, 7 ft. to 8 ft. high, the large light green leaves of which show off the pendent, tubular, pure white flowers to advantage. Cannas are freely used here, but this leading favourite is Martin Cahuzac, having glowing crimson flowers.

There are some very neat flower beds in places upon the grass, including a bed of seedling Heliotropes upon a groundwork of Verbena Miss Wilmott, having large pink flowers. The intense glossy green leaves, with silvery-white margins of Coprosma baueriana variegata, seem to revel in the open air, for they are clean, healthy, and evidently happy. Mr. Bain has picked up and rooted a sport in which the variegation is confined to the centre of the leaf like the Holly Milkmaid. Crimson-flowered, fibrous-rooted Begonias form the groundwork of this bed. Abutilon Darwinii, in the form of standards, has a groundwork of Begonia Ingrami in another bed. The finely variegated Abutilon Swaitzii furnish the tall plants in another bed, the groundwork of which is Begonia martiana grandiflora, a lovely rose-pink flowered, erect-growing variety. The bed is edged with the lovely tuberous-rooted Begonia Bavaria, 4 in. to 6 in. high, and covered with large, rich rosy-carmine flowers. Abutilon Swaitzii, forming the groundwork of another bed, is very fine; but the standards of Streptosolen have not flowered well this year. Charming, however, is Coprosma baueriana variegata, over Coleus Verschaffeltii, edged with Masterpiece tricolor Pelargonium.

Plumbago capensis, as a small pot plant, pinched when about 18 in. high, makes a fine dwarf spreading plant.

Erratum.—In his article last week on "THE FRUIT GARDEN," it should have read, stone and other fruit, not stove and other fruit.

Weather in London.—Thursday of last week was bright and warm, and each day since has been equally fine. The mornings have been sharp, frost having been registered, and the days are very agreeable. The evenings are sometimes hazy, a forecast of the autumn and winter fogs.

The Edinburgh Flower Show is being held as we go to press, extending over to-morrow (Thursday, September 13th). Yet copies of THE GARDENING WORLD will be in the Waverley Market, Edinburgh, at 10 o'clock on Thursday morning. Our telegraphic report enables us to dispatch some hundreds of copies by the night mail.

Sugar Beet in Warwickshire.—In response to the invitation of the Earl of Denbigh a number of local agriculturists assembled at the Home Farm, Newnham Paddox, on Saturday last to inspect the experimental crops of sugar beet and of Garton's new Monarch white wheat, which his lordship has there been growing. Lord Denbigh's aim is to show that it is possible for farmers to grow sugar beet at a profit without extra cultivation, and it was stated that one of the tenants had arranged to try the effect of the root upon his cattle during the coming winter. It was intimated that next year his lordship is going to experiment with oats, and he offered to supply any of his tenants with a quantity of seed under certain conditions.—*Midland Counties Herald.*

Chinese Gardens.—The Chinese trace back their gardens to the remotest antiquity (2,600 B.C.)

Weeds on Walks may be effectively disposed of by employing crude carbolic acid at the rate of one ounce to the gallon of water, and liberally applying it through a rosed watering-can.

The Florist's Exchange, a well known American trade paper, published a daily issue during four days of the Convention of American Florists held in the Grand Central Palace, New York, August 21st to 24th. The feat is worthy of American enterprise, and certifies to the energy and ability of those who conduct this florist's trade paper.

Cure for Dysentery.—The Kaffirs chew the roots of certain species of Pelargoniums as an antistatis to dysentery. Some of our British army surgeons and medical gentlemen have prepared a decoction by boiling the roots in milk. The resulting liquid is given to patients at the rate of one to two tablespoonfuls every two hours, and no failures are on record.

Greek "Currant" crop ruined.—The poor Grecians are an unfortunate people. The culture of Currant Vines engages a large portion of the nation, and from reports we hear that the dreaded Mildew or Blight (Peronospora viticola) has attacked and rendered the young Grapes useless. Many thousands of tons of "Currants" are ruined, and prices are expected to rise as high as they did in 1853, when the retail price was 1s. 6d. per pound.

The Pomegranate in flower.—A specimen of the Pomegranate on a south wall in the Royal Gardens, Kew, has flowered with moderate success this summer. In dry, warm seasons this semi-tropical fruiting shrub or tree, flowers wonderfully in the warmer parts of England. As a fruiting tree it is largely cultivated in the tropics. The doubled flowered variety—Punica Granatum fl. pl. has rich orange-red blooms, somewhat of a rosette form.

A Florist's Awards.—We learn from *The Buteman* newspaper that besides successes obtained at Ayr Show, Mr. Michael Cuthbertson, of Rothesay, succeeded in winning first prize (a handsome Gold Medal) at Crieff Show on Saturday, August 24th, for a table of cut flowers. Again at Motherwell Show, on Friday, August 31st, he won the first prize (the society's Silver Medal and 30s.) for a table of hardy flowers, 10 ft. long, the competition for which was very keen.

Spraying of Cherry Trees.—In Massachusett, we learn that fruits of poor quality and appearance have grown less and less each year, according as spraying has become more universal. "Monilia," which causes the fruits to rot on the trees, or very soon after picking, can be largely prevented, says Mr. D. W. Beadle in *The Canadian Horticulturist* for June, by spraying after every rain with the copper sulphate solution, three ounces to fifty gallons of water.

Damsons Wanted; not Bullaces.—According to a special correspondent to *The Chester Courant*, when in London, if one order Damson pie or pudding at dinner, he gets a pie with acrid roundish fruits—the fruits of the Bullace (Prunus insititia), which grows wild in parts of the country. The Damson fruits are recognised by the oval form and their palatable lusciousness. The Damson, by the way is just a small fruited species of Plum, and has a number of varieties. The Chester correspondent, true to his country, recommends the Cheshire Damson to the London marketmen, and thinks there is a fine opening for it.

West Mainland (Orkney) Flower Show.—At a meeting of the West Mainland (Orkney) flower show committee, held at Dounby on Saturday, August 26th, Mr. Davidson, the secretary, reported that the drawings were £6 less than last year. The show lasted two days, which innovation the committee now decide does not pay. The presence of a phonograph amused the visitors. We advise the flower show committee next year to get as many phonographs and other attractions as possible, and, of course, secure the best horticultural display they can. Even country men and women enjoy more than what a small vegetable and flower show provides.

Red Ridinghood Sweet Pea has never been popular in America. When first seen, one large grower passed the remark, "that whoever raised *that* Pea should be shot!"

Nicholson's "Dictionary of Gardening."—According to *American Gardening*, a supplement to this useful and popular work is announced by the publishers as almost ready for delivery. This will bring the work up to date, and should be acceptable to those who already have the original edition. This 1900 supplement is freely illustrated by half-tone, and will consist of two volumes, each of about 400 pages, and will cost over £2.

The Harvest in Ireland.—Turnips, on the whole, are a fair average crop; Cabbages have done well, and the cry is that they are not half enough grown. Mangels are good. Flax cultivation has doubled its area in many districts. So far it is a good crop, but the rains have flattened large tracts. Early Potatos which promised so well, are rather badly diseased. So much moist weather has had a bad effect. Wheat, Barley, and Oats are up to the average, but badly laid.

Treatise on Lawns.—From the author of "The Culture of Flowers from Seeds and Bulbs," comes also a "Treatise on Lawns, Cricket Grounds, &c." So many folks want a nice lawn, cheaply now-a-days, and require directions in all matters of detail about the making of such, that this small "Treatise" costing 2d. would seem likely to supply a demand. The questions of soil, of drainage, levelling, the use of turves and seeds, and all the points requiring explanation are discussed, the text being here and there illustrated by a pertinent figure. One of the chapters which of itself would be worth twopence to any class of gardener described the best lawn plants. In all respects this treatise is ample and practical enough for all general needs. It may be had from Messrs. Toogood & Sons, Southampton.

A fine Ribbon Border.—The following is the arrangement of a magnificent ribbon border in Prince's Street Gardens, Edinburgh. In the front row is Cerastium tomentosum, then from the front in parallel rows come blue Lobelia, Pyrethrum Golden Feather, again blue Lobelia, with the next row of the ornamental grass Dactylis glomerata variegata; then the pink Christina bedding Pelargonium, yellow Calceolarias in the seventh row; the eight row mixed, comprising the Dactylis, Antirrhinum and Cineraria maritima. The ninth row from the front is of Pelargonium Henry Jacoby; tenth yellow Calceolarias again, and eleventh a strong growing bedding Pelargonium. The border is more than 100 yds. long and about 12 ft. wide. There are to be seen some beautiful designs in carpet bedding Conspicuous amongst other beds was a large bed filled with the variegated "Coma."—*A. V. Main, Morton Hall Gardens, Liberton.*

Croydon Horticultural Mutual Improvement Society.—The programme of meetings to be held in the Society's room, the Sunflower Temperance Hotel, George Street, Croydon, during the autumn term, has been sent to us by the hon. secretary, Mr. John Gregory, 60, Canterbury Road, West Croydon. The programme seems to us to be an exceedingly interesting one, and we know the secretary has taken pains to have papers apposite to the time of year. The following is a list of the meetings:—August 21st, "Bulbs," by Mr. W. Harris; September 18th, "Cacti of the U.S.A., Mexico, and California, and how to grow them," by Mr. C. A. Blogg (secretary National Cactus Society, Brighton Road); October 2nd, "Hardy Flowers," by Mr. Scaplehorn; October 16th, "Chrysanthemums," by Mr. M. E. Mills; October 23rd, "A talk on Horticultural and Botanical Books" (and exhibition of books), by Mr. John Weathers, Isleworth, to be delivered in the Lecture Hall, Croydon Public Library. On November 6th, "Hardy Fruits"; November 20th, "Cattleyas," by Mr. W. E. Humphreys, The Grange Gardens, Hackbridge; December 4th, "Yews, historical and clipped trees and hedges," by Dr. Brook Ridley, Bromley; December 18th, "Advantages and Usefulness of Horticultural Mutual Improvement Societies," by Mr. W. J. Simpson, chairman.

Snails among Ferns.—Those who are infested with snails among their Adiantum or other Ferns, should secure a sturdy toad and allow it to toddle unrestrictedly about on the stages, paths, and floors. A toad does no harm, and clears off all the snails he can discover.

Orchard Pests in California.—Great success is said to be attained by the introduction of insects which prey on the enemies of the fruit trees in California. The "San José scale" has been almost entirely annihilated by certain parasites and Australian lady-birds.

The Boxer Farmer.—A Chinese farmer is about as unlike his Western compeer as can be imagined. He does not live as they do in comparatively isolated districts, but in villages walled around and very densely peopled. In China 200 acres of land is a huge farm. The man who owns ten is considered wealthy, while a single acre will yield its owner a decided competence. Rice, Sugar Cane, Potatos, Indigo, Ginger, Tobacco, and Wheat—these are the things the Chinese farmer grows, says a New York paper. Rice, of course, is the Chinese staff of life. As the Chinese farmer uses no milk, butter, or cheese, the only four-legged beast on a Chinese farm is the zebu, a species of ox, that is used for drawing the plough. Perhaps the most curious phase of Chinese farming is the fact of the Chinese farmer training his hens to follow the harvesters to pick up the last grains left among the stubble and also the noxious insects that abound there. Sixpence a day is a very fair allowance for many Chinamen, and the fortunate recipient of so much wealth will often share his good fortune with one or more dependent relatives.

CYCLAMEN.

The early batches of these popular plants will soon be ready for shifting into the greenhouse or conservatory. Now that they are coming into flower, weak liquid manure water will be beneficial to them. Great care must be taken not to over-water or over-feed them, as I know of no other class of plants which show wrong treatment sooner than the Cyclamen. Care should also be taken not to water them over the top of the corms or damping off is sure to follow. Pull off all decaying leaves and flower stems close to the corms, so that the decay does not spread to the other leaves. Seedling plants are preferable, sown this month for blooming the following September and onwards. Caution should be taken to procure clean pans and crocks, and sow the seed an inch and half each way in a mixture of equal parts loam, leaf mould, and sharp sand. Merely cover the seeds and water with a fine rosed can, and place a piece of glass or slate over the said pans, and place them in a temperature from 60° to 70°. Care must be taken to keep the soil always moist, and never allow it to become dry or failure is sure to follow.—*A. Waller, The Gardens, Hollyholm, Saltburn-by-Sea.*

LINUM TRIGYNUM.

On one occasion during the summer of 1899 I met with a batch of this most useful and beautiful plant, which, from its bushy habit, attracted my attention. As generally seen, specimens of it are apt to be rather the reverse of bushy, so when I caught sight of this particular lot I asked for a closer inspection of them than a mere passing glance would afford, and found that what appeared to be single plants was really a number of plants as struck in the cutting pots (60's), potted on as they were into No. 48 and 32 pots. They were well in bloom at the time of my visit, and proved that the great utility of this old favourite for decorative purposes was far greater than we had previously been aware. The pots of plants were one dense mass of foliage and flowers. I know that there are very many who always grow a limited quantity of it, but feel persuaded that if this plan was more generally followed it would greatly increase the popularity of this old denizen of our gardens. Too frequently it is subjected to a higher and withal a drier temperature than it really requires during the summer months. A cool pit or frame is just the place for it. A dry, hot place invariably induces an attack of red spider. As the cooler weather of autumn sets in an intermediate house will prove the best place for it, and during the winter months, although it will live in a greenhouse (it being a native of India) it will not thrive, and the few flowers it may expand are very liable to damp off. It does best in a mixture of loam and peat, made rather sandy, and is most easily propagated from cuttings of the young shoots in spring.—*W. B. G.*

A BEAUTIFUL FLOWERING SHRUB.

Perhaps the finest shrub now in flower in any temperate greenhouse is Lagerstroemia indica. In general appearance the foliage resembles the Symphoricarpus, and the flower heads Hydrangea paniculata, the individual flowers being a bright rose, and the curled petals are curious in being stalked. The essential points in its successful cultivation are close pruning, plenty of light and during the winter months (its period of rest) only sufficient water to prevent it from being dust dry. Cuttings may either be struck now from the hard wood placed in bottom heat, or firm side shoots in spring, these placed under a bell glass will root in a month or so, then place into 3 in. pots, and when fair growth has been made pinch out the top to produce side shoots, and these will bear the flower heads, then after a short time, a shift into a 7-in. or 8-in. pot is necessary, using turfy peat, loam, sand, and rotten manure for a compost. During this time give frequent syringings to keep off red spider, and produce healthy foliage. After flowering gradually withhold water, but never let it become quite dry, then in February or March cut hard back to the second or third bud of the previous year's growth, and as growth commences, treat as before. When repotting, a little more warmth and shading will encourage growth. It can be obtained from any of the leading nurserymen.—*K.*

TOMATOS FOR THE WINTER.

Tomatos are not yet too common; and particularly in winter they are still highly respected. It is an easy enough matter to have Tomatos in fruit by the end of December from a sowing made now. Sow in heat and shift the plants first to 2 in., then to 5-in. pots. So soon as they have pricked up after being placed in the 2-in. pots, shift these to a cool, well-lighted frame, and soon after (unless in northern parts) place them out of doors in a sheltered part, so that they may make that hard bluish sort of growth. Be careful at this time in the watering of them. When the small pots are filled shift to the larger size, using a turfy, open compost. When it is deemed unsafe to leave them any longer unprotected, take them into a cool house and stake them. The next shift should be into 8-in. fruiting pots, leaving space for a topdressing. Toward the middle November place them in a forcing pit, whence they will go ahead fast. Use due precautions by maintaining a drier air, &c., at the time the flowers are expanded to ensure a good "set." Go over the flowers to fertilise them, as you would do Peach blossoms. Some manurial nourishment ought now to be given, and pinching of lateral growths and such attentions as are known to be necessary should be attended to.—*G. W.*

STORING FRUIT.

Now that so many fruits are ready to gather for storing, the question of how to and where to store, arises. Or perhaps no trouble is ever taken at all, and from an aggregation of causes nothing is done properly or well. In many cases good storehouses do not exist. Even the skill which may have been all-sufficient for the production of first-rate crops finds itself curbed and the produce considerably lowered in value, all for the want of the best kind of shed. Frequently the Potato and root cellars are the places also devoted to the fruits. Nearly every gardener has noticed how susceptible Apples and Pears are to the penetrating odours and flavours of Onions, Parsnips or Carrots, but particularly the former. These, then, should be avoided. In the storing, some gardeners lay their fruits on hay, it may be, or leaves, paper, sawdust, cotton-wool, to protect the fruits from pressing the wood. Unless the fruit is laid too thickly, its own weight will not injure it. In the next place it is impossible to have a fruit room too clean. The walls and roof should be limewashed with soap and water, and thoroughly dried afterwards, at least once a year. Each grain of dirt may become a nucleus of a fungoid attack or other active cause of decay. Neither must the fruit room be

damp any more than dirty, for together, these two causes are active allies of rottenness. The room in the last place must not be too dark, must be cool and ought to be ventilated sufficient to prevent a stagnant atmosphere. The conditions are necessary where fruit has to be kept long and well.—*F. G.*

Kitchen Garden Calendar.

PEAS.—The late dry weather in the southern counties has been much against the growth of the Pea crops, and both those coming into bearing, and others that are more advanced, have needed much care to bring them to perfection. As a late Pea, Autocrat still holds its own, the pods being both of good size and well filled, while the peas are of first-class quality. Birds and mice are very troublesome at the present time, nets should therefore be used to protect them from the former, while the old figure-four trap ought to be set for the latter. As the nights are getting cold the late sowings ought to be protected with spare lights or canvas. Here the temperature has fallen to freezing point on two occasions, while in several places during the past week it has gone as low as 33°; this being so it is no longer safe to leave tender crops unprotected at night.

FRENCH BEANS.—Late sowings of these that were made in frames with a view to giving a supply after those growing in the open had been cut down, must now be afforded protection, otherwise the first severe frost will turn them black. Pods on Runners that are ready for use should be gathered and taken to a cool cellar. In such a place they will keep fresh for a week or more. They should be gathered every day in order that none may spoil. This is a good time to preserve them for winter use, by covering the pods with salt, which will form a brine. Beans treated in this manner will keep fresh for a month or two.

MARROWS AND RIDGE CUCUMBERS are amongst the first to suffer; all fruit should therefore be cut from these when ready, and taken to a cool place. If the lights are placed over the plants these will afford them a protection, but this cannot always be effected.

SPRING ONIONS.—Where the foliage has died off, the bulbs may now be lifted and stored away in a cool, dry place. When thoroughly ripened there is no necessity to allow them to remain on the ground, for when left out and the weather becomes showery the bulbs take up too much moisture, and do not keep sound so long as they otherwise would do if stored when thoroughly dried. Afterwards the ground should be manured and prepared for another crop.

LATE POTATOS.—When these are ripe the crop should be lifted. Dry weather should be chosen for this work, as the tubers turn out so much cleaner, and are therefore in a better condition for storing.

FORCING.—It will now be necessary to make preparations for forcing, and as leaves will soon fall these should be collected in heaps. If put together when fairly dry they will retain the heat much longer than if collected when wet. Weeds will also grow apace after a rainfall, the soil being so warm. Every effort should be made to keep them under so that the gardens may present a tidy appearance. While they are small, the hoe should be kept at work amongst growing crops, as this will not only destroy any seedlings, but will assist the crop to grow.

WINTER SPINACH should be thinned as soon as large enough to handle, till the plants stand 3 in. apart. They may be allowed to grow thus for a time, when if every other plant is drawn these may be used in the kitchen. Late Turnips ought to be thinned to a distance of 9 in., so as to allow ample room for the bulbs to swell. Celery that is sufficiently forward may now be earthed up, but so long as the dry weather continues it is best left that an abundant supply of water may be given to the roots. Clean off the old flower stalks from Globe Artichokes, and point over the ground between the plants to give the same a tidy appearance. Make a sowing of Mustard and Cress where protection can be afforded in case of heavy rains. Prick out Lettuce and Endive as soon as large enough. Make a sowing of Parsley to stand the winter, and see that there is ample of this planted out where protection can be afforded.—*F. W. J.*

PEOPLE WE HAVE MET.

MR. GEORGE WOOD.

THE face and form of Mr. George Wood is well known to all who are frequent visitors to the Edinburgh flower shows; and many others know his name and fame from the numbers of prizes he usually captures for decorative groups of stove plants and Orchids. Mr. George Wood is nothing if not an enthusiastic gardener, and he is supported by a generous employer, James Buchanan, Esq.,

MR. GEORGE WOOD.

proprietor of Oswald House, Oswald Road, Edinburgh.

Mr. Wood began his gardening career with the late Mr. George Williamson, of Montgomery Street, Edinburgh, who carried on a florist's business there. He had a large vinery and the stock of plants in the houses was of the usual kind suitable for market. Soft-wooded plants were thoroughly well grown and Ferns were largely included. Mr. Williamson at that time depended largely upon his Grapes, and as he had a fruit warehouse and prices being much higher than they are now, he did well by them in his retail trade. Having seen how the most useful decorative plants were treated to give the best results and having been initiated in the practice of Vine culture, he took leave of his old florist master, and went as journeyman to Tullyallan Castle, Perth, under Mr. Gilroy, gardener to Lady Osborne Elphinstone, where hardy fruits in general, and wall-fruits in particular, were specially cared for. Some of the old school of gardeners exercised severe exactitude in the training of perfect wall specimens, and Mr. Gilroy was one who took great pride in the undeviating symmetry of his trees. The walls were all built of brick, of ample height, and the trees repaid the care bestowed on them by yielding large crops. These trees Mr. Wood says, were always heavily mulched and were regularly assisted by manurial waterings. The flower garden at Tullyallan Castle was also at that time a source of attraction to numerous visitors who often came long distances to enjoy the beds and borders. The grounds here were splendidly wooded, and the fine collection of Conifers gave the young aspirant an opportunity to study their individualities and qualities.

Having acquired a further knowledge of his profession we find the subject of our notes back again in the Scottish capital to gain greater experience with that class of subjects which he has been so successful in cultivating, as head gardener at Oswald House, namely, stove and greenhouse plants, besides also Melons, Vines and kitchen garden crops in the gardens of Thos. Nelson, Esq., St. Leonards Park, under Mr. James Manson. From here, after serving twelve months he decided on seeing how things are done in the laying out of new grounds. Accordingly we find him hard at work in the Metropolitan Cemetery, Morningside, Edinburgh, laid out by the late Mr. John Come. Though the work was rough, Mr. Wood has found the experience he then gained in making roads, laying drains, levelling, planting and turfing, to have been of great benefit to him in his successive engagements. Such work is what every young gardener should be conversant with.

Then the celebrated nurseries of Messrs. Dicksons & Co. found him profitable employment for a short while previous to his migration to the well-known gardens of Dunkeld House, belonging to the Duchess of Athole, which were so ably managed for nearly a quarter of a century by the late Mr. P. W. Fairgrieve. Dunkeld House has long been celebrated for its fruit crops, inside and out, and during his year's stay with Mr. Fairgrieve, the then journeyman had charge of the vineries, which were at their best, and from which the gardener gained many prizes for Grapes. Walls with all manner of aspects were here specially built by the late enthusiastic gardener, so that he might have the earliest and the latest fruits. Mr. Wood now bethought himself of obtaining a foreman's place, and was appointed as right-hand man to the late Mr. James Spence, who then directed the gardens at Oswald House, the position Mr. Wood now fills.

He served two years as foreman before he took upon himself the full responsibility of head gardener. This event occurred when he left Oswald House, where exhibiting had taught him something of what is necessary in that line, his new and wider interests being directed to Woodside, Musselburgh, owned by the late James McKelvie, Esq. Here the next eleven years were spent, transforming what was at first a park, into a well-planned and equipped garden. Mr. Wood was instrumental in having three vineries, two peacheries, one stove, one greenhouse, and two Rose houses erected at Woodside. This was no small undertaking, and demanded the fullest qualities of an able gardener. Extensive pleasure grounds, orchards, and kitchen gardens were also completed, and the cropped grounds Mr. Wood speaks of as being both early and productive.

While here Mr. Wood began his career as an exhibitor, and was successful. Upon the death of his employer, he was obliged to find another charge, and fortunately he was offered the head gardener's situation at his old suburban sphere at Oswald House gardens. Before leaving Woodside, however, Mr. Wood was honoured with the presentation of a handsome marble clock and two bronze ornaments to match, by a few friends as a token of their esteem.

Since he has been at Oswald House (a period of nine years) his successes as an exhibitor in various directions have called him into prominence. Mr. Wood thoroughly appreciates the generous spirit of his employer, who so kindly encourages his exhibiting. No doubt Mr. Buchanan knows that he is himself benefited while at the same time, in more ways than one, he is a benefactor. Mr. Buchanan, of course, is himself a keen horticulturist.

Among his prizes, Mr. Wood has the Williams Memorial Medal, won for a group of plants shown at the Royal Caledonian Horticultural Society's show in September, 1894. He also won the Turner Memorial Cup at the same society's show the following year, and has had many prizes at the Chrysanthemum shows of the Scottish Horticultural Association. All our recollections of Mr. Wood impress us with the geniality and kindliness of his character, a character honest and sincere, his endeavours being always to do the best that can be done.

Forestry in Germany.—"Germany is credited with the greatest development in practical and theoretical forestry. The forestry schools of Germany are of two grades: First, the academies, graduates of which become candidates for the position of assistant forester; and second, the forestry department of the universities, graduates of which become head foresters and teachers. There are six forestry academies and three schools of forestry in Germany. The University of Munich has eight professors of forestry."—*American Gardening.*

"ONE AND ALL" PERFECTION TOMATO.

The illustration seen here shows how successfully Tomatos can be grown unprotectedly in the open air. With the simple aid of a trellis or fence, or stake, anyone with a small suitable piece of ground can secure very satisfactory results if only a little care be taken. The photograph does not show half the crop, for much of it had already been gathered. The plants were 3 ft. 6 in. high, and carried fruit from the ground to the top of the stems. The plants were put out in June, and after a fortnight's weathering, a great hailstorm came and cut off every leaf. They recovered, however, and to the grower's surprise, in September, when the fruits were gathered, they filled two large piled-up bushel baskets, besides what had been gathered as the crop ripened during the season. This is not bad for plants without wall protection. This successful grower at Harrow thinks it a mistake (if you want short plants), to give either pot or planted-out Tomatos any stable manure at the time of planting. He recommends good heavy soil, the rougher the better, for the plants. They should also be kept well stopped and tied in. When the fruits have set apply moderate quantities of liquid manure round the plants once a week. On well treated, heavy land, the open-air Tomatos require very little artificial watering. We are indebted to Mr. Ed. Owen Greening, of the Agricultural and Horticultural Association, Ltd., for this pertinent illustration.

"One and All" Perfection Tomato.

THE HERBACEOUS BORDERS AT KEW.

Kew Gardens, or, rather, the Royal Gardens at Kew, have many phases, and the ornamental factor is not wholly subservient to the botanical. If it were so, the gardens would not be half so useful. The best taste—an educated and experienced taste—has been at work and is still directing all improvements which are planned in the outdoor parts. All the summer the various clumps of shrubs and herbaceous plants, &c., throughout the grounds have afforded delight to thousands upon thousands of visitors, and judging from the frequency that notes were taken, a large number of the folks meant to profit by and imitate upon what they here admired. The ornamental herbaceous borders are really represented by only one that is worth noting, which is on the north side of the T-range. This border is, roughly, about 250 ft. long and 15 ft. wide. It lies between a range of warm houses and a smooth, green lawn, which extends forward 75 ft. or so.

Now this border is, and has been for months, a perfect picture of beauty, and has charmed hosts of flower lovers. It is not because every rare species of hardy plant in Kew has been fished up and planted here that this border is so satisfying and so pleasing. There is certainly a numerous collection of perennial and annual plants, but all are well known garden favourites. The secret entirely lies in the artful and skilful composition of the borders. All manners of form and all colours of blooms are included, and as a rule they are grown in groups. These groups are large and bold. The plants composing them have not been allowed to grow crowdedly, nor to want staking, nor lack moisture if they needed it. The border, too, is well treated, so that nourishment can be obtained from it. Here and there, nearly toward the centre, but in the back half of the border, are erect stakes, supporting Rambler Roses and Clematis Jackmanni. This, to start with, is a feature not found in one garden out of a hundred.

Then another novel feature is observed in the use of the Golden Elder and other bright shrubs at the extreme back and in the corners. This is an ingenious and wise method of throwing light and colour into the parts not so apparent to the passing eyes. Everything is in groups, a system promulgated by John Loudon nearly a century ago, and since then reiterated by all upholders of pure English gardening. These groups are bold and massive. Some of the clumps of Hollyhocks, Helianthus, and Statice measure 12 yds. round. All along the front of the border are semi-circular groups of dwarfer annuals, though dwarf plants are not entirely used, else the edge would be too even and too much on a level. Here and there higher growing bushy plants such as the Lavender, Gypsophila, Veronica spicata, and such-like, are allowed to come right to the edge, and this principle appears to make the border look double its width. Most of the tallest plants are placed almost in the centre. So well devised are the groups that, though the border presents beautiful aspects from any point of vantage, the inner beauty, as one might say, has to be viewed at close hand. And it is here again that one discovers how well chosen the various subjects have been.

Nothing "rubbishy" finds a place, and when a certain plant has finished its course for the season somehow another substitute is creeping up to fill its place. All the ground is covered, there is hardly any bare soil. Contrasts of colours and forms are other evident points. It would be an endless business if I tried to describe the border in detail. An impression of what features go to compose so charming a collection of hardy and half-hardy plants has been given, and may be helpful to someone, but before concluding I may give a list of some of the more remarkable plants. Without any attempt at classification they are:— Chrysanthemums of the summer flowering varieties; Aster acris, and others; Soladigo canadensis, S. virgata, S. v. nana, Veronica spicata, V. incana, Oenothera amoena, O. Youngii, O. biennis, Zinnias, Fuchsias, Linaria reticulata, Irisine Lindeni, Pinks, Begonia semperflorence rosea, B. s. alba, Cuphea insignea, Emilea flammea, Salpigloss's, Ageratum The Zoo, Campanula turbinata, Heliptrum album, China and Comet Asters, mixed; purple Stocks, unmixed; Sedum spectabile rosea, and Petunias, all of which dwarf annual plants are in groups toward the edge. Jacoby Pelargoniums are also used. Then among the tall subjects we find the beautiful Polygonium orientale, 5 ft. or 6 ft. high; Pentstemon barbatum arching toward the front, Coreopsis in great masses, Salvia virgata, which lasts so well and is so showy; Lychnis chalcedonica, Humea elegans (now over, but splendid when at their best); Monarda didyma, Lathyrus latifolius trained erect to stakes at the back, Crimson Rambler Rose and Clematis Jackmanni, Achillea Ptarmica fl. pl. The Pearl, Sweet Peas, 7 ft. high, in masses; Plume Poppies (Bocconia cordata), single and double Hollyhocks, Phloxes, Echinops sphaerocephalus, Eryngiums, Ricinus Gibsoni, &c, Helenium autumnale striatum, Helianthus multiflorus, Ipomea versicolor, a pretty annual climber. Then Asclepias curassavica, Garya Lindheimeri, Tritonia (Montbretia) crocosmiaeflora, Rudbeckia speciosa, Japanese Anemones, Abutilon Sonv. de Bon, Amaranthus caudatus, and many other exceedingly handsome plants. Each is carefully thinned out, staked, and in all ways given full justice.—*J. H. D.*

ROSES: PAST AND PRESENT.

The Royal Caledonian Horticultural Society was addressed lately upon this subject by Mr. Hugh Dickson, of Belfast.

Some fifty years ago the Chinas, Gallicas, and hybrid Bourbons, were exceeding popular, but owing to the greater merits of new sorts these had somewhat declined. The Teas were as great favourites then as now, and though they are slightly less hardy than the others their perfect loveliness of bloom has maintained for them their popularity, and at the present day they are unexcelled. Chinas for bedding purposes, for dwarf "hedges" or edge lines along the back of herbaceous borders, and for general ornamentation, still maintain their position. The section has been improved very considerably by the introduction of newer varieties. These hybrid Chinas and improved sorts are the outcome of hybridising work during the last half century. Fifty years ago the Austrian Briers had not changed; Moss Roses had not yet advanced; the old Provence or Cabbage Rose for sweetness was still unsurpassed; the Bourbons were passing out of favour, and the hybrid perpetuals were only being introduced. A propos of propagating Roses, Mr. Dickson said that when he left Edinburgh in 1855 he took with him 100 plants of the best Roses he knew and 100 small Manettis, and planted them at the home of his boyhood, Newtownards, and upon that foundation had been reared the famous Irish Roses sent out by him.

At the present time the most popular section of Roses is that of the H.P's. They meet everybody's wants and they succeed everywhere, given ordinary care. At a recent date the majority of the new varieties came annually from France. About 1830, however, an old English farmer, Mr. Bennett, from near Salisbury, who knew something about crossing shorthorn cattle but absolutely nothing about Roses, conceived the idea that he could cross Roses too, and in a very short time he came to the front. Such standard varieties as Her Majesty, Mrs. John Laing, and Captain Hayward were raised by him, and these are sufficient to make his name immortal among rosarians. From the Irish side had come such splendid Roses as the H.T., Mrs. W. J. Grant, Mrs. Sharman Crawford, Margaret Dickson, Bessie Brown, Hellen Keller, and many others of the first rank. Of all sections lately added none have been more worthy than hybrid Teas They were produced by crossing the Teas with the hybrid perpetuals, and they seem to make a happy blend. From this lovely section Mr. Dickson predicted a very bright future.

HINTS FOR AMATEURS.

The month of September.—The evenings now have an autumn feel; the cool air, the clearness of the atmosphere, the jaded look of nearly all vegetative leaf growth, the tints of the foliage which are beginning here and there to appear, and the empty corn and Potato fields, and the orchards with full sized fruits, these are the most apparent features which give evidence of autumn's installation. The migratory birds have either left or are preparing now to go. And the days and nights are more nearly equal. After seven in the evening one cannot see to do much in the open-air. Then when one rises in the morning to find the mercury down to 45 or even 40° F., it is high time to make preparations for the housing of any tender plants we may have out. There will be no need to take in Chrysanthemums for a little while yet. They can stand 10° of frost without being much harmed, and a week of sharp evenings and sunny days has a wonderful effect on the plumping and hardening of wood growth. However, you need not experiment to see how much frost any of your plants can withstand; suffice it to know that 10° is about their limit, and when so badly frosted as this, they require to be placed away from the range of the sun, being syringed with cold water to thaw them. Of course if the air is still frosty, the syringing would do no good. Zonal Pelargoniums, Eupatoriums, Salvias, Heliotropes and other soft wooded plants may be shifted to the greenhouse toward the end of the month.

Cuttings should now pretty well all be put into frames, or boxes or pans. In the case of bedding Pelargoniums take the cuttings from the stout side growths of the plants in the beds. Make them about 5 in. in length. Strip off the leaves from the lowermost nodes, or joints, and cut the stem cleanly through at right angles just under one of the joints. This *must* be done neatly with all kinds of cuttings, and the leaves should also be deftly removed, no jagged ends being left. When a sufficient quantity has been prepared, and conveniences to hold them, have them dibbed in at once. It is a great point to get them into the damp soil and firmed before they have flagged to any serious extent. If this operation is quickly done they soon pick up. The receptacles by the way should be prepared with the same care that is exercised in making the cuttings. Wooden boxes should have the drainage seams or holes in the bottom fully covered with good sized crocks, and over all the bottom there should be an even layer of crocks and roughly sifted cinders. Above this again, place a sprinkling of half decayed leaves, or fibre, and then fill in the sandy compost. Experienced gardeners know the benefit of taking precautions. They know that these same cuttings, with barely a single root, have got to pull through the cold damp days of winter, and they make the provisions which experience has taught them is necessary. So difficult are many of the bedding plants to keep through the winter, that only those with greenhouses, fruit houses, or good pits and frames should attempt to winter them. It is cheaper and much better for others to fill their pits or frames with moderately hardy plants, which only require a little protection on very severe evenings. Even if they do not wish to be without Pelargoniums, Calceolarias, &c., for summer bedding, they can still buy a quantity in spring. But if the beds are only small ones, I would recommend that they be filled with annuals, as Petunias, Phlox Drummondii in varieties, Nemesias, Larkspurs, Antirrhinums, Dianthi, Verbenas, Asters, and other subjects. Taller plants could also be raised from seeds, such as Ricinus, Zea Mays, ornamental Beet, and various ornamental Grasses. These should be used as "dot" plants above the ground covering of the others.

Begonias of course may be raised and planted out during summer. They can be lifted, dried off and stored in sand during winter, and considering their qualities in all respects, it is surely matter to wonder at that they should not be grown by the thousand more.

Fuchsias.—Before the older plants go out of flower, and while there is still some young wood to be had, a batch of young plants may be struck. When these have rooted and are seen to be doing well, some of the largest of the old plants may be thrown away to make room for the young ones. A great mistake with many growers is their habit of cherishing old specimen plants when they have only a limited space at their disposal. It is much better to have a variety of fresh young stock than a collection of well-known "old stagers."

Begonias for winter flowering may require a shift at this time. Keep them in a growing temperature, that is, about 60° to 65°, and moist. Plenty of light should be allowed. A covering of cinders should be placed on the stages.

Cyclamens.—It will soon be time to remove these to the greenhouse. So long as they are in the frames, keep them turned about so that they may form shapely plants. The cinders upon which they stand should be kept clean and the pots may be washed occasionally. Cleanliness has a wonderful effect on the good growth of the plants. By no means allow them to become infested with aphides, else growth will never progress.

The watering should be very carefully done, and at present manure-water may be given once or twice a week, but it must not be strong. Allow the plants full ventilation on all warm days, and, unless the weather is cold, a yard of air to span-roofed frames should always be allowed, though they may be closed at night. Syringe, or rather dew, the plants over the leaves and around the pots before the sun strikes the frame in the morning, and again when it shifts in the afternoon. Shading is scarcely necessary, only if the middle of the day is hot, a slight protection will be required.

Calceolarias and Cinerarias.—The treatment (except syringing) recommended for the Cyclamens will be quite acceptable to the Calceolarias and Cinerarias in the frames.

Salvia splendens.—Up to the end of the present month these may be left outside. Feeding with liquid manure will be required. Pinching should be discontinued.

Hippeastrums.—The present is the best time to pot up an early batch of Hippeastrums (Amaryllis). A selection of the best bulbs should be made, and these may be potted singly into 6-in. pots. A turfy compost is most suitable—one composed of two parts good yellow loam, one part leaf-mould, and about a quarter each of decayed dung, sand, and some charcoal. A dash of bone-meal may be added.

Clarkia elegans var. Salmon Queen.—So beautiful is the well-known Clarkia elegans, that one hesitates to say that there can be anything in the same line prettier. But there is. And it is the variety, Salmon Queen, of which a fine large bed was recently viewed at Messrs. Cannell's Nursery, Eynsford, Kent. If gardeners in private places could afford to sow and grow large beds of such fine varieties it would certainly be good gardening to do so. Salmon Queen is decidedly salmon-coloured. In all other respects the variety is like C. elegans. When I saw this beautiful bed, I tried to picture a dinner-table decorated with this flower, and in my mind's eye the effect, with gaslight, was exquisite in the warmth and mellow softness of its composition. Decorations in pink or salmon, as a rule, please everybody. They should not be spoilt by admixture of any contrasting colour. —*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Chrysanthemums: Manures for.—*H.*: Nitrate of soda is beneficial for the leaf and stem growth of the plants. Potash, or manures containing potash, are necessary for the proper manufacture of starch in the leaves and stems. Starch is one of the primary products of the leaves, and without it there would be no increase of growth. Phosphatic manures have been proved to directly influence the production of flowers and seeds. If you wish to make an artificial fertiliser for yourself (which we do not commend) use:—"One part nitrate of soda, one part dried blood, two parts superphosphate, one part kainit and a quarter part sulphate of iron." Apply ½-oz. a week in 1 gallon of water. Fowl manure is very valuable for Chrysanthemums.

Garden or Decorative Roses.—*G. Alexander, Bristol*:—The following ought to succeed with you. They are splendid garden Roses when well grown:—Princess Marie, W. A. Richardson, Anna Marie de Montravel, Mdme. Pernet Ducher, Crested Moss, Common Moss, Cabbage or Provence, Rosa Mundie, Mdme. C. Guinoisseau, Baron de Wertemberg, Gloire de Dijon, Cooling's Himalayaica and Rosa macrantha. The hybrid Sweet Briers are also recommended.

Propagation of Euonymus japonicus and Escallonia lindleyana.—*B. R. S.*: Both are propagated from cuttings of the firm wood of the current year. Place them in pans, pots or frames in very light sandy soil. Make them as you would a Fuchsia cutting. They strike readily in cold frames or pits, but should be protected from frost for some time. Most of the ornamental Conifers may also be propagated from cuttings inserted in open-air borders now.

Open-air Tomatos not ripening.—*W. J.*: The present has been an exceptionally sunless summer, and the conditions are no better yet. If your Tomato fruits do not ripen in the open air, you have still the further resource of cutting them to hang them in a warmed glasshouse where some will ripen. Green Tomatos can be successfully pickled.

Winter Crop to follow Runner Beans.—*Vegetarian*: Broccoli or "Kales" may be tried. Do not dig the ground, but clear the surface soil and plant at once.

Protectives for Grass Edges.—*W. Johnston, Cullen*: Our correspondent complains that he cannot keep his lawn edges from being trod down and spoilt. The only thing left for him is to get iron guards made. These should be strong, and about 2 ft. high, otherwise they are rather dangerous. We would suggest that a permanent single iron rail fence, which may be 18 in. high, be erected in places where the grounds may be conveniently reserved. The relaying of grass edges every winter is a serious business in some gardens.

Solanum Wendlandii.—*F. Fisher*: By pruning back the long flowering shoots which have produced this year's display, fresh growths will break out in spring. Keep the plant dormant through the winter months.

Gloxinias.—*A. Tait*: Do not grow them on, but dry them off as advised in some of our calendars.

Cucumber for Winter.—*M. Bull*: You will not be successful with Cucumbers grown in a frame during winter. A good span-roofed house, about 15 ft. long and 10 ft. wide, well-heated top and bottom, is generally requisitioned. The soil should consist of turfy maiden loam—two parts—one part leaf mould and half each of sand and sifted mortar. Place the compost on the stages in mounds and leave it till it gets warmed through, then plant sturdy young Cucumbers. A temperature of 63° at night up to 75° during the day should be maintained at all times. The great point is to keep them always growing, and this is done by removing old or superfluous growths by top-dressings and careful watering. Liquid manure is not much needed during the dull winter days. Improved Telegraph, Lockie's Perfection and Rochford's Market, are good winter sorts.

Stagnant Water.—*G.*: A few scraps of hoop iron placed in water which has been left to stand in tanks will banish the bad smell arising therefrom. The reason for this is a chemical one; the sulphur compound evolved from the water combines with the iron and leaves the water quite sweet.

Fertilising Grapes.—*A. N.*: Many cultivated American Grapes will not produce perfect bunches unless cross pollinated by some more fertile variety. Experiments are in progress to discover the most fertile varieties for this purpose.

Window Boxes.—*R.*: Window boxes formed of strong boards, firmly joined and set upon a pair of iron brackets can be used by any person. The front of the box may be covered with floor oil, choosing a design that will appear like tile work. Even if nothing else than fourpence worth of Tropaeolums

or Nasturtiums are employed, the box will be bright and beautiful. Rich red varieties of the Tom Thumb strain should form the edge, though some of the taller kinds may be allowed to trail over the edge, and others chiefly with light yellow flowers should be trained upward to strings at the back.

PARSLEY FOR WINTER.

THE gardener, in the first place, and the cook next, know the value of fresh Parsley in the winter. The latter understands its value, because it is a thing she cannot well do without, and much care is needed on her part to make small quantities spin out a long way. The gardener has the value of winter Parsley well impressed upon him, because it *must* be forthcoming, and during these wet days with their frosty nights doesn't the Parsley slide away? The thing to do in the meantime is to sow or transplant as many rows as possible in all sheltered borders and corners.

Parsley likes a well-drained garden soil. It may do well in the warm days of summer on a heavy loam, but winter Parsley should have a warmer soil. If the soil is poor manure it liberally, but a fertile soil merely requires deep digging. If there is a breadth of young Parsley moving forward now from a recent sowing take care of it. If there is not, then at once prepare a section of land of a size that may be covered by a frame and make a sowing. So soon as they germinate run the hoe between the lines, and by slight thinning and every other assistance, get the batch forward by the second week in October. Before that time, say the end of this (September) month, place the frame over the bed, or it may require two or three frames. The lights need not be put on till the frosts appear. Keep all fallen leaves lifted, else if these cover the young Parsley plants they will deterlorate. During the sharpest weather a few mats over the frames will keep the Parsley from harm. A few Spruce branches placed between the lines of otherwise unprotected crops of this garnishing plant, help to save the stock from frosts, winds or snow. Should the supply unavoidably be running low in early spring, have a batch reared indoors in pots.—*J. H.*

CHERTSEY SCHOOL OF HANDICRAFTS.

CHERTSEY is a pretty little township with many quaint old fashioned tenements, and is situated in the Valley of the Thames some twenty miles westward from London. It occupies a position in the north-west corner of fertile and fruitful Surrey, and is not far from the south-west extremity of the neighbouring county of Middlesex. The countryside around for miles is a blend of the picturesque and the beautiful, the characters of which, according to landscape gardening art, are named as consisting of smoothness, softness, gradual variation of the land surface, with the effective interspersion of meadow land, rivers, undulated surface and belts of woodland. And it was through this interesting district to Chertsey that we travelled on an early August day, favoured with a clear blue sky, sunshine and breezes. The splendid day was the more appreciated after the hurricanes and rains of the week preceding. All along the route crops were fresh and satisfactory. The beauty of the Potato fields in full flower, which were seen from the railway carriage on either side for miles, recalled the similar beautiful effects which we had seen years ago, and which then vividly impressed us with the splendour of this lavender flowered tuberous plant when seen extensively. Such a scene goes far to prove that the massing system is superior to that of a composite mixture of colours. Along this vein of the Thames valley there are many old orchards, seemingly once better attended to than now. A feature on nearly all of the cottages was Grape Vines, which were used to cover the walls, and which in nearly every case were bearing bunches averaging perhaps half, to three-quarters of a pound in weight.

But to the School of Handicrafts, which we seem to be long in reaching.

This hive of industry is within five minutes walk from Chertsey Station on the South-Western Railway. It was established by the late Thomas Hawksley, M.D., in 1885, to give to boys of good character a religious elementary education, combined with an industrial training, to enable them to go out into the world as respectable wage earners. For this purpose the present freehold premises were secured by the munificence of the founder, so that the institution is free from all liability for rent, but the number of boys that can be benefited by the training of the School depends upon the amount of support which the efforts of the founder meets with. It is, at the same time, self-supporting so far as possible. At present there are one hundred boys in the School.

The building, over which we were kindly shown by the matron, contains a splendid new schoolroom, built in memory of the founder and in accordance with the latest Government requirements.

In the school there are small geological, botanical, ornithological and entomological collections from which the boys receive a practical tuition in natural history. Under the direction of an able schoolmaster they also gain a knowledge of the three "R.'s" and other subjects. The dormitories are all as prim, as orderly, and as clean as a hospital ward. The boys have convenient lavatories, baths, with hot and cold water, and each one has his towel numbered and hung up in position. Each morning so soon as they jump out of bed at six o'clock, everyone has to make straight for a cold shower bath, after which each briskly rubs up a robust circulation. For the senior boys there are well-appointed work-shops, where carpentry and shoemaking are taught.

The various trades and subjects taught include the two just mentioned, besides gardening, farm and dairy work, relief stamping, typewriting and instrumental music. The above provides quite a liberal education for the young lad preparing to enter the work-a-day world, but, indeed, it does not include all, for a large part of the weekly washing, baking and general cleaning is done by the boys in their turns.

The carpentry shop, from the work we were shown, must turn out some very capable apprentices. Plans and geometrical drawings, all to scale, are made by each young workman, who then proceeds to execute his design in a practical manner. Some capital dovetailing, morticing and staircase-fitting was shown, and further to prove that the shop was

THE GREENHOUSE, CHERTSEY SCHOOL OF HANDICRAFTS.

not merely a play-room, the carpenter pointed to his account books where so much as £32 was noted as due for work done by the boys in one order alone. All manner of work is done, from making wheelbarrows to the mending of broken chairs. A look-in upon the boot shop showed that there also the lads were kept actively engaged and they seemed to enjoy their vocations. The dairy, supplied by eight fine cows, is situated close to, or indeed we might say, within the garden precincts. From the further inclusion of a stable and piggeries this portion of the twenty-six acres of property, provides those lads who have a desire to emigrate with a rudimentary knowledge of farm and dairy work. Then in the garden itself, which, naturally, has the greater interest for readers of THE GARDENING WORLD, the boys have a capital opportunity, under Mr. Arthur Joseph Brown, of gaining a serviceable experience of gardening out of doors. Not that there are no glasshouses, for there are several, including two vineries, Peach house, Fern and Palm House, Melon and Cucumber houses, flower house and pits and frames. (See illustration, p. 41.)

But it is chiefly in the vegetable grounds and among the hardy fruits and flowers, that their knowledge of horticulture is derived. To give the lads as wide an understanding as possible, of the manners in which fruits are trained and the advantages of such and such a form of tree or bush, Mr. Brown has furnished the walls with cordon trees grown erectly and at various angles, and also with fan-shaped and horizontally-trained specimens. In the open grounds, standard trees, most of which are about twelve years of age, are chiefly to be found. Pyramidal Pear, Plum and Apple trees, and half-standard Damsons, all more or less laden with fruits, present a garden such as one may find attached to the homes of the wealthy throughout the land. The exposure of the garden is nearly due south, and it is planned almost four-square. Year by year extra slices are absorbed from the rich pasture land around the garden boundary, and is cultivated as garden or farm land. As the institution is largely supported by its own labour, and as the land forms the primary source of man's sustenance, it follows, as a consequence, that with over a hundred healthy appetites to provide for daily, besides having to supply the farm animals with a great part of their food, the garden and farm lands are fully utilised. We saw a fine field of Mangels soon to be used, and brakes of Potatos, Cabbages and Beans extended over much ground. Cauliflowers, extraordinary Parsnips, fine breadths of Beet, Turnips, Carrots and Onions showed that the ground must naturally be very fertile, or that its enrichment and proper working had been well accomplished. Possibly all these factors are united, for even good land will not yield its fatness without toil and trouble to the tiller. Among the bush fruits, Gooseberries were most prominent, though Currants were also an asset worthy of note. But it would be of infinite benefit to the superintendent of this department, were the directors to instal, say, three more experienced journeymen who could take the lead with a number of lads at any operation in distinct parts of the garden. As it is, we think Mr. Brown succeeds admirably, for we know that "boys will be boys," and in the garden one cannot always have them under one's eyes, as in a workshop.

The best hardy herbaceous perennials and annuals suitable for market, such as Phloxes, Gladioli, Montbretias, Coreopsis, Echinops, Eryngiums, and other flowers in their seasons are grown. Wreath-making and floral decorations are other of the phases of the garden department. The keeping of Mrs. Hawksley's pleasure grounds opens up an additional vein of garden work which the boys are expected to be acquainted with. Of course, the lads display a preference sometimes for carpentry or shoemaking, or aptitude for office-work, rather than a desire for the garden, and such lads are trained accordingly. Mr. Brown, however, has always two or three older lads as apprentices, who after a year or two, that is, when they are about fifteen or sixteen, receive appointments in gardens or nurseries from which applications have come. There is always plenty demand for the boys trained at the School of Handicrafts.

Just as "Tom Brown" looked back with pride on his old Rugby days, and just as every upright British boy loves and honours the school or college he was taught at, so have the "old boys" of the Chertsey School of Handicrafts, almost to an individual, remained true to this place of their early training. It is only fourteen years ago since it was founded, but the "old boys" from here are now to be found in many merchants' offices, druggists' shops, in various building trades and professions; many have joined the army and navy, and not a few faced that awful fire on the deadly Spion Kop, and some were killed and others not. The doings of the boys of the present, and the accomplishments of the boys of the past are recorded in a quarterly publication issued by a committee who have the good of the school at heart. To us, nothing is more interesting than to know of, or write about such a school with all the possibilities of its boys, and though we have written enough for the present, we hope to go there again and to see and hear more about the boys of the Chertsey School of Handicrafts.

A VISIT TO SWANLEY.

(Continued from p. 27.)

HARDY HERBACEOUS PLANTS, &c.

MANY who do not devote much consideration to the indoor class of plants often have a considerable interest in hardy plants. And hardy plants, now-a-days, are being so much improved by the application of their numerous devotees, that soon it seems as though we may devote our glass solely for high class fruit culture and grow our flowers entirely beneath the open field of the sky. The double violet-blue flowers of Geranium pratensis fl. pl. have often charmed the writer, and their power to do so is still a conscious presence. G. sylvatica fl. pl., with more purple in its hue, is another of the fine old things which should not be dropped. Achillea tomentosa, with its dwarf habit and silvery, dissected foliage, affording such splendid setting for the bright yellow umbels, is good. It is suitable when placed toward the edge of a bed or border. The splendid Helenium autumnale pumilum, one of the best yellow composite plants at present in bloom, was met with at Swanley. It affords a grand border herbaceous plant for cutting from, and the showy blooms are finely maintained on shining green stalks. The plant grows about 3½ ft. high. Glaucium luteum, or Horned Poppy, with glauceous foliage, yellow flowers, and, later on, long curiously curved seed pods, deserves a reference. The above also bears the name G. flavum, and is, like the other Glauciums, easily raised from seed. It is found native in Britain. The little prickly Acaena pulchella, though not so piquant as A. microphylla, is, like the latter, somewhat overlooked by the folks who like only those things that can be seen glaringly from one end of the garden to the other. Thalictrum minus adds variety, and Thymus comosus, with foliage like a dwarf Ground Ivy (Nepeta) and showered over with reddish flowers, is good in its way. The fragrant Calamintha grandiflora, with white and green leaves, is another plant that gardeners ought to plant by the square yard. Any old corner, among stones, equally with the finest piece of land, it thrives. Indeed, the less care it receives and the poorer the land so much brighter and more fragrant it becomes, as though it intended to force attraction. In Liatris spicata, the Blazing Star or Snakeroot, we *do* have a showy herbaceous perennial plant, one which everybody can at the same time admire, because of its richness and dignity, even though it only attains about 2 ft. The inflorescence assumes the form of a long spike, about 1 in. in diameter, and bears bright rose-purple composite flowers. It does well in a sheltered border or rockery pocket. The somewhat delicate and not at all conspicuous Lilium Krameri was growing wonderfully well in a corner, sheltered by the famous hedges (15 ft. high) in the Swanley nurseries. This Lilium and L. rubellum are scarcely fitted for the outdoor garden, so that in their case the protection of a temperate house is necessary. Where they are planted out of doors choose a sheltered position, and plant among such sheltering shrubs as Ghent and Mollis Azaleas. A new variety of Lathyrus platyphyllus (L. latifolius), named "Pink Beauty," was pointed out by Mr. Evans, the foreman in charge, and who knows his plants well. The variety is quite distinct and is very sweet, of deep pink and blush colours, with the usual size of truss, and is moderately free-flowering. The plant was growing procumbently in the shade of another sheltered corner, so that had it been erectly trained and in sunshine the colour of the trusses might have been deeper. It is certainly worthy of care.

Platycodon grandiflora alba is a fine plant, and takes the place of some of the Campanulas, which pass out of bloom when it expands. Oenothera speciosa, the grand, white flowered Evening Primrose, does well anywhere. Altstromeria aurantiaca in beds is a feature of all gardens where it becomes established. Spiraea palmata, rosy-flowered, and Phloxes, Pentstemons, Aconitums, Hollyhocks, Asters, Dahlias, and such other indispensable hardy plants are all grown liberally and well at Swanley.

FRUITS AND VEGETABLES.

Though many interesting and useful notes might be arraigned if space permitted, we must respect the Editor's injunction to limit our remarks. At our visit about six weeks ago (August 4th), the budding of young Apples, Roses, &c., was being actively accomplished. The fruit stock of all kinds on the good Eynsford soil (the larger nursery of Messrs. H. Cannell & Sons) was then vigorous and will furnish fine stuff.

Strawberries in small pots were strong and ready to go ahead whenever they are potted up for forcing, and others for planting out were equally sturdy. Standard Cherries and Currants have always been more or less a feature at Eynsford. This year this form of Cherry and Currant is bearing heavy crops.

Besides the fact that one can have dwarfer fruits, flowers, or vegetables beneath these standard trees, they are beautifully ornamental as seen at the present time. Energetic garden lovers can have horizontal cordons trained along the edge of the garden paths, they can have standard trees in the middle of their borders, and they can cover every space of wall, so that given care, and the proper varieties, surely a satisfactory yield of fruits could be had. This would certainly be "intense culture," but many of us might cultivate more carefully, for we have far too much land to play with. Raspberries have seldom been seen bearing better crops, and the same words apply to all forms and most varieties of Pears and Apples.

Vegetables seemed all of sound quality, and as the Messrs. Cannell have a yearly Silver-Gilt Knightian Medal to their credit and mean to add more, the inference is borne out that during growth special care is exercised with the vegetable crops. The extensive trials of culinary Peas, running to many acres over the broad southern slopes of a fertile piece of land, were ripening profuse crops of large and even pods. All the favourite garden varieties are included. Onions, too, have every care; Leeks are rigorously selected, and crops of Beet, Parsnips, Turnips and Beans had proved themselves most favourable. For the sake of the harvesting of the numerous brakes of seed crops now in the process of finishing off, we would desire a week or two of dry, breezy weather. The Swanley trip is always enjoyable, partly from the freshness of the rich Kent acres, the clearness of the air after being weeks in stuffy London, and largely because of the geniality of Mr. Henry Cannell, the hale and hearty vegetarian, and his capable sons, Herbert and Robert.

FRENCH BEANS AT CHRISTMAS.

IT must be owned that to provide even one decent dish of French Beans for a party at Christmas, one must have conveniences and plenty of means at command. A heated frame will not do; it must be a cosy pit, well adapted for the purpose. It is also a trying business in those districts subject to dense fogs. Still, some there are who, if they know they can be had, will have them. A sowing of Ne Plus Ultra should be made early in October, the seeds being set in the fruiting pots (10-in.) right away. Provide thorough drainage, and use a compost of old fibrous Chrysanthemum soil three parts, to one of good clean leaf-mould and a sufficiency of coarse sand. A dash of bone-meal may be added. When the plants are swelling the few pods they are likely to set, they may be helped by an occasional watering with water containing artificial manure dissolved in it. Pieces of Pea stakes should be used to support the plants. A place upon a shelf in a pit maintained at a temperature of 70° in the daytime, to 60° at night, is what may be allowed to them.—*D. K.*

The Beautiful Liriodendron tulipifera has been selling at a great rate to planters in America. It is rather difficult to transplant unless when small.

A BEAUTIFUL CONSERVATORY.

In the late part of autumn, when shivery winds "sough" through the naked trees and bend and batter the few remaining hardy flowers in the beds and open borders, in those days when an easy chair before a glowing fire represents the acme of bliss, there can yet be had in the domain of the garden sights of much cheerfulness and satisfying beauty. For autumn and early winter are the seasons when the bright and varied flowers of the Chrysanthemums most welcomely unfold. And we are forced, in this case, to adopt the best of all systems of staging or arranging plants, that is, the massing of one genus of plants by themselves. In the accompanying illustration (chosen from competitive photographs, and placed at our disposal by Mr. Owen Greening, hon. sec. of the "One and All" Flower Show, held in the middle of August), we see how well foliage plants can be effectively employed with flowering plants. The photograph represents one of the conservatories of Mrs. J. Fielden, Dolroyd Castle, Todmorden, Lancs., to whom Mr. W. Morgan is gardener. Of course, in smaller houses one could not employ such large plants, yet in many cases the verdure of the Tree Ferns and Palms could with advantage and propriety be interspersed or employed as a background along with the bright colours of flowering plants. The figure in the foreground shows Mr. Morgan.

The Conservatory, Dolroyd Castle, Todmorden, Lancs.

IXIAS IN THE OPEN AIR.

It is only the men of the southern counties who can with safety attempt to grow Ixias in the open air; at least any endeavours which may have been made in the north have not been chronicled to my knowledge. The plant is a native of the warmer regions of South Africa and grows in the sandy soil of the fertile stretches beside other genera of Cape bulbs. In Britain the warmest borders, with specially made beds of sandy and well drained loamy soil, have to be selected. Enrich such soil and work it deeply. The bulbs are planted in autumn when the other bulbs are being put in, placing them about 6 in. deep. A surface protection may be given, but this is not absolutely necessary. In the ordinary course of things they ought to provide a showy batch of bloom during June and July. Seen in good condition in masses, they are very beautiful. The following are a few varieties which were noted doing well in Messrs. Barr & Son's nursery at Long Ditton, Surrey: Ixia vulcan, reddish-crimson; I. viridiflora, blue; I. Wonder, rosy-pink, very pleasing; I. nitens, bright magenta, very free; I. Prince of Orange, brilliant orange-yellow; I. praestans, deep rosy-crimson; I. Conqueror, a handsome glowing yellow; and I. donatello, a bright cochineal coloured variety. Any of these do well in pots.—*D.*

PEAS, &c.

I am glad that Mr. Carmichael is cognizant of the excellence of Pea Gradus. Some years ago, when I gave it a trial as an early Pea, I wrote favourably of Gradus, and have sown it, along with others, for a first crop. It has each season held its own, but I am not quite prepared, like friend Carmichael, to assert that it is "the best Pea in cultivation." We know how varied are the properties of Peas (and most vegetables) when cultivated on different soils and under other circumstances. Light soil, damp ground, and positions low and high, make a wide difference in the productiveness and quality of vegetables. How easily I could at present prove my statement by a report of our Peas, Celery, Broccoli, Cabbages, and especially Onions. I grow some Peas of hardier constitution than Gradus, but put much value on it as an early and late one. It is an old practice to sow a good early Pea, say about the beginning or middle of July, to succeed the late varieties, such as Ne Plus Ultra, Veitch's Perfection, Downie's Amateur and others. Amateur is a capital late Pea. Some years ago I wrote about this Pea in The Gardening World, and have not since then seen such a crop of Peas anywhere than I witnessed in Downie's Beech-hill nurseries. This was in November. The crop was protected with nets and other material against frost. The plants were loaded with large, well-filled pods, as green as grass. Veitch's Autocrat and Chelsonian have done capitally on our heavy soil during the last season. There is another item which Mr. Carmichael refers to in his note, viz., the wide circulation of The Gardening World—and so it should, as it takes note of matters in districts wide apart, which interests every class of practical gardeners. What may be the correct thing in the south-east and west of England is not always what suits the midlands, north of England and Scotland.—*M. Temple, Carron, N.B.*

Cypripedium spectabile, also called the Mocassin Flower, is "Queen of the bog garden."

SEASONABLE HINTS.

Carnations.—Layers and cuttings of Malmaison Carnations should now be potted into small 5-in. pots; the 4½-in. size is best. Use a compost of good yellow loam if it can be obtained. It is now time to remove winter-flowering Carnations, which may be standing outside, into cold frames or greenhouses.

Primula floribunda.—The earliest batch of this pretty yellow-flowered species is just coming into bloom. If these early plants are in 3-in. pots (which is a common size), and are fairly well rooted, it will not retard them now if they receive a shift into 4½-in. or 5-in. pots in a compost of two parts each of loam and leaf mould, and one part sand. This shift will carry the plants through in good condition till the spring. This little Primula must be watered thoughtfully. The method of "slapping in" water over foliage and all, practised by so many unsympathetic cultivators, will prove disastrous with this subject. It will be quite happy on any greenhouse stage during winter. Other greenhouse Primulas, as P. obconica and P. sinensis, should be placed on greenhouse shelves.

Stocks of the Emperor or Intermediate sections, also of the Brompton varieties, may be sown in pans to be potted on later as pot plants for spring flowering. Winter them in a pit or cool house, keeping them in good light. Batches which were sown as recommended in an earlier issue may be planted in the open border so soon as convenient.

Violets in frames and pots should be kept free from leaves, and ought to have dead and dying leaves removed. Do not water much at any time.

Propagation of Bedding Plants should be brought to a finish. This is meant to include bedding Pelargoniums, Coleus, Pansies, Violas, Calceolarias, Nepeta, Mesembryanthemum, Heliotropium, and Ageratums. Salvias may be lifted and stored like Dahlias. Lobelia Queen Victoria should be boxed and kept on the dry side in a cool house. Lobelia of the edging type may be potted into 3-in. or 4-in. pots, placed on greenhouse shelves, and must be very carefully watered and otherwise attended, else it will damp off. Bedding Fuchsias may be potted or boxed. Verbenas and most of the annual bedding plants are best raised from seeds sown in March.

Dutch Bulbs should be potted up and placed in cold frames or out in the open, covered over with sifted ashes. Prepare potting soils ready for housing before bad weather comes upon you. Have a goodly supply of besoms to meet demands when the leaves fall.—*K.*

SOCIETIES.

NATIONAL DAHLIA.—*September 7th and 8th.*

THE annual display of cut Dahlia blooms, held at the Crystal Palace, under the auspices of the N.D.S., was again recorded on Friday and Saturday, the 7th and 8th insts. Blooms all round were of average merit, comparing favourably with any preceding year though their numbers were less numerous than at last year's show. Among the competitive exhibits there were some magnificently fine blooms rivalling, to say no more, the best of the competitive entries. The show also emphasised the fact of the ascendency of the Cactus and single Dahlias, and also marked the decay of the show and fancy varieties.

Among the newly certificated sorts there was not a single "show" or "fancy" representative. The Pompons, of course, hold their own. In all respects the show of 1900 will be pronounced satisfactory.

NURSERYMEN.

SHOW AND FANCY DAHLIAS, INTERMIXED.—In division A, for sixty blooms distinct, Mr. J. Walker, Thame, Oxon, came out first, with blooms up to the average, but nothing very sensational. The best were A. Rawling's, Mabel Stanton, Mrs. J. Downie, Royal Queen, and J. Bennett. Mr. S. Mortimer, Farnham, came second with a collection of smaller but better coloured blooms. Mrs. Saunders, Mrs. Gladstone, and Arthur Rawlings were especially fine. Mr. M. V. Seale, Vine Nursery, Sevenoaks, was a fair third. For the forty-eight blooms distinct, Mr. J. Walker, Thame, again led off, his blooms here being distinctly good; Mr. S. Mortimer was a remarkably close second, having very fine blooms indeed. Messrs. Keynes, Williams & Co., Salisbury, were third.

In division B, for thirty-six blooms distinct, Mr. G. Humphries, of Chippenham, beat Mr. W. Treseder, Cardiff, each showing even lots. The blooms were specially well formed, pure, and of good colour. The third prize went to Mr. H. Brownhill, Sale, Cheshire.

Messrs. J. Cray & Sons, of Frome, led off for twenty-four blooms distinct; Mr. G. Humphries, second; and Mr. W. Treseder, third.

Mr. J. R. Tranter, Henley-on-Thames, led in the class for twelve ditto; second, Messrs. J. Cheal & Sons, Crawley.

In class V. A, for eighteen fancy Dahlias, six vars, three blooms of each, Mr. G. Humphries was first with Walter Sprigs, Lottie Eckford, Mrs. J. Downie, Dorothy, Sunset, and Sailor Prince; Mr. J. Walker, Thame, was second.

CACTUS DAHLIAS.—In class VI, for eighteen distinct varieties in bunches of six blooms each, the first prize on this occasion was awarded to Messrs. J. Burrell & Co, Cambridge, who staged a singularly even and distinct collection. Of course there was not much to draw between any two of the exhibits, but the greater refinement was found in this. The varieties were Artus, Ignea, Mrs. J. J. Crowe, Elvira, Elsie, Norma, J. W. Wilkinson, Dinorah, Lyrie, Mrs. Peart, Rosine, Uncle Tom, Persa, Vesta, Grandee, Nevada, and Imperator.

Messrs. J. Cheal & Sons, Crawley, were second with much the same varieties; and Mr. J. Stredwick, St. Leonards-on-Sea, second.

Mr. S. Mortimer was first for twelve varieties ditto; second, Mr. H. Shoesmith, Woking; and third, Mr. M. V. Seale.

For a collection of sixty blooms, not more than two of a sort, Messrs. J. Burrell & Co., Cambridge, received the premier award, having very fine specimens of Cygnet, Westo, Bernice, Nevada, and others; Messrs. J. Cheal & Sons, Crawley, second, with blooms not quite matured; and third, Mr. J. Stredwick. The latter, however, stood first for twenty-four blooms distinct, beating Mr. W. Baxter, Woking, and Mr. G. Humphries.

For twelve varieties, six blooms each, to be arranged with any suitable foliage in vases, Mr. M. V. Seale was the proud winner, he having a table rich in colour and beautifully displayed; Messrs. Cheal & Sons came second, and Mr. W. Treseder, third. This was one of the finest classes in the show.

POMPON DAHLIAS.—Mr. C. Turner, Slough, was first for twenty-four bunches, ten blooms each, showing a bright collection. The varieties included were:—Galatea, Orpheus, Bacchus, Iris, Tommy Keith, Isabel, Whisper, Eurydice, Wara, Sybil, Fabio, Arthur West, Snowflake, Nora, Sunnybreak, Ganymede, Capt. Boyton, Imogene, Phoebe, Clarissa, &c.; Messrs. J. Cheal & Sons, Crawley, were second, and Mr. M. V. Seale, third.

SINGLE DAHLIAS.—Messrs. J. Cheal & Sons, Crawley, came out first for single Dahlias, in the class of twenty-four varieties, in bunches of ten blooms each. They had Columbine, Miss Roberts, Shamrock, Tommy, Demon, Miss Gordon, Violet Forbes, The Bride, Donna Casilda, Formosa. Mr. M. V. Seale was second; Mr. J. Walker was first for twelve varieties, ditto.

AMATEURS.

Show and fancy.—Mr. F. W. Fellowes, Hitchin, was first for twenty-four blooms, distinct, having amongst other good specimens the Broze Medal Bloom in this section, a fine form of Duchess of York. Mr. T. Antiss, Brills, came second, and third, Mr. R. Burgin, St. Neots.

Mr. E. West, Junr, Henley-on-Thames, led for the eighteen distinct; Mr. W. Wheeler, Henley-on-Thames, second. Mr. J. Thomson, Hollingwood, near Oldham, was first for twelve blooms, ditto, and for six of the same, Mr. R. Whittington, Cranleigh, Surrey, was first. Mr. Burgin led for twelve fancies, and Mr. Seamer, Peterboro', for the six.

CACTUS BLOOMS.—For twelve varieties in bunches of six blooms each, Mr. F. W. Sharp, Twyford, Berks, beat Mr. J. F. Hudson, Gunnersbury House, Acton, W. Mr. H. L. Brousson, Junr., Sidcup Place, Kent, was first for the nine varieties, and for the six, Mr. E. Jefferies, of Langley Burrell, was foremost, winning a Silver Gilt Medal. Mr. J. Bryant, of Salisbury, was first in the class for eighteen blooms, distinct.

POMPONS.—The chief prize winners in the classes for pompon Dahlias were Messrs. H. J. Stenning, 1, Cromwell Road, Tunbridge Wells; J. F. Hudson, Gunnersbury House; W. Mist, Ightham; W. C. Pagram, Weybridge; S. Cooper, Chippenham; W. Peters, St. Leonards.

SINGLE DAHLIAS.—The show of these was not numerous, though the exhibits were good.

For eighteen varieties of fancy single Dahlias, ten blooms each, Messrs. J. Cheal & Sons were first, winning a Silver Medal and money prize, and beating Mr. M. V. Seale, of Sevenoaks.

The first prizes in Classes XL. and XLI. for six blooms of one variety of light Dahlia in the one case (Mrs. Gladstone), and dark sort (Prince of Denmark) in the other, went to Mr. J. Walker, Thame. He also won for the best yellow variety with Wm. Powell.

Mr. H. E. Bouch, The Limes, Keston, won in the decorative class for a vase of twelve Dahlia blooms, effectively arranged.

Mr. R. Edwards, Beechy Lees, Sevenoaks, being first for an epergyne of Dahlia blooms.

MISCELLANEOUS EXHIBITS.

Messrs. T. Rivers & Son, Sawbridgeworth, staged Plum trees in pots. These rivalled in fruitfulness and high quality the Peach trees shown by them which lately caused a furor in inner circles. They were mostly of dwarf bush form, and were certainly practical illustrations that the treatment advocated in Mr. Somers Rivers' paper recently delivered in the Drill Hall, was the correct one. Rivers' Grand Duke, Rivers' Golden Transparent, Coe's Golden Drop, Rivers' Seedling No. 120, Jefferson, Pond's Seedling, McLauchlin's Gage, Admiral Plum and Reine Victoria were the varieties staged.

Messrs. W. Young & Co., The Nurseries, Stevenage, Herts, exhibited hardy cut blooms, the freshest lot the firm has set up this season. Phloxes, Sweet Peas and Dahlias were chiefly in evidence. Tritomas, Gladioli, Helianthus Miss Mellish, Montbretia rosea, Lilium auratum macranthum, were other of the subjects well shown. The fine Pentstemon barbatus, Gaura Lelndheimeri and Lilium speciosum, were also meritorious.

Messrs. Canneli & Sons, Swanley, Kent, filled a table, 54 ft. long by 3½ ft. broad, entirely with cactus Dahlias in bunches of six blooms each. The exhibit formed a most imposing display and was admirably set up, a fact always prominent in Messrs. Canneli's exhibits. Among others of greater merit were Beatrice, heliotrope-mauve; Starfish, scarlet; Radience, orange-red; The Queen and Miss Webster, two pure white; Clio, maroon: Erasmus, blood-red-crimson; The Clown, orange-crimson with white tips; and Maid of Kent, a conspicuous and and lovely variety with white tipped petals and crimson base.

Mr. A. Williams, 4A, Oxford Road, Ealing, showed his graceful "Table Decorations" for holding flowers. These are worked in light silver and brass-like metals, in various forms and all elegant.

Messrs. Frank Cant & Co., Braiswick Nursery, Colchester, were as strong in Roses as in the hey-day of summer. They set up a fine collection of garden and decorative Roses on this occasion. Chief among these were Irene Watts, a soft blush bedder; Papa Gontier, L'Ideal, coppery-red; Queen Mab, orange; Mdme. A. Chatenay, pink; White Maman Cochet, Tom Wood, crimson, and such others, all in the finest condition.

Mr. J. T. West, Tower Hill, Brentwood, Essex, set up eight dozen of the best Cactus Dahlias in stands, arranged with their own foliage and that of Maidenhair Fern. The blooms were elegant, clean, and good, affording plenty of variation for a selection.

Messrs. Barr & Sons, King Street, Covent Garden, arranged a hardy cut flower exhibit. Cactus Dahlias were shown in some quantity in the centre of the table, a number of the beautiful hybrid Water Lilies, which the Messrs. Barr have a full and fine collection of, being set up in front of the Dahlia display. Phloxes in all the finer and distinct varieties were liberally shown, as were specimens of all the hardy flowering bulbous plants at present in bloom. Japanese Anemones, Montbretias, Gladioli, Liliums, and Pentstemons were comprised in this seasonable collection

Messrs. John Laing & Sons, Forest Hill, S.E., had two separate collections of groups. The first under notice comprised hardy herbaceous cut flowers and pot specimens of Campanula isophylla alba. Cactus Dahlias were in profusion, and such fine autumn flowers as Asters, Soladigos, Heleniums, Tritomas, Eryngiums, &c., were also staged. Of other pot plants attention might be called to Dracaena Eckhautei (figured in THE GARDENING WORLD, June 30th, p. 697, vol. xvi), D. lentignosa, and specimens of Chrysanthemums. They also exhibited two dozen blooms of Mrs. John Laing, H. P. Rose, and a stand of decorative Roses, together with a collection of variegated and golden-leaved cut shrub shoots. The other large group was arranged at the north end of the transept, and consisted of well fruited Peach and Nectarines in pots, with Chrysanthemums and foliage plants, Crataegus pyracantha, &c., in front, forming a handsome and refreshing group. They had a fine representation of their hybrid Streptocarpi.

Messrs. John Peed & Son, Roupell Park Nurseries, Norwood Road, S.E., had a brilliant and creditable display of double and single seedling tuberous Begonias. They were the more remarkable, having been picked from the open ground, being bright, clean, and of good form and depth of substance.

Messrs. Hobbies, Ltd. (Mr. John Green), Dereham, had a magnificent and impressive display of Cactus Dahlias, filling a space of tabling over 60 ft. in length, raised up in terraced fashion with convex groups of special varieties set up at intervals all along the stage.

A special feature of these minor groups was the finished style of arrangement, the large blooms being given plenty of space, well set out, and having an under screen of Wellingtonia gigantea branchlets which proved very effective.

Among the best of the newer varieties was Lucius, The Clown, Uncle Tom, almost black; Emperor, Radiance, Sundew, Mrs. Carter Pegg, and Zephyr.

Messrs. B. S. Williams & Son, Upper Holloway, London, showed a new decorative Dahlia named Snowflake, a white variety.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—*Sept. 12th and 13th.*

By Telegraph.

THIS old established society continues to make headway in keeping ahead of the times as indicated by their autumn show held on the 12th and 13th inst. Prizes were offered in 261 classes for various exhibits by gardeners, amateurs, and nurserymen, and the number of entries is a guarantee of the steady progress made as well as the innovations to meet the requirements of the times. On this occasion there were 2,161 entries as compared with 2,068 last year, and the competition was so great in many of the

classes as to require no small amount of care and close discrimination on the part of the judges in making the awards. Grapes, Peaches, Nectarines, Apricots, Plums, Apples, and Pears were all well shown in their classes. Of collections of fruit and Grapes there were 185 entries as compared with 160 last year. Small fruits numbered 167 entries as compared with 151. Apples had 441 entries, a slight falling off, as there were 476 last year. Pears mounted up from 82 to 136 entries; small hardy fruits rose from 37 to 76. Of plants there were only 149 entries, there being 212 last year. Cut flowers rose from 362 to 434 on this occasion. Vegetables remained nearly stationary, there being 378 entries as compared with 382 last year.

Amateur exhibitors showed a slight falling of in point of numbers on this occasion, as only 83 of them entered, whereas there were 123 last year. In the case of nurserymen the reverse was the case; for whereas there were 83 last year, the number rose to 112 on this occasion. All these figures show how well the various classes are being maintained or even increased.

Some time ago statements were made that Black Hamburgh Grapes were not being so well grown as they have been in previous years. Bearing that in mind the society offered a medal, in order to encourage the better cultivation of this fine old Grape to any exhibitor who should gain 7½ points out of a maximum of 9 points for any bunch. The effect of this was shown in the fact that there were 18 entries for two bunches of Black Hamburgh as compared with 10 last year. For one bunch there were 19 entries as compared with 13 last year. There was also a great increase in the exhibits of Roses as compared with former years. There were classes for Dahlias which brought 20, 28, and 33 entries respectively. Competition was also very strong in the vegetable classes.

Mr. P. Murray Thompson, the secretary, is as enthusiastic as ever, and to his exertions no small part of the success of the show is due. Exhibitors speak of the courtesy they receive at the hands of the secretary, and that augurs well for the success of any show.

Competitive Exhibits.

For six Begonias (single), Mr. W. Galloway, gardener to J. H. Ford, Esq., Liberton, is first with six good specimens. Mr. W. Aitken is second for three ditto. Mr. W. Galloway is again to the front, and Mr. Aitken takes second place for one Begonia (double). Mr. Galloway also takes first place with a very good white, and Mr. Aitken is second with a fine yellow. For three Begonias (double), first, Mr. Galloway, and second, Mr. Aitken. For two specimen Fuchsias, Mr. W. Anderson, gardener to D. A. Davidson, Esq., Clinton Road, Edinburgh, is first with two good plants, and Mr. W. Aitken, Balerno, is second. For one Fuchsia, Mr. W. Aitken was first, and for two Pelargoniums, Mr. George McKenna is first (no second entered for last two). For three variegated Pelargoniums, Mr. W. Anderson takes the lead; while Mr. T. Gibb, Kilgraston Road, comes in second. Mr. J. Cowan (gardener to W. Moir Pryce, Esq.), is first for three bronze Pelargoniums; and Mr. W. Anderson, Clinton Road, wins second. For free pots, Liliums, first goes to Mr. J. Bald, Canaan House; and for two pots of the same, Mr. J. Meiklem, Thorn House, Johnstone, is first; with Mr. J. Bald, second. For one pot, Vallota purpurea, Mr. T. Gibb beats Mr. W. Gourlay, who is second. For one Eucharis amazonica, Mr. J. Mattison, Currie, is first; and for one Hydrangea, Mr. J. McNeil, Peebles, has leading honours, and Mr. George McKinna, Ratho, follows second. For two pots of Petunias, Mr. Geo. McKinna is first with two very good plants.

The entry for two Balsams gets Mr. W. Craig first place, and for two Cockscombs, Mr. D. Craig and Mr. J. Hunter take first and second places respectively, having plants with good heads.

For six foliage plants, Mr. T. Lunt, gardener to Captain Stirling Keir, Dunblane, is first with noble specimens; his Heliconia, Croton, Anthurium crystallinum, and Campylobotrys, being very fine. For the same entry, Mr. G. McKenna is second for six foliage plants, in pots not to exceed 9 ins. in diameter; Mr. Lunt is again first with fine plants, and Mr. McIntyre, The Glen, takes second place also with good specimens; whilst Mr. George McKenna is third.

For two Crotons, Mr. Lunt is first with magnificent specimens; and for two Dracaenas, Mr. A. Knight, gardener to P. Wordies, Esq., Lenzie, is first; and Mr. Lunt here takes second place, with Mr. McIntyre, third.

For two Coleus, the first place is given to Mr. D. Matheson, and the second to Mr. G. Wood, Oswald House.

For four exotic Ferns, Mr. Geo. Wood is first, with large and splendid examples of cultural skill, and Mr. J. H. Pearson, Murrayfield, comes second with most creditable samples. Mr. Wood is the only exhibitor for the circular table of plants, but his exhibit is most commendable, both in regard to plants and arrangement.

For the table of competitive herbaceous cut flowers, Messrs. James Cocker & Sons, Aberdeen, are awarded first honours, their collection being a most magnificent display. Scabiosa caucasica is very fine; Chrysanthemums are also good, especially the single whites. Parker's variety of Lobelia cardinalis is a grand thing; Veronica virginica alba, is very graceful; and Monthretia crocosmiaeflora is also good. M. Fiery Star and a fine lot of Liliums, Gladioli, Carnations, &c., make a grand show. Messrs. Harkness & Sons, Bedale, Yorks., are given the second place, and their collection is also most meritorious; Lilium longiflorum is splendid; Gladiolus Gandavensis Enchantress is equally grand; Phlox eucarmonde is a most beautiful mauve-coloured gem of large size. Some fine Helianthus, Pyrethrums, Asters, Gaillardias, Delphiniums, Chrysanthemums, &c., complete a most attractive table. For the same entry, Messrs. Kerr Bros., Dumfries, are awarded third place. Of special merit in this stand is Helianthus Miss Mellish, grand; and Soleil d'Or is very fine also. Rudbeckia purpurea, Lilium longiflorum, Crocosmiae aurea, are all very pretty; and Coreopsis grandiflorum is a very graceful and useful yellow border subject. Helenium grandicephalum striatum is also very showy; these, with many other good things, call for special attention on the part of the visitors to the show.

Fruit.

Mr. F. N. Barnes, gardener to His Grace the Duke of Westminster, Eaton Hall, Chester, was the only exhibitor of a table of dessert fruit, and he was worthily awarded the first prize. His Grapes, Peaches, Pears, Apples, Nectarines and Plums were very fine. The vases of flowers were very graceful and beautiful. Mr. F. N. Barnes also took the premier honours for a collection of ten dishes of fruit, with fine Grapes, Melons, Peaches, Pears, Apples, &c. Mr. W. Smith, gardener to the Earl of Stair, Oxenford Castle, was second with remarkably fine Peaches, Nectarines and Apricots. Mr. D. Murray, gardener to the Marquis of Allsa, Culyean Castle, was third. Mr. J. Day, gardener to the Earl of Galloway, Garlieston, carried off the first award for twelve dishes of hardy fruit (confined to Scotland). His Apples, Pears, Plums and Cherries were good. Mr. W. Williamson, gardener to J. Home Rigg, Esq., Tarvit, Fife, took the second place, with good samples of culture. Mr. A. Caldwell, Jun., Mill Hill, Polmont, was third.

For twelve dishes of fruit grown in an orchard house, Mr. J. Beisant, gardener to Mrs. Armitstead, Castle Hunily, Longforgan, took the lead, his Apples, Pears, and Peaches were grand. Mr. David Gibson, gardener to J. B. Johnstone, Esq., Kingston-on-Thames, was originally placed first, but there was some dispute about the Cherries, and he was placed second. Mr. D. Kidd, gardener to Lord Elphinston, Carherry Tower, Musselburgh, was third. Mr. T. Lunt, gardener to Capt. Stirling, of Keir, took the lead for six bunches of Grapes, which were grandly finished. The varieties were:—Mrs. Pince, Madresfield Court, Muscat of Alexandria, and Alnwick Seedling. Messrs. D. and W. Buchanan, Forth Vineyards, Kippen, were a grand second, and Mr. J. Beisant was a good third.

Vegetables.

Mr. James Gibson, gardener to R. W. Hudson, Esq., Danesfield, Great Marlow, was worthily awarded the leading prize for a collection of twelve kinds of vegetables, for nothing finer of their kind has ever been shown; the Onions, Parsnips, Carrots, Cauliflowers, Celery, Leeks, Tomatos, Beet, Peas, climbing French Beans and Potatos, were magnificent. Mr. J. Waldie, gardener to W. H. Dobie, Esq., Dollar, was a good second; and Mr. R. T. Rae, gardener to Major Scott-Kerr, Roxburgh, was third. Mr. J. Dymock, gardener to B. Wentworth-Vernon, Esq., Towcester, Northampton, took the lead for a collection of twelve dishes of Apples. He also had eleven first prizes and nine seconds for single dishes of fruit.

Miscellaneous Exhibits.—Mr. John Forbes, Hawick, Scotland, put up a large exhibit of hardy herbaceous plants and various autumn flowers grown in the open. The whole were arranged in tiers, although having the appearance of a sloping bank. He had fine bunches of Aconitum pyramidalis, Helianthus rigidus Diana, Bupthalmum cordifolium, Anemone japonica, A. j. elegans, Verbascum Chaixii, Michaelmas Daises, Montbretias, Gladioli, Phloxes, Pentstemons, Chrysanthemum maximum Mrs. Head, Helenium striatum, and many other useful and showy subjects in the freshest possible condition. He also had a collection of Pentstemons at one end to match the Phloxes at the other. Along the front were collections of Carnations, Cactus and pompon Dahlias. Amongst the latter, Cornucopia, Firebrand, Mayor Tuppeny, Radiance, Starfish, Standard Bearer, and others, were very fine. The Carnations were also numerous and beautifully fresh. The new Begonia Caledonia was represented by a small group of flowering plants.

Mr. M. Campbell, High Blantyre, Lanark, set up a similarly arranged collection of hardy herbaceous plants. His Sunflowers, Statices, Phloxes, Michaelmas Daisies, Gladioli, Hollyhocks, Gaillardias and Lilies being very prominent. Particularly fine was Veronica longifolia subsessilis. He also had bunches of early flowering Chrysanthemums, pompon and Cactus Dahlias in sprays. He had Carnations in vases and show and Cactus Dahlias on stands. Altogether, he had a good lot of useful stuff.

Mr. Charles Irvine, Jedburgh, N.B., staged a bank of Phloxes and Pentstemons, with a quantity of Montbretias, Sunflowers, Lilies and perennial Asters arranged in the space between. The Phloxes and Pentstemons were highly effective in the mass.

Messrs. Alex. Lister & Son, Rothesay, N.B., also staged a collection of hardy flowers, including Gladioli, Heleniums, Sunflowers, perennial Asters, Chrysanthemums, Eryngiums, &c. In front they had several stands of show and Cactus Dahlias, while in the middle were dishes and bunches of Lister's Prolific Tomato.

Mr. M. Cuthbertson, Public Park Nursery, Rothesay, had also a steeply sloping bank of hardy herbaceous plants. Amongst them he had several new Phloxes, including Rossignol and Pharon, both rosy-purple varieties; and Pyramid, a very good white. He had also fine bunches of Galtonia candicans, Sunflowers, Tiger Lilies, Gladioli, early flowering Chrysanthemums and other hardy subjects. His Cactus and pompon Dahlias were also fine.

Messrs. Jones & Sons, of Shrewsbury, set up a table of Sweet Peas in fresh and beautiful condition, including all the leading and meritorious varieties. They were in large bunches and set up in glass vases with their own foliage.

Messrs. R. B. Laird & Sons, Pinkhill Nursery, Murrayfield, Midlothian, exhibited a large circular group of stove and greenhouse plants, with a grotto in the centre. Around this were tall Palms, Bamboos, Crotons, Dracaenas, Alocasias, Caladiums, Begonias, and other foliage plants. For flowering plants they had Lilies, Statices, Ixoras, Coleus, and others. The group was different from anything we have seen them set up before.

Messrs. Cunningham, Fraser & Co. Comely Bank Nurseries, Edinburgh, had a massive circular group of hardy trees and shrubs and ornamental plants, including Hollies, Bamboos, Dracaenas, Conifers, and the beautiful Clethra paniculata. Around the front was a line of Calluna vulgaris villosa and C. v. Alportii in pots, the one alternating with the other. They also had Clematis Duchess of Albany, and others, all hardy.

Messrs. R. B. Laird & Sons also put up a fine group of hardy Conifers, including neat specimens of Retinosporas, Cupressus, Abies, Thujopsis, Taxus, and other things in fine varieties. Close by they had a table of Dahlias, chiefly pompons and Cactus varieties. Many of the former were elevated on ornamental bamboo and other stands.

The Ichthemic Guana Co., Ipswich, had a large stand under the gallery on the north side. The draped staging was decorated with Lilies, Gladioli, early flowering Chrysanthemums, Roses, Hydrangeas

and other subjects, between which their various specialities were arranged.

Messrs. Chas. Buick & Sons, Alloa, N.B., had a large exhibit of ornamental and useful garden pottery.

The Chemical Union Ltd, Ipswich, had their stand decorated with Palms, Dracaenas, Araucarias, Negundo aceroides variegatum, and other subjects. Canary Guano and other special fertilisers were arranged between the plants at the western end of the market.

Messrs. Cunningham, Fraser & Co., set up a fine bank of hardy herbaceous plants, including Sunflowers, Aralia cashmerica, Origanum Tourneforti, Leucojium autumnalis, Scabiosas, Chrysanthemums, Gladioli, Gaillardias, Montbretias, Lobelias, and other showy hardy herbaceous plants, in fine form.

Mr. G. S. Deverill, Banbury, Oxfordshire, also set up a massive bank of hardy herbaceous flowers, prominent amongst which were Sunflowers, Rudbeckias, Montbretias, Gladioli, perennial Asters, Phloxes, Galtonia candicans, Aconitum napellus, Dracocephalum speciosum, and others.

Messrs. Harkness & Sons, Bedale, Yorks., staged a showy group of hardy herbaceous plants, at the same end of the Market. Their single and double Pyrethrums, Phloxes, Tiger Lilies, Sunflowers, Montbretias, Gaillardias, Delphiniums, and others were very fine.

Messrs. Laing & Mather, Kelso-on-Tweed, exhibited bunches of the Japanese Wineberry (Rubus phoenicolasius) in tall terra-cotta vases. They also had bunches of the Parsley-leaved Bramble. On another table they staged a collection of Carnations.

In large bunches set up in wide-mouthed glass vases, bold and attractive, were Raby Castle, Mrs. Muir, Dundas, Scarlet, Primrose League, Duchess of Westminster, Tom Allan, Duchess of Fife, and others; they also staged Cactus Dahlias and a few vases of Sweet Peas in fresh condition.

Mr. Henry Eckford, Wem, Shropshire, set up a table of Sweet Peas in glass vases, in his usual excellent style, not crowded, but sufficiently far apart to show the beauty and individuality of each variety. Very handsome and attractive were Lady Grisel Hamilton, Countess of Latham, Lady Mary Currie, Mars, Duchess of Westminster, Eliza Eckford, Little Dorrit, Black Knight, Salopian, Lovely, Prince of Wales, Queen Victoria, Gorgeous, Mrs. Eckford, and others, all sparklingly sweet.

Mr. Robert Bolton, Warton, Carnforth, also had a table of Sweet Peas staged in tall and graceful glass vases; amongst his many varieties, Salopian, Lady Nina, Balfour, Prince Edward of York, Bolton Pink (new), Lady Penzance, Lady Grisel Hamilton, Emily Eckford, and others.

Mr. Thos. M. Whitehead, Selkirk, staged a collection of hardy herbaceous plants, such as Michaelmas Daisies, Tiger Lilies, Eryngiums, Sunflowers, and Carnations grown in the open border; his cut buds of Carnations were remarkable for their size and freshness at this period of the year. He showed many of the leading varieties, and some seedlings.

Mr. James Rowatt, Glassford, near Strathaven, staged a fine collection of Pentstemons and flowers of quilled Asters on stands.

Messrs. Brown Bros., Uddingston, Edinburgh, staged hardy herbaceous plants in season, as well as a collection of early flowering Chrysanthemums set up on velvet covered stands.

Mr. John Phillips, Granton Road Nurseries, Edinburgh, exhibited a beautiful group of Araucaria imbricata, brightened with early flowering Chrysanthemums.

Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, exhibited a large collection of early flowering and pompon Chrysanthemums. Among the single blooms very fine were Market White, Victor, New Mytchett Glory, Emily Silsbury, Miss Ruth Williams, Mdme. Desgranges, and others.

Messrs. D. & W. Buchanan, Forth Vineyards, Kippen, by Stirling, had a fine exhibit of Alicante, Cooper's Black, Diamond Jubilee, Alnwick Seedling and other Grapes. They had also a basket of a handsome new black variety named Forth Vineyard with berries of great size.

Mr. John Downie, 144, Princes Street, Edinburgh, exhibited a grand group of stove and greenhouse plants, including finely-coloured Crotons, Dracaenas, Alocasias, and other subjects. The centre piece consisted of a framework 7 ft. to 8 ft. high, covered with virgin cork, and dressed with Lilies, Cannas, Campanula Mayl, and other subjects. He also had a very interesting collection of fruit trees in pots and tubs, chiefly Apples, Crab Apples, and Cherries. He also had dishes of fruit between the trees.

Messrs. Sutton & Sons, Reading, had a most unique exhibit in the form of a low pyramid, the four corners of which were furnished with bands of China Asters. Between these were panels of Streptocarpus and Saintpaulia, with a splendid array of vegetables, details of which will appear next week. The exhibit attracted a great amount of attention.

Messrs. John Ford & Co., Her Majesty's Glass Manufacturers and Potters, 39, Princes Street, Edinburgh, set up a dinner table arranged for twelve persons. The glass service cost £35, and was made at the royal Holyrood glass works. The dinner service was in the finest English porcelain. The decorations were done with Shirley Poppies and Grasses.

Messrs. Dobbie & Co., Rothesay, also had a very unique exhibit, arranged on three frameworks covered with virgin cork, and filled with hardy herbaceous plants and early flowering Chrysanthemums in fresh condition. Lilium tigrinum and L. Henryi were fine; Cactus Dahlias in many fine varieties were arranged on velvet covered stands as well as on the upright framework, and were most effective.

Messrs. James Cocker & Sons, Aberdeen, had a bold and sloping bank of hardy herbaceous plants, including Lilies, Montbretias, Gladioli, Phloxes, Galtonia candicans, and others.

Messrs. R. Wallace & Co., Colchester, staged a fine exhibit of hardy herbaceous plants, including Lilium longiflorum giganteum, Crinum Powelli, C. P. album, Lilium tigrinum splendens, L. auratum platyphyllum, A. maximowiczi, and various others.

Messrs. James Grieve & Sons, Redbraes Nursery, Edinburgh, exhibited a table of very useful decorative plants, such as Kentias and other Palms, Asplenium pumilum laxum, Pteris Wimsettia, P. cretica cristata, P. c. albo-lineata, Phlebodium aureum, Dracaena terminalis, Ficus elastica and others.

Messrs. T. Methven & Sons, Princes Street, Edinburgh, had a large circular group of Negundo aceroides variegatum, a tall Roupala and various Palms brightened with Lilies and other flowers.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. Adam V. Main, Morton Hall Gardens, N.B., for his article on "The Bulb Season," p. 21. We should like that competitors would count up the words in their article before sending it in in order to keep the same within the limit of 250 words.

QUESTIONS AND ANSWERS.

Hardiness of Montbretias.—*A. J. B.*: If your soil is of a light and sandy nature, your Montbretias are more likely to suffer from drought in summer than cold in winter. In the latter case, however, you can make sure by laying some bracken or similarly light material over the buds in winter, taking care to remove it in spring before the leaves begin to push through the ground; because any material that would blanch or whiten the leaves as they come up would materially harm the plants by spoiling the foliage, which should be fully exposed to light and air as it develops. Provided always the drainage is good, a plentiful supply of moisture in summer would greatly benefit the plants. For that reason, a wet summer is more advantageous to them than a droughty one; because, in the latter case, the leaves begin to die back at the tips. Some farmyard manure, well rotted, or leaf mould put well down below the bulbs would help them in dry seasons.

Names of Plants.—*A. W.*: 1, Lythrum Salicaria; 2, Rudbeckia digitata; 3, Heriacum aurantiacum; 4, Spiraea bella; 5, Euphorbia Cyparissias; 6, Thuyopsis dolobrata; 7, Pinus Strobus. *Y. Z.*: 1, Pimpinella magna the Greater Pimpinal; 2, Viola canina var., the Dog Violet; 3, Linaria vulgaris, the Toadflax.

Names of Fruits.—Plums: 1, Victoria; 2, Victoria; 3, Prince of Wales. Apples: 1, Lord Suffield, late specimen; 2, Lord Suffield, late specimen; 3, not recognised; 4, Grange's Pearmain.

Doubtful Mushroom.—*R. A., Pitlochry*: Your specimen was a species of Agaricus, but not the true edible Mushroom. It was too much decayed (it swarmed with larvae) for more particular identification. Refrain from using any others like it, until you are further informed.

Communications Received.—T. S. Dymond and J. H. Nicholas.—D. McGregor.—B. W. Horne.—E. Smith.—J. R.—Elizabeth Gower.—R. Dean.—J. Mayne.

TRADE CATALOGUES RECEIVED.

DICKSON'S, Waterloo Place, Edinburgh.—Flower Roots.

JOHN RUSSELL, Richmond Nurseries, Kew Road, Richmond.—Dutch and other Flowering Bulbs.

AMOS PERRY, Hardy Plant Farm, Winchmore Hill, London, N.—Bulbs and Tubers; Border and Rock Plants.

ROBERT VEITCH & SON, 54, High Street, Exeter.—Dutch Bulbs; Hardy Trees, Shrubs and Fruit Trees.

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SHOW FIXTURES FOR 1900.

SEPTEMBER.

27.—R.H.S. Fruit Show (3 days).

OCTOBER.

9.—National Chrysanthemum Society (3 days).

NOVEMBER.

6.—National Chrysanthemum Society (3 days).

7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).

DECEMBER.

4.—National Chrysanthemum Society (3 days).

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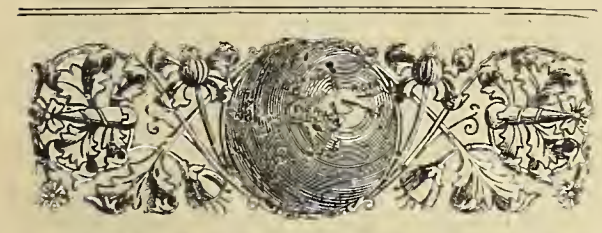

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, SEPTEMBER 22nd, 1900.

NEXT WEEK'S ENGAGEMENTS.

THURSDAY, September 27th.—Royal Horticultural Society's Show of British-grown fruit, at the Crystal Palace (3 days).

THE FAVOURITE FLOWERS IN A SURREY GARDEN.—In our last week's issue we dealt chiefly with hardy flowers or those that were grown in the open during summer at Burford, Dorking, the beautiful seat of Sir Trevor Lawrence, Bart.; but on this occasion we propose reviewing a few of the favourites grown under glass, and mostly in flower on the occasion of our visit. Lapageria rosea and L. r. alba seem to be always flowering on the roof. A fine strain of Celosia pyramidalis in scarlet, crimson and purple colours was flowering on the stages, and was notable for the dense and large plumes terminating the main stem. Gloxinia Chiswick Red was flowering for the second time this season in the cool and freely ventilated conservatory, without having been shaded in any way. In another cool house were some grand varieties of Cannas, including Comte de Bouchand, richly ornamented with scarlet blotches on yellow; Armenia, red, margined yellow; Partenope, rich orange and like the last belonging to the same type as Italia; Barbercan, crimson red; and Mdme. Louis Druz, dwarf, crimson-red. All these are modern varieties with large flowers. Eucharis burfordiense, raised here, is seldom without flowers, which are highly ornamental and useful for cut flowers. The propagating pit contained an assemblage of various subjects, including Caladiums, Acalypha sanderiana, A. godseffiana, Gesnera fulgens in several beautiful varieties, Pavonia intermedia kermesina, Tillandsia Lindeni, Lagerstroemia Flosreginae, and well grown plants of Adiantum farleyense.

Havinggone through the general collection of favourite flowers we were placed in the hands of Mr. White, the Orchid grower, to inspect this highly specialised class of plants, some of which are in bloom at every season, thus keeping up perennial interest. In the Cattleya house Dendrobium Dearei had been flowering for six weeks. Cattleyas are grown here in great variety, and amongst them a plant of Cattleya bowringiana carried nine sheaths, and C. Mossiae Wageneri, five sheaths. A shelf is filled with specialities in the way of hybrid Cattleyas. Laeliocattleyas are great favourites, some or other of which are almost always in flower. Fine plants are Lc. Sir Henry Greenwood, Lc. intermedio-flava, and Lc. Duke of York, the two latter being in bloom. The rare and striking Eulophiella peetersiana was making fine growth in a long basket. The Vandas are numerous, tall and healthy. The hybrid V. Miss Joaquim stands 8 ft. to 10 ft. high. Three spikes on two plants carried twenty-one, fourteen and twelve blooms respectively. It was a hybrid between V. teres and V. hookeriana. Cypripedium Morganiae burfordiense has much broader and more finely spotted petals than the type. Odontoglossum crispum and others in one of the cool houses has made fine growth with healthy foliage of a dark green colour. Splendid growth has also been made by O. Edwardi, O. aspidhorinum, O. mulus and O. coronarium. There is evidence that Odontoglossums may be grown for many years without deteriorating, for several of O. crispum have been here since 1879 and 1880, and O. mulus since the former year. A large panful of Sophronitis grandiflora is strong and healthy; while the bronzy-yellow flowered S. rossiteriana is starting into growth nicely.

The intermediate house had interesting lessons to offer, and contained a wonderful variety of flowers for the end of August. Prominent amongst them were Cypripedium Charlesworthii; a variety of C. purpuratum having a nearly black lip; Brassocattleya lindleyana, supposed to be a natural hybrid; fine plants of the delicately coloured Sobralia lucasiana; the creamy-white S. leucoxantha, with a lemon blotch on the lip; and S. xantholeuca, with wholly yellow flowers, and which have kept up a succession since May. All of these Sobralias are strikingly handsome when in bloom. Many cultivators find Vanda caerulea a troublesome subject, but Mr. White finds that suspending them on rafts makes a difference upon their health in a single year, and the roots and foliage in a few years acquire a wonderful development. Plants stood on the stages soon become spotted, but the change of position closer to the glass with an abundance of air soon shows the treatment that suits their natural requirements. In another part of the same large house Platyclinis filifera carried over 100 of its slender spikes as if the plant were hung with golden filigree. It is kept in an intermediate temperature all the year, and had been flowering for a month previously. The darkest blue variety of Dendrobium Victoriae Reginae we have seen has been flowering on a raft since the end of May. As many as fifty flowers have been open at one time. Flowering in the same house were uch interesting things as Laelia longipes, Epidendrum elegantulum, Miltonia vexillaria Leopoldi, with its triangular, maroon-crimson disc; a fine dark M. moreliana and a grand plant of Epiphronitis Veitchi, about a foot in diameter and all one piece. Epidendrum Endressii, about 18 in. high, has also made remarkable growth for this species, usually considered difficult to grow successfully. Epidendrum linkianum, E. equitans, and Eria velutina may be regarded as miniature pets. The same may be said of Pholidota imbricata; but Coelogyne Veitchi is a graceful plant with long pendent racemes of white flowers and yellow bracts.

Cattleya gigas made a fine display in the small Cattleya house recently; but on the occasion of our visit Epidendrum alatum, Cattleya gaskelliana, and C. g. albens odorata were still in bloom. The flowers of the latter were white, with the exception of a faint blush on the centre of the lip, and agreeably scented. A bold flower was C. speciosissima, with pink sepals and petals and marbled with purple on a paler ground. The sepals and petals of Laelia amanda were pale purple, with a tubular lip of a darker hue. Dendrobium album, as usually seen, is not very ornamental, but here the white flowers were plentiful and well set off by the evergreen foliage. Both Cypripedium Stonei and C. S. platytaenium were flowering finely in the East Indian house. The broad petals of the latter, heavily blotched with brownish purple on the upper

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three-fourths of their length, are handsome and distinct. The variety is still very rare and valuable, practically invaluable to connoisseurs, because unobtainable. Bulbophyllum umbellatum is a gem, with its crimson and violet spotted flowers arranged in a semi-circle on the stalk. There is a fine collection of Phalaenopses in the same house, suspended in baskets close to the glass. There is not a bad plant in the collection, the leaves ranging from 12 in. to 16 in. in length, and 4 in. to 5 in. in width. A rival to Bulbophyllum barbigerum is B. exaltatum, with longer spikes and smaller flowers. Cirrhopetalum vaginatum has long tails after the style of C. Medusae. The black movable tongue of Trias disciflorum is also a very curious thing in its way. A plant of Vanda sanderiana, which has been on a raft for the last four years, was showing its flower spikes. Very lovely were the various species of Anoectochilus under bell glasses. A. concinnum had terra-cotta lines on a black velvety ground, while the singularly arranged lines of A. petola were like gold thread. A. Rollisoni and A. xanthophyllus have also been here for the last eight or nine years, so that their cultivation must be well understood by the grower. The other side of the house was mostly occupied by Dendrobiums making splendid growth. Eulophia guinensis had long pink spikes of blossom. Dendrobium Phalaenopsis schroderianum, grown here for six years past, has been making splendid stems, while those of D. Clio, already completed, were 4 ft. long. The house everywhere was crowded with plants; while Eucharis grandiflora was flowering beneath the stages where it has been planted and left undisturbed and without fresh material for the last twenty years or more. The resting house was gradually being filled with Dendrobiums to ripen up the excellent growths they had made. They included the many fine hybrids raised here and collected from other sources. A seedling Cypripedium, namely, C. sanderiano-laevigatum, had petals 6 in. long, and spotted all over with crimson. Barkeria spectabilis was making good growth upon a raft in this cool house. In the stove close by, the Lattice Leaf Plant, in fine condition, was flowering. The miniature deep rose flowers of Saccolabium Hendersoni, on an erect spike, are charmingly sweet as they are rare. The Calanthes, Aerides, and Saccolabiums have done well. One side of a small house was filled with Catasetums, Mormodes, and Cycnoches maculata, all great favourites with Sir Trevor Lawrence, Bart. Calanthe Veitchi, C. sanderiana and C. Victoria have made and finished excellent growths.

Cool Odontoglossums on a north aspect, in an isolated house in the garden, are the picture of health, showing that they can be grown with success even under such unfavourable conditions. Some rubbishy plants were brought here and made decent plants in the course of two years. The whole collection shows that the conditions are to their liking. The Masdevallia house is always full of interest, as it is crammed full of an extremely varied collection of little gems belonging to this and other genera. Two plants of Angraecum falcatum were laden with their fragrant white flowers. The sepals and petals of Prominea stapelioides were handsomely streaked and lined transversely like a Stapelia. The yellow P. citrina was also in bloom. Comparettia macroplectron, a very uncommon plant, carried long spikes of its lovely flowers on the point of expansion. The two brown bands on the petals of Odontoglossum madrense make this species very distinct. O. bictonense album and Pleurothallis macroblepharis were also in bloom. Amongst the Masdevallias several were in flower even at the beginning of September, including M. velifera, M. melanoxantha, M. infracta (the oldest introduction in the genus), M. i. purpurea, with darker purple flowers; and M. deorsa, having leathery, rigid leaves of a strange metallic blue colour beneath. For the period of the year the amount of flowers in the collection generally was certainly wonderful, proving that there is no dead or off season amongst this section of the favourites at Burford.

The Nova Scotia School of Horticulture, says the *Canadian Horticulturist*, had sixty-nine students last year. The expenses of the school were 1,843·47 dollars.

Gardening Appointment.—Mr. William Haddow, for the past two years general foreman at Castle Bars, Co. Wexford, has been appointed head gardener to Lord Ardilaun, Ashford House, Cory, Co. Galway.—*John McLennan.*

Royal Horticultural Society.—The next fruit and flower show will be held on Tuesday, September 25th, in the Drill Hall, Buckingham Gate, Westminster, 1-5 p.m. At 3 o'clock a lecture on "Saving and Using the Rain" will be given by Mr. Peter Kay.

United Horticultural Benefit and Provident Society.—The annual dinner of the above society will take place at the Holborn Restaurant, W.C., on Wednesday, October 10th, at 6.30 p.m. George Monro, Esq., will preside on this occasion.—*W. Collins, Sec.*

Fruit Show of the R.H.S.—The great show of British grown fruit will take place at the Crystal Palace on Thursday, September 27th, and the two following days. On each day of the show Fellows of the Society, on producing their tickets, will be admitted free to the Palace at 10 a.m. The committees of the society will not sit at this show. All fruits for certificate must be exhibited at one of the fortnightly meetings at the Drill Hall, Westminster.

Farm women of Canada.—Mr. G. C. Creelman, the Ontario Provincial Director of Farmers' Institutes, has begun to establish women's institutes in connection with the regular farmers' institutes throughout the province. During the last season five women have been farmers' institute lecturers, and have proved so acceptable that communications have been received from various quarters asking that women's institutes be formed. The government by law is already pledged to an annual grant of ten dols. to each district for women's institutes, and the farmers' institutes are empowered to do the same. At the women's institute meetings farmers' wives and daughters discuss branches of farm work in which they necessarily engage, more particularly in the dairy line.

The Rose and the Oak.

A red Rose one day in a thoughtful way
  Remarked to an ancient Oak tree,
"I seem to have powers beyond other flowers
  That attract everyone to me.
But why this should be I never could see
  And so, sir, if you're in the mood,
I wish you'd make clear a matter I fear
  I've never yet quite understood."

The jolly old Oak thought it all a joke
  And rustled with laughter and glee,
"See here," then he said, "my sweet rosy-red,
  Don't you try your fine games on me.
You know well enough such talk is all 'stuff,'
  Or else you're too modest, by half;
Howe'er this may be, you can't humbug me,
  And that is the reason I laugh."

The Rose hung her head, until the Oak said,
  "My beauty, you surely are blind,
For you cannot see what is plain to me,
  And known to the whole of mankind—
That no flower grows, like you, my sweet Rose—
  None other with you can compare;
And this is the key to what you can't see—
  Of the fairest, you are most fair."

—*Boston Transcript.*

Weather in London.—The weather of the past week has been thoroughly enjoyable, having been bright and warm.

Appointment.—Mr. T. H. Quin, from Dickson's, the Royal Nurseries, Chester, and late head gardener at Bushey Park, Enniskerry, has been appointed head gardener and manager to Colonel Cosby, Stradbally Hall, Queen's Co.

Thistle Plague.—Writing to *The Farmer's Gazette*, Mr. Toler R. Garvey suggests some mild form of legislation to make indolent and negligent farmers keep their lands clear of Thistles, or at least to take measures for the suppression of the Thistles. It is impossible for the more industrious and intelligent neighbours to succeed in their efforts if others allow Thistles to flourish indiscriminately all over their farms.

Scottish Horticultural Association.—On Tuesday, the 11th inst., at a meeting of this association, Mr. Alexander Mackenzie in the chair, there was a good attendance of members and others to hear a paper by Mr. J. S. Eckford, of Wem, Shropshire. The meeting had been postponed from the 4th to the 11th inst., in order to meet the convenience of the reader, who had a good audience notwithstanding. Mr. Eckford read an interesting paper on the Sweet Pea, dealing chiefly with its history and development under cultivation. The show at Edinburgh had drawn many thither.

Utility Poultry Club.—The fourth annual laying competition will begin on Wednesday, October 17th, 1900, and end on Tuesday, February 5th, 1901—a period of sixteen weeks. The pens will be under the management of Mr. G. C. King, The Manor Poultry Farm, Gerrard's Cross, Slough, Bucks. The houses are 5 ft. × 3 ft. × 5 ft., with shelters 5 ft. × 3 ft., and grass runs 20 yds. × 15 yds. on well-drained gravel soil. Two pens will be in each house, one laying white eggs, the other brown. The following cash prizes will be given:—First prize, £3 and silver medal, value £1; second prize, £3; third prize, £2; fourth prize, £1. The following special prizes are also offered:—Dairy Outfit Co.'s "Cosy" Brooder, value 15s., as fifth prize; Mr. P. Percival's, value 10s. 6d., as sixth prize; Mr. J. Dunn's, value £1, for pen making highest score; Mr. S. Hunter's, value 15s., for best pen of non-sitters; Mr. S. Hunter's, value 15s., for best pen of sitters; Mr. G. C. King's, £1 1s., for best pen of Langshans or Buff Orpingtons; Mr. J. W. A. Pedley's, value 10s. 6d., for best pen of Leghorns; Mr. J. W. A. Pedley's, value 10s. 6d., for pen making highest score in first month; Mr. Caleb Bird's, value 15s., for the best pen beating his present record of 446 points (1899-1900 competition); Mr. T. Garnett's, value 10s. 6d., for the best pen judged from show standard; Mr. Jas. Robinson's, value 7s. 6d., as consolation prize. Should twenty pens compete, an additional cash prize of 15s. will be given as fifth prize, and specials first and second to sixth and seventh respectively. First-class certificates will be given to all pens laying 240 eggs, and second-class to those laying 200 eggs. Finding that birds were often sent immediately before the trial began, thus spoiling the chance of a good start, it has been decided that all pens must be at the farm by October 5th, giving twelve days in which to settle down. Also to check the entry of very young birds, a rule has been made that the owner of a pen which does not commence laying in the first month of the competition shall pay 5s. towards the expense of maintenance. Should there be more than twenty entries the places will be given to as many varieties as possible in order that the competition may be of greater interest as regards feeding different sorts on similar food, weight of eggs, susceptibility to climatic influences, &c. It should be noted that the competition is *not* to determine the best laying breed (since laying is largely a matter of strain), but to demonstrate the great number of eggs fowls will lay (under good management) during the four months when a vast number of fowls do not lay at all. Progress of the competition will be reported at monthly intervals to the poultry papers. Particulars and forms of entry (which closes September 25th) can be had of the hon. assistant secretary, L. W. H. Lamaison, Southwold, Kenley, Surrey, to whom all communications respecting the competition must be addressed. —*B. W. Horne, Hon. Sec. and Treasurer.*

Flax Industry of Ireland.—Under this title there appears in the "Journal of the Department of Agriculture" a valuable and exhaustive article by Prof. Thomas Johnson, D.Sc., who treats principally of the Flax cropping and setting.

Chertsey School of Handicrafts.—In the article on Chertsey School of Handicrafts, which appeared in last week's issue, pages 41 and 42, we omitted to state that the resident superintendent is Mr. T. H. Martin, and the matron, Mrs. Martin, from either of whom any information regarding the school can be obtained. They are at all times pleased to see visitors.

The Sale of Poisons.—Messrs. Wm. Wood & Son, of Wood Green, write:—"Attention has been drawn in several of the horticultural papers to the inconvenience of being compelled to purchase Weed Killer and insecticides from ordinary chemists. Your readers will be interested to know that we have now obviated this difficulty by establishing a wholesale and retail manufacturing chemistry department, under the management of a qualified pharmaceutical chemist. It is proving a boon to gardeners, as they can thus be supplied direct with these requisites without having the trouble to go to the local chemist."

GARDENING MISCELLANY.

APOCYNUM ANDROSAEMIFOLIUM.

If anything in the herbaceous plant borders is worthy of inclusion, surely the beautiful "Dog's Bane," above named, is. The habit is elegant, and the inflorescences are lovely. Having strong yet slender branching stems, bright green oblong leaves, which are smooth and glossy, and terminal cymes of pink flowers somewhat resembling a truss of some of the Polygonums, and attaining a height of 3½ ft. in good soils, this plant ought certainly to commend itself. Yet one does not find it at all frequently. Its culture is as simple as that of a piece of Mint. The best time to divide it is in April. Suckers are also employed, and so are seeds. It is a long time since the plant was first introduced (1683) from Canada, so that the lack of appreciation or knowledge of it is all the more remarkable.—*B.*

LEEA AMABILIS SPLENDENS.

This is one of the handsomest of stove, shrubby plants. The erect habit, the finely-spreading leaves, pinnate as they are, and having a broad white midrib, serrate edge, and drooping apex, gives this plant a distinctly ornamental and pronounced appearance. In the tropics they are much grown for the beauty of their fruits. Under artificial cultivation they enjoy a moist, warm stove, and a good loamy soil.

LOASA LATERITIA.

The number of species of Loasa (which are mostly half hardy annuals) grown in British gardens is comparatively limited, yet include some very showy-flowered subjects. The colours of the flowers in various members of the genus is either yellow, red or whitish. The plants are furnished with stinging hairs like Nettles, a fact the uninitiated soon become aware of. Most of the species are dwarf and bushy, flowering freely in a good mellow garden soil. The flowers hang face downwards so that their curious and interesting structure cannot be seen unless specially investigated. The subject under note is one of the best and showiest of the genus. It is an annual of climbing habit, a native of Chili, flowering in our borders during the greater part of the summer, and forms a conspicuous feature when supported on small branchlets. The brick-red flowers are about 1½ in. across, and borne on slender gray-green stalks. The leaves are green, crinkled, and somewhat dissected. It may be sown out of doors in May, else raised in heat, in pans, to be planted out at that time; the latter method allows it a longer season for growth and blooming. Some fine samples were recently to be seen in the beds at Kew, Surrey.

PEA THE SHERWOOD

Here we have an introduction, which has come to stay, dwarf as Wm. Hurst, Daisy, or Chelsea Gem, and fully as early and free bearing, but it is far superior in quality, the produce, when cooked, being the best colour imaginable, and of the highest flavour obtainable.—*W. B G.*

ROSE CARMINE PILLAR.

Of all the single Roses I meet with for covering rustic work or pillars for attraction and beauty this is excellent, just one of those things which, seen for the first time, rivets the attention of all who pass. To those adding to their stock of plants for the above purposes I heartily recommend this as a most desirable addition.—*W. B. G.*

MARIGOLD AFRICAN ORANGE.

None of the varieties of the African Marigold (Tagetes erecta) are more handsome or showy than the variety, African Orange. Marigolds, be they African, French, or Scotch, form part of the border stock of nearly every garden in the land. They are not fastidious, and the Scotch Marigold (which is a splendid little annual) will grow willy-nilly. The French and African sorts are often made specialities of in the gardens of factory-workers and others throughout the breadth of the Scottish borders, and no doubt they receive special attention elsewhere as well. African Orange, which is of extra size, fine even form and great depth of orange colour, was recently noted in Messrs. Cannell's nursery at Eynsford, Kent.

ABELIA UNIFLORA.

I can most fully endorse all that you and your esteemed correspondent in a recent issue said respecting the usefulness and beauty of this plant. I met with a specimen of it during last autumn in Sussex, not many miles from the sea, outside, and I never before fully realised what a beautiful thing it was, and this after some fifty or more years acquaintance with it. The starved specimens I met with in pots positively are an injustice to it. I stood and gazed in admiration and astonishment at the plant in question, some 6 ft. or 7 ft. in height, and 10 ft. or so in width. How far inland it would do, as this plant does, I am unprepared to say, but anyhow it is worth trying, if even some protection is found necessary during severe weather.—*W. B. G.*

DUNKELD HOUSE, PERTHSHIRE.

On one of the few warm, salubrious days in August, it was our fortune to arrive at the sweet old-fashioned station at Dunkeld, in radiant spirits. The ever changing scene of lofty wooded mountains, luxuriant and well cultivated plains, and of flowing water, which it was our pleasure to behold during the short journey from the "fair city" of Perth, were the chief factors in converting us into this amicable frame of mind. Thus prepared for further pleasure, we set our best foot foremost for Dunkeld House. This is the property of the Duke of Athole, and there we spent a few hours, roaming amidst the multifarious collection of flowers and fruits to be found in the famed gardens which adjoin this mansion. On our way thither, our ears were assailed by the "skirl of the bag-pipes" which attracted our attention to a marquee situated in a field on our left. There as announced by a poster on the gateway leading therein, "A local horticulture exhibition was being held." Being on holiday, and as our thoughts are always concentrated around that which savours of horticultural advancement, we speedily decided on entering. Tendering the humble fee at the gateway, we made our way to a central table running the whole length of the marquee. To our surprise, we beheld some magnificent specimen plants which would be accorded no mean place at any of our greater shows. Those exhibited by Mr. Napier, Sniagow, consisted of pyramidal trained Coleuses, 4 ft. to 5 ft. high; with elegant Fuchsias, and exotic Ferns. Prominent amongst the other exhibits were a stand of Roses from the enterprising firm of Messrs. D. and W. Croll, Dundee. A stand of herbaceous flower spikes, and plants was also shown by Mr. W. Farquharson, Comely Bank Nurseries, Perth. The most noticeable specimens, exhibiting signs of able culture, in this collection, were Lilium longifolium giganteum. Montbretia Pottsii, and M. crocosmaeiflora, Harpalium(Helianthus)rigidum, herbaceous Phloxes, &c. The ubiquitous Sweet Pea, in many varieties, was also largely exhibited. Emerging from the marquee we resumed our journey, and after a ten minutes' walk arrived at our destination, where we were accorded a cordial welcome by the head gardener, Mr. McGregor. The glass structures, which we first inspected, are, we regret to add, in a somewhat dilapidated condition; a state of affairs which we believe will soon be rectified, seeing that improvements in other parts of the property are going on apace. The condition of the glass houses has apparently no deleterious effects on the inmates, as evidenced by their healthy and flourishing condition. This surely reflects great credit on the cultivator, more especially when the existing adverse circumstances are taken into consideration. The Tomato house contained an excellent batch of Laird's Improved Stirling Castle, and Trophy Tomatos. Although slight signs of disease was observable on their foliage, the fruits, which are abundant and well flavoured, showed not the slightest blemish. A three-quarter span-roofed house was occupied by Melons and Cucumbers, the surface of the mounds whereon they are planted being one mass of white fleshy roots, which is in itself sufficient evidence that their requirements are well attended to. Excellent examples of the varieties Telegraph and Tender and True Cucumber were here noticed. The vineries, which are six in number, are all in bearing condition, even although, in some instances, the canes are somewhat old. They all bear unmistakeable signs of able culture.

In a house recently planted with Muscat of Alexandria, the crop (an average one) was assuming a high colour, no mean feat, as the fraternity know, to finish to perfection a crop borne by this Vine in a young state. The late vinery, chiefly planted with Gros Colman, the fruit of which was beginning to colour, gave ample indications of a remunerative return. Black Hamburgh and Black Alicante were also deserving of special comment. In the Peach house, which occupies a position in the kitchen garden, an excellent crop was just ripening. The collection of varieties is a fairly large one, and all are in splendid condition. Those worthy of special mention are good examples of Royal George, Stirling Castle, and Princess of Wales Peaches; whilst Pineapple and Elruge Nectarines were equally good.

Begonias, which are largely and well grown, occupied the front stages of two houses; in fact, these are Mr. McGregor's hobby, and their appearance at the time of our visit reflected distinctly to his credit. Although the best named varieties are represented, and utilised for crossing purposes, the greater portion of the collection consisted of seedlings raised by himself. A large double crimson variety with wrinkled outer petals, which for depth of colour, size, and form of flower would take some beating, with a worthy companion in the form of a pure white double (both seedlings), are deserving of special mention. By the way, we may remark that these are all grown in dark glazed pots, lending to the arrangement an extremely clean and neat appearance. Glazed pots are great favourites here; the theory regarding their superiority over the more porous common plant pot being that the amount of water required by plants, like Begonias, when grown in a porous pot, results in a large amount of the nutritive substances contained in the soil being constantly drained off; this being obviated by the use of the glazed receptacle. The stove for the most part, contained a fine collection of small plants, which will come in very useful for house decoration. Of the other flowering plants, which were all in a healthy condition, we need make no further reference, beyond that amongst Fuchsias we were pleased to note that old, and now rare variety Countess of Aberdeen.

From the houses, we made a hurried survey of the kitchen garden, which extends over an area of seven acres. That the culture of hardy fruit is one of the principal features here is a well known fact amongst horticulturists. It was at Dunkeld House that the "Fruit Conference" was held on the 31st August, 1888, when over sixty well tried Scottish gardeners were entertained by the late Mr. Peter W. Fairgrieve. Peaches are largely grown outside trained against a south wall. Prominent amongst the varieties for general utility were Royal George and Stirling Castle. Here we noticed a very ingenious method of preventing evaporation, and for assuring a cool moist root-run for the wall fruit, by loosely paving the borders with light coloured stones. Standard Plums bore only a very medium crop, and, strange to relate, the most unsatisfactory were trees

of that old universal favourite, Victoria. Standard Apple and Pear trees bore a good average crop. Of Pears on the walls, that excellent variety, Louise Bonne of Jersey, was a picture of fruitfulness.

Leaving the garden by a lovely shaded walk on the outskirts of a wood, which is soon to be converted into a carriage sweep, we arrived at the mansion. This structure is for the most part a two-storied one, the design of which is uniquely adapted to its surroundings. Situated in a valley at the foot of a hill, which for arborescent verdure has few equals, whilst in front the noble river Tay glides softly seawards, the aspect and natural surroundings are, to say the least, "delightful," a detailed account of which would entail more space than the Editor might permit. The work of laying out, and the forming of lawns, terraces, &c., has been in operation for the last two years, and still a goodly portion remains unfinished. But under Mr. McGregor's regimé, who, whilst gardener to Sir Thomas Gibson-Carmichael, M.P., at Castle Craig, Peebleshire, exhibited ample evidence of his ability as a landscape gardener—this will soon be accomplished in a satisfactory manner. Whilst referring to landscape arrangements, it perhaps will not be unconventional to add that we observed, with pleasure, that where it was necessary to make additions in the way of imported soil, so as to secure the desired level, deep yawning pits, so frequently met with surrounding the stems of specimen trees, had been usurped by erecting of rough stone walls around, and at a distance of 1 ft. from the stem, which in our estimation was a decided improvement. Along two sides of the house the flower garden is arranged, consisting of a series of long narrow beds. The beds being newly formed, they naturally did not contain many large leafy plants, but all had a very neat appearance, and were tastefully bedded out.

Reversing our course, we returned by the riverside, by a broad grass walk, canopied overhead by the arching branches of handsome examples of Larix europaeus, Picea nobilis, &c. Close to the brink of the river a showy mass of Epilobium angustifolium gave a cheery touch of colour to its sombre surroundings. The American garden through which our path led us, is chiefly occupied by hybrid and ponticum Rhododendrons, whose broad healthy foliage compensated for the dearth of flowers characteristic of such arrangements at this season. Before leaving the grounds we indulged in a quiet survey of the ruins of the ancient abbey. This telling adjunct to the scenery adjoins the present place of worship, and until lately its interior was the chief local place of interment. Before closing our narrative, we cannot but express our admiration of many handsome trees, especially the Conifers, which abound. Very interesting was a handsome specimen of Cedrus atlantica, planted by Her Majesty the Queen, and Cedrus Deodora (which has been largely planted at some former period), are on an average the handsomest we have seen. A specimen of Larix europaeus which, when measured in 1888, was found to be 120 ft. high, had a very telling appearance. After thanking our host for his kindness and courtesy, we took our leave. On our return journey we passed the scene of the previously mentioned exhibition, where, to the tune of those pipes which earlier in the day had attracted our notice, a number of Highland lads and lassies were "tripping the light fantastic toe," and whose cheery laugh amid this charming scene went to prove that, like their environment, they were robustly healthful and free.—*D.M.*

FLOTSAM AND JETSAM.

The other day a game of poker was played in New York, where the stakes were £3,000.

When the winner sailed on a European tour, there was sent to him at the pier a floral piece that cost £20, made of Roses chiefly, with an appropriate inscription in Forget-me-nots on one side, while on the other was a royal heart flush held in a hand, all composed of flowers.

A local retailer is putting up Strawberries in boxes with an open-work paper doyley on the top, and is covering the entire thing with *paraffin* paper as a protection from dust and dirt!

A candy store in State Street on St. Patrick's Day had its windows most artistically decorated with only violet and green. Ribbons, statuettes, candies, all were of those two colours, and it was a German store at that, than whom, the Irish here have no more bitter foes.

There is a town in Kansas, laid out many years ago, which was doomed to innocuous desuetude by one of its disgruntled boomers. Failing to keep his vow (which was to kill the town so dead that grass would grow in the streets), he bought several sacks of blue grass seed and sowed it all over, so that now there are no weeds, and every vacant spot is covered with blue grass. This reminds me of the widow who promised not to re-marry till the grass should be green on her husband's grave, but who was caught helping matters along with a watering-can.

Lincoln Park has prepared a floral welcome for the veterans of the Union War, who will encamp here soon. "Welcome, G.A.R.," in letters 4 ft. long, divided by an American flag 16 ft. wide and 14 ft. long, in "hens and chickens," is the piece *du resistance*.

In New York, a Japanese firm is exhibiting a unique floral display of specialities, such as complete miniature gardens, dwarfed shrubs, and other curiosities.

From Japan come wooden frames shaped as birds, balls, little houses &c., covered with Ferns in a dry state, with the roots protected by moss. They are soaked in water for three or four hours, and then hung up, when they speedily become a mass of feathery green. They sell at from 2s. to 6s. each.—*C. Macquarie, Chicago.*

SAVING PANSY SEED.

Young Pansy plants bear seed most freely, and the flowers are fertilised by insects, particularly bees, in early spring before there is an abundance of other flowers; and also late in summer and during autumn by humble bees, hawk moths, and some other insects. Therefore, the chances for a midsummer crop of Pansy seed are always very uncertain. Be sure to start with a good strain of seed, for breeding up to a higher standard is slow work, and one's aim should be to produce the best. If you save only a mixed number of sorts, make notes that some plants and varieties bear seeds more freely than others, and it is therefore best to save the varieties separately, so as to have a proper balance, even if mixed seeds are desired. If the seeds are gathered too green they are a loss, and, besides, they are with difficulty separated from the others. If left on the plants too long they scatter. It is difficult to describe the appearance of the pod when ready to gather, but generally the stem straightens out and loses its shepherd's crook appearance, the sharp edges of the pod become smooth and hardened. So much depends on temperature and humidity that experience can be the only safe guide. The seeds may be dried in little bags of muslin, part of the upper edge being tacked to a smooth piece of lath, and each variety (if they are separate) should be distinctly named. Shake out all the seeds from the pods through a sieve. A fine-grained sieve is needed to remove the dust. The coarser bits of pods and stems which have passed through the sieve may be removed by repeated blowing. Mice must be prevented from doing mischief, for they are fond of Pansy seeds.—*A. G.*

PHLOXES.

These are both showy for herbaceous borders and useful for cutting; but we often find them poor objects in private gardens, having small flowers and flagging in hot weather through having occupied their position too long. It is a very rough method to dig up the plants and divide them with a spade for transplanting. For propagation I prefer to lift a stool of each of the varieties in the spring and place them near the glass in gentle heat. They will soon throw out shoots, which should be carefully taken off when long enough, insert the cuttings in fine sandy soil and place in gentle heat. When they become rooted, gradually harden off preparatory to planting out 1 ft. apart in beds of deeply dug, well manured ground, so that the roots have got something to work in and sustain them during dry weather. A few good soakings of water will benefit them through the growing season, if it is dry; a mulch of short manure will also assist them. Some good varieties are:—Abundance, Amazon, Adonis, Aurore, Belvedere, Coccinea, Comedia, Diadem, Etna, Le Vengeur, Longchamps, Mdme. Thibaut, Marie Vierge, Mrs. Kinghorne, Neptune, Panama, Pantheon and William Muir.—*George Potts, Streatham, S.W.*

MILDEW ON CHRYSANTHEMUMS.

What can look worse than a group of Chrysanthemums with their leaves and stems covered with mildew? Why it takes away the whole effect, and the usual remedy (flowers of sulphur, dusted over the foliage), I think looks worse than the disease. The following I have used with every success, not by any means a new receipt, but one I think not well enough known. The quantities I mention will be ample to syringe five hundred plants: half a pound unslacked lime, half a pound flowers of sulphur, two and a half pints of rain water. Place in a large pot and boil for twenty minutes. Now put the mixture into a stoneware vessel and cover up for future use. To every two gallons of rain water add one wine glassful of the mixture, mix thoroughly well, and syringe the Chrysanthemums on both sides of the leaves; the under sides are best got at by laying them down on their sides. Allow them to dry before housing. I have had large groups which stood closely packed, for two months, without showing signs of mildew, after undergoing the above treatment.—*A. Manson.*

PROPAGATION OF HERBACEOUS PLANTS.

The time has now arrived when we may increase the majority of our herbaceous plants, and those who wish to make new, or replant old, borders should commence propagating without delay. First of all prepare a frame, and for drainage use rough ashes with sifted ones on the top, making a level bed for the pots to stand on. By this means the less hardy ones are insured, and a great many of our hardy plants produce much finer flowers when divided annually. Well drained 60-sized pots should be used, and a compost of loam and leaf soil with sufficient sand to keep the whole porous. This should be thoroughly mixed together. Space will only permit me to mention the best mode of propagating some of our most admired genera. Heliopsis, Physostegias, Erigerons, Monardas, and Coreopsis, are best increased by soft cuttings, but some Rudbeckias Chelones, Hesperis, &c., are more readily propagated by offshoots from the roots. Make the soil quite firm round the plant or cutting, place it in the frame and give a thorough watering. After this, little water will be needed for some time except a light syringing on warm days, when the plants should also be shaded, and air given. Division of the roots after the foliage has dried off is the best method with some plants, especially Anemones, Oenotheras, Asters, Funkias, Lychnises, Heleniums, Doronicums, Campanulas, and many others. These can be planted directly they are divided and produce excellent results the same year.—*A. Thatcher, Aldenham, Elstree.*

DO WE HOUSE OUR 'MUMS TOO LATE?

I rather think we do. No doubt to many growers the longer the plants can be left out the less congestion in the glasshouses. But my experience seems to point to the fact of many benefits to be derived from a fairly early housing of the plants. I do not intend to try and give hints to those who exhibit. My wish is to show what will benefit those who have to grow good flowers for cuttings or for conservatory decoration. My idea is that if housed by about September 21st, the plants miss the heavy rains usually experienced towards the end of the month; also the very destructive gales at the equinox.

I think it can hardly be doubted that the heavy cold rains are at least the cause of the mildew so prevalent with some growers. I have found at least that this fungus was less troublesome when the plants were got under cover, without the soaking for days they have to stand if left out too late. It must also be confessed that a great amount of damage is done by wind in the last week in September.

I therefore think that where room can be spared at all, the plants are better in not later than the 21st inst. Of course, give all the air possible both day and night, and a good spray with the syringe every

evening for ten days after housing is very beneficial. Stop all feeding for a week or more, and then begin gradually again. To those who require very late flowers the early housing may not be so useful, but even here I think by later pinching this too could be overcome.—*C. Blair, Binny, Uphall, N.B*

HYDRANGEAS.

THERE are no more beautiful or useful subjects for greenhouse or conservatory decoration than Hydrangeas. Their large heads of bloom well repay any trouble that may have been bestowed on them. To obtain large specimen plants they should be cut down after flowering, and shifted into larger pots, using a compost of two parts loam, one part peat, and one part rotten cow manure, with some sharp sand to keep it open. These will lose their leaves in winter, and should be kept safe from frost. They may be started into growth in the spring, and will then develop their flower buds, and finally expand into large heads of bloom. Manure water should be applied at least once a week, and clear water plentifully, as they are great absorbers. To obtain the best blooms, however, cuttings should be struck in February or March, and potted on as required, using much the same soil as advised previously. These plants should be kept to a single stem, and as soon as the bud is formed remove outdoors to ripen the wood. When frost appears remove indoors again. Keep them on the dry side during the winter and about February, place in slight heat, repotting them into a suitable compost. The heads of bloom will soon begin to develop, and as they do so liquid manure may be used carefully, and also a slight top-dressing with some good artificial manure. The species hortensis is mostly used for pot culture, and is always very showy.—*R. Thatcher, Lockinge Gardens, Wantage, Berks.*

A RETROSPECT.

THE present is an opportune time to consider the condition of most things in the garden with a view to ascertain failure or success in cultivation, or suitability of one position over another for any particular fruit or flower, and a thousand little concerns, unimportant in themselves, but pregnant with meaning as to future operations. Have Vines, Peaches, hardy fruit trees, &c., been over-cropped? Have flowering plants or vegetables (probably new to the grower) been over-crowded, or have two crops requiring dissimilar treatment been attempted under the same roof simultaneously? Have high-priced novelties given satisfaction and proved worthy of the praises lavished upon them? These are a few of the numberless questions which the cultivator can determine at the present time, and profit by in the succeeding years. The question of promiscuous cultivation, though often unavoidable, is probably as worthy of consideration as any other—disastrous consequences frequently accruing. An instance occurs to the writer which may interest some. Tomatos were planted in early spring in rows stretching across a house in the ordinary market way; and accommodation being limited for Hydrangeas, numbers of them were placed between the rows. The Tomatos did not require continual watering, but the Hydrangeas had to be supplied often twice a day, resulting in the rapid spread of disease amongst the former. Space forbids mentioning numerous evils arising from the same source, but this instance may induce some to pause before adopting a "penny wise and pound foolish" policy. —*J. McAra, Kingsburgh, Prestonkirk.*

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society at the meeting of September 11th.

Orchid Committee.

CATTLEYA BICOLOR "GLEBELANDS" VARIETY.—The distinguishing features in this variety of C. bicolor were the superior size of the flowers and the presence of a white margin around the purple labellum. The plant exhibited bore eleven finely developed racemes. (Award of Merit.) J. Gurney Fowler, Esq. (gardener Mr. J. Davis), Glebelands, South Woodford.

A CULTURAL COMMENDATION was awarded to Mr. James Hudson, for Dendrobium formosum giganteum; also to Mr. H. Pratt, gardener to Arthur Hay, Esq., Oakley Park, Eye, Suffolk, for a fine Vanda caerulea; and to Mr. J. F. Thorne, gardener to Major Joicey, Sunningdale Park, for Dendrobium Taurianum amboinense.

Floral Committee.

GLADIOLUS ALTHEA.—A massive and very large flowered variety of a salmon-rose colour speckled with deeper tints of the same colour, and having a maroon throat. (Award of Merit.) Messrs. Burrell & Co., Cambridge.

GLADIOLUS DELICATA.—A lovely variety, with a distinct and delicate shade of peach-pink, having also a deeper edge, creamy mouth flushed with blush; large and good substance. (Award of Merit) Messrs. Burrell & Co.

ANEMONE JAPONICA MONTROSE.—A dwarf-growing, large mauve-pink semi-double flowered form of the well-known autumn flowering Anemone. (Award of Merit.) Messrs. W. Paul & Son, Waltham Cross, Herts.

ANTHURIUM BAKERI.—This South American species was introduced in 1872. The leaves are Hart's-tongue shaped, about 14 in. long, green and leathery, with prominent midrib. The spadices bore bright "Holly-red," pea-shaped fruits. (Botanical Certificate.) Messrs. James Veitch & Sons, Ltd., Royal Exotic Nursery, Chelsea.

HELIOTROPE DR. JEELIN.—A robust growing variety, with large trusses of deeply coloured flowers. (Award of Merit.) Mr. H. J. Jones, Rye-croft Nursery, Lewisham, S.E.

DAHLIA ROSINE (CACTUS).—A large-sized variety of good habit, and having bright rose-mauve flowers. (Award of Merit.) Messrs. Burrell & Co.

DAHLIA ARTUS (CACTUS).—A finely fluted, large and twisted bloomer, of a charming orange-salmon shade. (Award of Merit.) Messrs. Burrell & Co.

DAHLIA DINORAH (CACTUS).—A lighter coloured variety than Artus, which it much resembles. (Award of Merit.) Messrs. Burrell & Co.

DAHLIA VESTA (CACTUS).—Rose-pink, paler in the centre. (Award of Merit.) Messrs. Burrell & Co.

DAHLIA IMPERATEUR (CACTUS).—A large, rosy-crimson variety of much merit. (Award of Merit.) Messrs. Burrell & Co.

DAHLIA LYRIC (CACTUS).—A bright crimson sort with yellow base. (Award of Merit.) Messrs. Burrell & Co.

DAHLIA GALLIARD (CACTUS).—Glowing crimson. (Award of Merit.) Messrs. Burrell & Co.

DAHLIA J. W. WILKINSON. (CACTUS). Crimson shaded with purple toward the edges of the petals. (Award of Merit) Messrs. Burrell & Co.

DAHLIA VIDA. (CACTUS). A pale yellowish variety. (Award of Merit). Messrs. Burrell & Co.

DAHLIA JEALOUSY. (CACTUS).—A large and pretty yellow variety. (Award of Merit.) Mr. J. Stredwick.

DAHLIA ECLIPSE. (CACTUS).—A soft yellow coloured Dahlia of remarkably fine form. (Award of Merit.) Mr. S. Mortimer, Farnham, Surrey.

DAHLIA SYBIL. (POMPON).—A neat, yellow variety with reddish edged petals. (Award of Merit.) Mr. C. Turner, Slough.

DAHLIA ZERLINA (POMPON).—A neat sort with deep maroon coloured flowers. (Award of Merit.) Mr. C. Turner.

Fruit and Vegetable Committee.

APPLE ST. EVERARD.—A bright red, white dotted, dessert variety below medium size. It is round, and has good stout stalks. (Award of Merit.) Mr. Charles Terry, Papworth Hall Gardens, Papworth.

FILBERT (NUT) EARLY PROLIFIC.—A Filbert of superior merit, being large in size, very prolific, and having peculiarly frilled husks. It is early. (Award of Merit.) Messrs. Geo. Bunyard & Co, Maidstone.

CABBAGE CANNELL'S DEFIANCE.—This has all the qualities of a first class Cabbage. It can be had at any season, the heads being firm, conical and of fine green colour. It is a neat grower. (First-class Certificate.) Messrs. H. Cannell & Sons, Swanley, Kent.

POTATO SIR J. LLEWELLYN.—A handsome, clean skinned variety with shallow eyes. (Award of Merit.) Mr. J. Harris, Court Lodge, Sevenoaks, Kent.

POTATO CENTENARY.—A roughish skinned, round formed variety. (Award of Merit.) Messrs. Sutton & Sons, Reading.

POTATO SUPREME.—A well known sort. (Award of Merit.) Messrs. Sutton & Sons, Reading.

POTATO BADEN-POWELL.—A deep-eyed, pebble-shaped variety, with smooth skin. (Award of Merit.) Mr. Caddick.

National Dahlia Society.

The following Dahlias received each a First-class Certificate at the above society's show held at the Crystal Palace on September 8th:—

CACTUS VARIETIES (See description under Royal Horticultural Society).—Artus, Dinorah, Eclipse Galliard, Rosine, Vesta, and J. W. Williamson; and Zerlina, pompon.

D. PURITY (CACTUS).—A white variety of graceful form, large size, and having a creamy centre. (F.C.C.) Mr. S. Mortimer, Farnham, Surrey.

D. BUTTERCUP (POMPON).—A neat, canary-yellow variety. (F.C.C.) Mr. M. V. Seale, Sevenoaks.

D. FLORA (POMPON).—Bright orange-scarlet; a lovely thing. (F.C.C.) Mr. Chas. Turner.

D. ADELAIDE (POMPON).—Soft, rose-tinted with heliotrope. (F.C.C.) Mr. J. T. West, Brentwood. Also Daisy, a buff pompon. (F.C.C.)

D. DARKEST OF ALL.—Another pompon of deep blood-red hue, from the same person.

D. J. WEIR FIFE (POMPON).—A beautiful red-shaded with purple. (F.C.C.) Mr. J. Stredwick, St. Leonards.

D. BADEN-POWELL (CACTUS).—A rich, dark crimson variety of splendid form. (F.C.C) Messrs. Hobbies, Ltd. (Mr. John Green), Dereham, Norfolk.

D. DORIS (POMPON).—Pale yellow and very neat. (F.C.C.) Mr. M. V. Seale.

D. LORD ROBERTS (CACTUS).—A creamy variety with long curled petals. (F.C.C) Mr. J. Stredwick.

The Orchid Growers' Calendar.

LAELIAS.—There are several of this beautiful section that are much better for being repotted at this time of the year than in the spring.

The dwarf-growing L. jongheana is one that does best if potted at this season, for the roots are just now running freely, and the partially made-up growths are also pushing roots, and will readily take hold of the new compost thus afforded, and will soon re-established themselves again before the flowers are up.

L. grandis tenebrosa, too, is another that we like to handle at this time if the compost has become sour. This is a fine Laelia when well grown, but it takes up lots of space as it likes plenty of pot room when well established. It pays, though, for a little extra room, and is, on account of the colour of its flowers, invaluable for hybridising with. Good fibrous peat in fair sized lumps, with an equal amount of sphagnum is what they delight in. Make the plants secure by some neat stakes, so that the compost may be put rather lightly about the roots without any intention of making the plants firm in the pots by its use.

L. CRISPA.—Being a late summer flowering form it takes a rest during the autumn months, and at first sight the repotting being done now would seem to many a mistake. But we find, like Cattleya gigas, they make plenty of new roots after the flowers are removed, and may with impunity be repotted. Very little water is required, only just sufficient to keep the plants from shriveling and the moss alive. A thorough soaking once a month will do this.

INTERMEDIATE HOUSE.—Cymbidiums of the giganteum section that have filled their pots with roots may be assisted by some liquid manure once a week. Drainings from the cow-shed in a much diluted form is good for these plants. Being somewhat of a bog plant they should have plenty of water at the roots; this is why they do better grown cool. C. tracyanum has already begun to push up its spikes. These will be followed in due course by C. lowianum and C. giganteum.

COOL HOUSE.—Push along with the repotting of the Odontoglots, as all those that require it should be finished by the end of September.

Look out for thrips in all the divisions, and smoke the houses at intervals should there be any trace of this pest.—*S. C.*

HINTS FOR AMATEURS.

Seasonable Work.—Though the season is pronounced by those who ought to know best as being a late one for bulbs, the potting of these is, nevertheless, now briskly proceeding. The early flowering Narcissi and Snowdrops must be planted in lawns and throughout woody glades wherever it has been contemplated that such plantings should be done.

Besides looking to the bulbs which are to provide the winter and early spring flower display, the needs of the kitchen must not be forgotten. Those who are fortunate in possessing an empty cellar or convenient shed may turn these to capital use by growing winter Mushrooms in them. I am not going to go all over the cultural details for Mushrooms, for that has been done not so long ago.

Moreover, some other correspondent will very likely come to the rescue with an article shortly. Still, you know the beds are to be prepared and made, the earliest of them being generally spawned towards the end of this month or during the first ten days of October. Lettuces for the table in early spring must be planted into cosy frames not later than the end of this month. Allow the plants 5 in. or 6 in. space on either side, and so long as the weather permits of the sashes being left off this may be done. Otherwise give the young Lettuces (once they have taken root in the frames) as much fresh air as will meet prevailing conditions.

Celery should be overhauled (this is about the best word to employ) so that their needs may be attended to. The superfluous bottom growths should be pulled away from any plants which may not have been earthed up yet. But careful cultivators will at this time be giving the third earthing at the least. In their case the centres of the plants should be kept together, preferably by a moderately firm tie with "matting," "bast," or such-like ligature. When this has been done fill in the soil between the rows and up and around each stem, making it firm.

The vegetable garden should at the present time be accorded a thorough good cleaning. If a Dutch hoe be run between the lines of growing crops, and if vacant brakes, alleys, paths, and other features be cleaned by the various means adapted, the general appearance of the grounds will be pleasant, comfortable, and real garden like till the final (if we can call anything final) clean-up takes place after the leaves have fallen.

The planting of fruit trees, Conifers, deciduous trees, Roses, and hardy plants begins in October, and as we are within a fortnight of that glorious autumn month, it is high time to consider, at least, what's to be what. Alterations are almost a certainty in all gardens, and going by the motto that "a work begun is half done," have everything "cut and dry" before the period of practical operations advances.

Chrysanthemums will very shortly required to be housed. It will, therefore, be wise to turn a share of the attention for a short while also in this direction. Tomatos finishing their crops will soon make way for the "Autumn Queen," and should the weather become frosty it would be best to cut what fruits remain, so that the house may be set at liberty. But more frequently the fruit houses are utilised for the Chrysanthemums. Only the earliest may be taken in at this time, the remainder being left (if possible) until the leaves of the Vines, or Peaches have nearly all fallen. Finish selecting the buds of incurved Chrysanthemums. Roses in pots, after they have finished flowering, may be stowed away in a cold frame, packing dry leaves between the pots. Others for early spring flowering may now be top-dressed to be retained in the greenhouse.

The Lyre-flower, or Bleeding-heart (Dielytra spectabilis) is one of the best of hardy flowering plants that one could pot up for forcing. The plants must be potted at this time, to be kept in a cool house free from frosts' influence, till such time as forcing has commenced. This plant answers readily to the stimulous of heat and a sufficient supply of moisture, but at no time should it be too ardently urged. A good forcing temperature ranges between 65° and 70°. During the period it is grown in the cool house prior to being forced, I would advise growers to be careful how they water it, or rather, be sure that it really requires moisture. Growth shall, during this period be dormant, and it is much the safer course to keep the soil on the dry side; and this is a term whose meaning ought to be effective to all earnest plant and flower lovers. Nearly all the plants, such as Spiraeas, Deutzias, Azaleas, Camellias, Myrtles, and the like, which have flourished out of doors since about June, will necessarily be removed to the protection got from glass houses. If the Deutzias were pruned when they finished blooming in the early months of the year, the young wood they have since made will most likely be well furnished with lateral buds for an increased display next spring. I do not believe in frequent shifts for this lovely plant. When once fine specimens have become established in large pots or tubs, it has been my experience to find them clustered for years in succession with their beautiful pendent white flowers, even when next to no care has been bestowed upon them. If they are fed regularly with quick-acting liquid manures during their growing season, they retain their vigour and healthfulness. Young plants which have their proportions yet to make, must undoubtedly be well done by; and frequent pottings are commendable.

In the Fruit Garden the Strawberry plantations are being laid out. Nowadays when the Strawberry is becoming so much more frequently treated as an annual plant there is much more work each year on this account. The annual system or treatment is all very well for those who have plenty of ground to allow, and abundance of time and the conveniences. They certainly obtain larger and earlier fruits from these robust young plants, but they do not get the quantity. I would rather vote for the system that gives one quantity, especially when Strawberry fruits are the subjects to be settled about, because, as I have written before now, sugar and cream soon dispel the lack of flavour and sweetness which the "quantity" Strawberries are blamed for. Runners recently potted up for forcing will do well in the frames until such time as they are taken to the forcing houses or pits.

Ground for Raspberries should be made ready. It is pretty well known that Raspberries enjoy a rather heavy soil, and that ground for them must be rich. The suckers which may be taken from the old plants should be finally planted in the plantation stations when their leaves have fallen. Such worthy varieties as Hornet, The Guinea, Golden Queen, and Superlative, might well be taken notice of by planters. One's ground may be filled with the best kinds of plants or fruits, just as well as with older and perhaps less meritorious varieties. When I mentioned Strawberries a few lines above, I had also intended to call attention to the later varieties which are being brought out. St. Joseph, of course, is now well known, and it is one of the best. I can also speak well of Richard Gilbert, Princess of Wales, and Queen of Denmark. Their producer has been working with the best varieties for years, and his aim has always been to raise good, late varieties of Strawberries, preferably to early or mid-season ones. When one comes to think of it, in a summer such as this, good Strawberries were scarcely on the market longer than three weeks. Well, with such a workable subject as the cultivated Strawberry this should not be. We ought to have them for two months at least.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Lobus corniculatus.—*W. J.*: The name we give is the botanical title of the Birds'-foot Trefoil. It was mentioned some time ago by *Beacon* in "Hints," where he recommends it to be planted on dry banks. It is adaptable for such a purpose.

Book on Gardening.—*Beginner*: There is no end of books devoted to the details of practical gardening. We think "The Amateur's Handbook on Gardening," published by Messrs. Blake and Mackenzie, Liverpool, would suit you as a cheap and reliable work. W. P. Wright's "Pictorial Practical Gardening" is also very full of information which is easy to understand. The former is 2s. 6d., the latter is 1s.

Herbaceous Borders.—*L. T. O.*: Probably the article on "Herbaceous Borders," which we printed last week, will supply you with the ideas you desire. Some of the nurserymen's catalogues also contain useful directions, notably Messrs. Kelway's "Manual." In addition to the plants mentioned in the article to which we refer, you might well include Spanish, English, and German Irises among the lists of herbaceous hardy plants. The autumn-flowering plants could be more liberally grown. We mean such as the tall perennial Asters, and many others of the Compositae order. But we hope to furnish a special article on this valuable class of late blooming plants.

Soils and Manures for Roses.—*J. T. Richardson*: Hybrid Perpetual (H.P.) Roses nearly all delight in a heavy soil, as do Teas and Climbing Roses. The bedding sorts enjoy rather a freer soil, such as suits Noisettes. What we would consider suitable H.P. Roses likely to succeed with you would embrace Her Majesty, Star of Waltham, Duke of Edinburgh, Mrs. John Laing, Caroline Testout, Margaret Dickson, Prince Camille de Rohan, Victor Hugo, Dupuy Jamain, Earl of Dufferin, Clio, General Jacqueminot, and Merville de Lyon. Insteading of naming Teas, or what are termed "Decorative" or "Garden" Roses, which embrace many Teas, hybrid Teas, bedders, climbing polyantha varieties, &c., we would ask you to notice the report of the last meeting of the Royal Horticultural Society. Roses are said to be partial to pig dung and night soil, so if either of these manures can be obtained, supply them to the borders. A good chemical manure would be nitrate of soda, superphosphate, and kainit applied during the growing season at the rate of 2 ozs. per sq. yd.

Solanum jasminoides.—*J. F. H.*: This is not a very difficult subject to manage. In fact we should say it was a climber of easy culture, according to our own experience of it. It is very nearly hardy, unless in exposed situations or during hard winters whence it may succumb. It may be grown in large pots and trained in a variety of forms, for it grows freely, producing long shoots. Or it may be planted out in a greenhouse border. A rich, sandy soil meets its needs, and a temperate atmosphere, with ordinary greenhouse treatment in respect to watering, tying-in or pruning, will otherwise prove satisfactory. The flowers are borne in clusters, these being nearly white. It propagates with fair readiness from cuttings made from the young growths.

Planting Yuccas in Groups.—*R. L.*: Your intentions are most commendable. It would gratify us greatly to see a host of other gardeners, both professional and amateur, begin to plant Yuccas liberally. Use a friable loam, mixed with about quarter part of coarse sand and some sifted lime rubble. The planting may very well be deferred till about April of next year. Planting in decayed tree stumps, in raised mounds and in garden rockeries, shows also good taste and knowledge of the likes of these ornamental plants. Y. gloriosa, Y. recurva, Y. flaccida, and Y. filamentosa are all well known and adaptable kinds, each being distinct in appearance.

Ornithogalum arabicum.—*K.N., Tring*: Good bulbs can be secured which will flower the first season. Though the plant is quite hardy even in the North, bulbs may be potted during this month for Easter flowering. Treat as for Hyacinths, only that when the flowers begin to advance, a temperature of 65° is desirable. The outdoor bulbs will begin to bloom about the third week in June. Any good bulb firm, we believe, will supply you at 2s. 6d. per dozen.

The Briar Root Industry in Italy.—The *Journal of the Society of Arts* says:—"The wood from which Briar pipes are made is the root of the large Heath, known in botany as Erica arborea. Our 'Briar' is but a corruption of the French *bruyere*. 'When a certain district has been exhausted of all its roots, the industry must come to an end there, and an opinion has been expressed that the Italian branch of it cannot last longer than ten more years. Calabria, in the south, is the most flourishing centre at present.' 'The total export from Leghorn is estimated at 50,000 cuts a year, valued at £28,000. Fully one-half the export is Calabrian root. The roots, which are sometimes of a circumference of

2 ft. or more, are cut into blocks and then boiled. Brier root blocks are cut into about twenty-five different sizes, and three principal shapes. From the Marseillaise blocks are cut the ordinary Brier pipes which have bowl and stem at right angles. A considerable quantity of blocks are sent to the United States, but apparently none to the United Kingdom.'"

ORCHIDS AT COOMBE COTTAGE.

Amongst the many and varied subjects grown at Coombe Cottage, Kingston-on-Thames, the residence of J. B. Johnstone, Esq., the Orchids are an important feature, particularly at certain seasons of the year, when the Dendrobiums are in bloom. Several houses are devoted to them, some of which are span-roofed structures well adapted for growing them. The accompanying illustration was prepared from a photograph of the interior of a larger building, usually termed the Orchid house. The principal plants shown consist of Dendrobium wardianum, of which large quantities are grown, and give a grand display in spring. Coelogyne cristata is also a favourite and here shown in the foreground. During the flowering period Odontoglossum crispum is associated with the East Indian subjects for the sake of variety. Mr. David Gibson, the gardener, is very successful in the cultivation of a great variety of subjects, including Orchids, fruit and vegetables, generally, and is a very successful competitor at exhibitions.

Orchids at Coombe Cottage, Kingston-on-Thames.

Seed Importation.—Germany imported seeds from the United States, in June 1900, to the value of 29,934 dollars, against 42,901 dollars in June, 1899. Other European countries received shipments to the value of 1,210 dollars in June, 1900, against 4,730 dollars in the corresponding month of 1899.

CAULIFLOWERS, "CLUBBING," &c.

I am thankful to state to your correspondent that I am not much troubled with "clubbing" or any other pest as destroyers of my Cauliflowers or other vegetable crops, Carrots excepted, which are, however, safe and doing well this season. While I have little trouble with vermin at roots of plants I must admit to have had a deal to combat with in years past from all sorts of vegetable destroyers, and it is only by preventive measures that I escape the evils indicated. Deep tilth has always been a special part of my garden work. My first crops of Caulliflowers had the ground trenched and manured, but before the second crops (this year these are in excellent form) are planted the ground has become almost as solid as a road. Before planting I often make a puddle of cow manure, soot, and fine soil, and dip the roots and stem as high as the leaves in this, and always have felt sure that they were safe from animal pests of any kind. With all seed sowing I use fine waste soil (such as may collect under potting benches,&c.), and mix this with soot. The seeds are covered, and no insect or grub can reach them with safety to their existence. I dust the surface of the ground with soot or lime, mixed with sifted ashes. Slugs and even birds are deterred from feeding off the seedlings when they are coming through the soil. The larvae, which are found in Brassica plants of all kinds, are keenly searched for by the men before the plants are inserted in the soil. In an old garden (such as we have here) one is liable to all sorts of grubs in the soil. Our soil is of a heavy, waxy nature, but greatly improved by systematic trenching or "bastard" trenching. The latter is taking widths of 2½ ft. wide, digging this over into openings,and the "crumb" is thrown over this. Then the second spit, if it is inert, wet, or otherwise unhealthy, is turned over as deep as the spade can penetrate downwards, and this is left roughly. Excellent drainage is thus secured, and the roots of Peas and all sorts of roots are induced to grow down and be safe from drought. But we trench so much every season,especially ground after Celery,and much good accrues from the practice. Two spades and a "crumb" answers well when the subsoil is suitable for vegetable roots to ramify in. We save all the rubbish from the garden, grounds and roads, which is put into a heap to decay; it often gets heated by reason of large quantities of lawn mowings, leaves of trees, turf parings, burnt branches, &c., being in large proportion in this conglomeration. This practice reduces my manure bill, and when trenching is done 9 in. to 1 ft. of this decayed matter spread over the bottom does much to raise heavy crops, Every space is cropped in double form—Spinach raised between the rows of Cabbage, Lettuce between Broad Beans, and Radishes between French Beans and so on. I have been so much influenced by the practice of market men who grow for Covent Garden that I follow their system to a fault, never allowing a yard of space to remain uncropped when it can be done. My rubbish heap is always compact, and is a most valuable adjunct to the vegetable garden. Fermentation destroys all weed seeds.—*M. Temple, Carron, N.B.*

In reply to Mr. Waite's query on page 5, September 1st., I beg to offer the following theory as to its cause and origin. But in the first place I, "Scotchman like," would ask Mr. Waite if he is certain that the excrescence alluded to is caused by an insect? This I question very much, on account of the depredations of this insect being commenced at an early period, usually very prevalent in beds of spring sown Cabbages. Furthermore, if caused by an insect, the disease is the "Cabbage gall" not "Club root."

Cabbage gall is the result of the presence, in the root, of the grub of a small black Coleopterous

insect. The imago or beetle is abont one-twelfth of an inch long, with a characteristic rostrum which is capable of being fitted into a groove under the thorax. During the early summer the imago lays her eggs on the roots of Cabbages, Turnips, &c., and the irritation induced by the larvae (which appear in about ten days), results in the formation of a gall-like swelling about the size of a Hazel-nut. Pupation takes place in the soil or in the roots, and the life cycle is completed in two months. Hibernation takes place in the gall (of which there may be a nnmber on one root), and damage consists in decay being induced within the swelling.

Clnb root proper is caused by a myxomycetic, or slime fungus — Plasmodiophora Brassicae. The qnestion whether the cause of this swelling should be placed in the Protozoa famlly of the animal kingdom, or classed as a member of the vegetable kingdom is of little moment; as a slime fungus we will therefore consider it. Myxomycetic fungi are remarkable in the fact, that they do not form cell-walls, tissues, or mycelium, during their vegetative period, bnt at a certain advanced definite period of growth, the protoplasm breaks up into small portions, each surrounded by a cell wall, thus assuming the nature of the normal cell. These portions, or spores, hibernate for a definite period, and if kept dry will retain their vitality for years. After resting, the sporangia ccalesce, and the spores germinate by a cracking of the cell wall through which the cell contents are exnded. This exuded mass qnickly becomes furnished with one cr two highly attenuated, vibrating cilia, by the aid of which they are able to creep over any moist surface. These masses usually combine, forming a homogenous mass, with an "Amoeba" power of movement, and termed a plasmodium, which is enclosed within a dense layer of hyaline, and this in turn by a thin coating of mucilage. This plasmodium coming in contact with the root of a Cabbage is quickly absorbed—probably minus its covering of mucilage—forming the swelling by occnpying the whole interior of the cells, or some times in stringy masses crossing the cell contents, bnt in either form causing distension (rarely rupture) of the cell wall from 10 to 100 times its normal size. The fungus speedily reproduces itself, nntil not a root fibril remains free from this distension. The swelling thus cansed is usually oblong, spindle-shaped, or fusiform, with a flowing outline, hence it is easily distinguished form the galls formed by Ceuthorrhynchus snlcicollis, the Gall-beetle, which usually have an abrupt termination. Club-root attacks all the Brassica tribe and is known under the names of "Finger and Toe," "Anbury," and on the Continent as "Hernia." The approved means of prevention are the collecting and burning of all diseased roots, the application of gas lime dressings to the soil; to manure with coporlite or steamed bones, and abstain from manures containing sulphur and chlorine. Crop the diseased plot with plants belonging to a different genus, and be snre to extirpate all Cruciferous weeds, such as Charlock, "Shepherd's Purse," &c., as their presence will spread the disease. The eradication of such weeds is the chief preventive and remedial measure against the Gall beetle. Against this insect attack a good preventive method is that of dipping the roots of the plants, when transplanting, in a mixture of soot, lime and soil, or when pricking-out seedlings, pinching off the top root will result in the production of more fibrous roots, hence there is less fleshy root for the depredations of the grub.—*D. McGregor.*

In your number for September rst I notice that Mr. W. Waite, Southfields, is troubled with his Cauliflowers clubbing. This trouble is pretty much alike to "finger and toe" among Turnips. I, myself, have been very troubled with all the Cabbage tribe going the same way. However, a year or two ago, I gave the ground a good dressing with quick lime, as far as I can remember about one bushel to about 9 to 12 sq. yds., and I am happy to say that clubbing is almost *nil* now. I spread it on the surface of the gronnd and raked it lightly in when cropping. Your correspondent might try a heavier dressing which at least, will not do any harm. A little nitrate of soda gives them a start, and is also beneficial.—*William Johnston, The Elms, Arbroath, September 5th, 1900.*

Paraphrasing Kipling, orchardists should spray, spray, spray.

THE BEGONIA DEBATE.

It is unfortunate Mr. Dick cannot fall into my suggestion of sending a plant of Begonia Gloire de Lorraine for your opinion, Mr. Editor, though it is, as he says, a long distance to send a package by rail. I never once doubted the capabilities of your correspondent's friend in growing good specimens from the leaf; what I was anxious to learn was, which made the finest and best flowered plant, the leaf or short cutting, so that I could by another season increase our stock from the former method if it proved the best specimen. Now Mr. Dick has given us details as to its successful propagation in that way. I should much like to see the Edinburgh show, but am afraid it is a trifle too far for me to go, this year at any rate. If all goes on as now with our batch of this plant, I hope to send you a photograph, if not the actual plant, when at its best from cuttings, put in early in March, and which are at present standing in a cold frame, but shall soon be taken where a little heat can be given to them.—*J. Mayne, Bicton.*

In reply to Mr. W. Dick's note which refers to Begonia Gloire de Lorraine, as shown at the Edinburgh show a year ago, I can fully corroborate his remarks regarding their superior merit. I have been deeply interested in the correspondence which has lately appeared in The Gardening World upon this subject. For myself I must say that while I believe the leaf cuttings furnish more elegant plants when the latter are matured, it is at the same time easier to strike from stem cuttings. At the Ryecroft Nursery here we have a splendid collection propagated from both leaves and stems, and which came from the leaf, and which from the stem it would baffle an expert to tell.—*W. Logan.*

NOTES ON RECENT FLOWER SHOWS.

The floral exhibitions of the past summer have revealed to us many curious customs in their management that are apt to drop out of our mind so soon as the exhibitions are over; so a few notes at the present time may keep them in the remembrance of schedule framers for the coming summer.

It is a common practice to allocate space to each exhibitor for a collection of vegetables, or a collection of fruit for competition; but not for a collection of plants for competition. Seeing that plants are grown to please the eye, and the great desire of the competitor is to present them to the eyes of the judges in the most pleasing way; the competitor is yet in many cases prevented from doing this, by the staging committee, who arrange them in their allotted space, and thereby make themselves part competitors in the different groups.

Where esthetics is the criterion, as in the case of plants, the competitor should be allowed to present them to the eyes of the judges himself; and where utility is the main criterion as in the case of fruits and vegetables, it is not nearly so important that the competitors should stage them. Yet few staging committees would interfere in the arrangement of a collection of fruit, or think of putting a Carrot or Potato in a collection of vegetables, out of the positions they were laid in by the competitor. Every competitor should be allowed to make the most of his exhibit (of whatever kind) in the space allotted to him.

The anomalies of judging are sometimes amusing. Although a schedule may state "potfuls of plants" where more than one plant is allowed in a pot, such as Eucharis, Liliums, Pancratiums, &c., if these potfuls occur in a group where only one plant is wanted in a pot, the judges consider them one plant and do not disqualify. How this should be allowed is a mystery.

Another curious thing came under my notice. In collections of salads I noticed Mint, Thyme, Tropaeolum flowers, Tropaeolum seeds, Tomatos, Seakale, &c. Mint makes a good sauce, but is it used as a salad? Tropaeolum seeds I have eaten as a boy, as a salad, but they are difficult to eat. The flowers may be easier, but I never tried them. As for Thyme being used as a salad, a Birch besom would just be about as tempting to eat!

This leads to the question, "What can be included in a collection of salads?"

Judging for all the rules that have been formulated is done in the same way by ninety-nine out of every 100 judges as it was done fifty years ago, *i.e.*, according to their own taste. Some think this way as good as any other way—that a new standard of excellence is set up by every new set of judges, and the shows are prevented from dropping down to a monotonous sameness, and prevents the same competitors from carrying away the prizes every year. This may be, but is it leading along the paths of horticultural progress? Surely not.

Another feature of the shows this summer was the increased quantity of floral designs exhibited. The delineation of the objects copied was very neat, and the blending of the colours showed good taste. As works of art they are very interesting, and to the man from the street they are the grandest thing in the show. To the true horticulturist they are not so fascinating. His aim is to assist Nature to develop forms and colours for herself, forms more perfect, and colours more exquisite than anyone can ever hope to equal; not to speak of the life with which they are endowed.—*W. K.*

AN IRISH GARDEN AND ITS SURROUNDINGS.

Glenholme is a charming spot near Dungannon in Ireland, with a nice old-fashioned garden and stream, and an adjoining wood, the curiously mixed flora of which is highly interesting to the lover of our native wild flowers. Why a limestone-loving plant and one that is decidedly partial to the open, should be found cooped up in an Ash and Larch plantation on loamy soil is hard to conceive, but such we here found to be the case with the somewhat rare and locally distributed Orchis pyramidalis. Certainly it occurred in the more open portions of the woodland where the bright, ruddy pyramidal-shaped flower spikes rose far above the surrounding grass and converted the otherwise somewhat gloomy scene into a thing of beauty and life.

The curious and equally interesting orchidaceous plant Listera ovata, or the Tway-blade, occurred plentifully in the same wood, indeed, in the rich, dampish ground by the streamside, it attained to stately proportions and hung its long spikes of greenish-yellow, man-shaped flowers in graceful profusion.

A steep bank by the streamside was carpeted a delightfully refreshing green by the fronds of that by no means common member of the Fern family—Polystichum aculeatum, or the Shield Fern. Where the stream widened out into a fair-sized pond of water the aquatic vegetation was interesting and abundant, though it could hardly be said that any of the plants were rarities. In this wood I detected the first appearance of the Larch disease, or "canker," many of the forest trees being affected with this scourge of our Larch plantations, and which has so spread of late years throughout England and Scotland as to be little short of a national calamity. A few years ago the disease was unknown in Ireland, particularly in connection with such trees as were growing on peat bog, but to-day, alas, whole plantations of Larch have been, and are being removed, so virulent has the attack appeared. Certainly on reclaimed peat bog the disease does not occur to such an extent as on other classes of soils.

The garden at Glenholme contains a collection of principally old-fashioned flowers, the value of which is again being recognised with the decline of the formal bedding-out system. Some unusually fine specimens of the Gean or wild Cherry skirt the kitchen garden, these whether in flower or fruit being the admiration of every beholder, while the variegated form of Lawson's Cypress wears here a healthier and happier appearance than I have known to be the case elsewhere.

The giant Arbor-Vitae likewise thrives amazingly, and Retinospora plumosa aurea puts on a tint of gold that one only finds in the most favoured situations and where the soil is peculiarly suitable for the perfect development of this gem amongst Conifers. Daffodils are largely cultivated, principally planted out amongst the grass, and the margins of the path leading from the main road to the house are a conspicuous feature of the grounds during the early spring months, the wealth of golden flowers being at that time surprisingly grand. The Mock Orange (Philadelphus), the Syringa, Berberis Darwinii, the variegated Honeysuckle, Euonymus and various roots all seem to revel in the good soil and humid atmosphere of this part of the British Isles, while the pretty but hard to cultivate Tropae-

olum speciosum has become quite established on the house front where it looks as robust and happy as in its favourite Perthshire home.—*A. D. Webster.*

OSTERLEY PARK.

On Saturday afternoon, the 25th ult., some of the members of the Acton Scientific Society and Field Club visited this fine demesne, by the kind permission of the Earl of Jersey. The visit was much appreciated.

The Park, which comprises about 600 acres within the walls, was looking at its best after the recent rains; and the trees and shrubs, of which there is a large and varied collection, were quite verdant and foliaceous for the time of year. His lordship, who takes great interest in all forms of arboreal vegetation, continues to plant season by season, so that, although the park is already noted for its sylvan beauty, it is—under its present noble proprietor—destined to become an arboreal paradise.

Some of the other striking features of Osterley, apart from the magnificent mansion, are the lakes, the lawns, and the glorious glades.

Of the trees mention must be made of the Cedars of Lebanon (Cedrus Libani and C. atlantica), which are here quite the patriarchs of the cone-bearing tribes. Many of the Lime trees, too, attain large proportions, several being upwards of 100 ft. in height. The old Cork tree (Quercus Suber) is said to be one of the finest specimens in the country; but, unfortunately for the gardeners, while it is putting on "Cork" it is also putting off leaves, much to the detriment of the velvety verge. This is, however, not peculiar to the evergreen Oaks, but is characteristic of all so-called "evergreen" trees. The vegetation in, and bordering on, the extensive sheets of water at Osterley is always luxuriant; but this season, if possible, it is in even greater plentitude. The tall, hairy Willow Herb (Epilobium hirsutum) is in great profusion on the banks of the lake near the mansion, while the Reed Mace, or Cat's-Tail (Typha latifolia) in the adjoining lake is a perfect forest of linear leaves and chocolate-coloured "catkins." In addition to native vegetation the former lake contains exotic plants like Marliac's beautiful Water Lilies (Nymphaea Marliacea) in three or four colours. These, however, although very fine in point of colour, cannot vie in vigour and floriferousness with Nymphaea alba, the queen of British water flowers, or its fine double form, which here displays a beauty of outline and a pearly whiteness fabled of the nymphs of old. But there are water weeds as well as water flowers, if, indeed, it is possible to distinguish between them.

Among the latter we must perforce class the Water Milfoil (Myriophyllum spicatum), which produces tangled masses of slender, much-branched stems and finely divided hair-like leaves, and which Mr. Jas. Hawkes, the able gardener and courteous conductor, expressed a wish to be rid of. The Water Persicaria (Polygonum amphibium), however, need not be placed in the same category, for its cheerful rose-coloured spikes of flowers redeem its weedy character.

Large clumps of yellow Iris or Corn Flag (Iris Pseudacorus) were perfecting their seed pods; these together with the stout, long, sword-shaped leaves presented quite a sub-tropical appearance.

Somewhat further away from the mansion other aquatics or sub-aquatics were much in evidence; as, for instance, the branched Bur-reed (Sparganium ramosum); the Reedy Sweet Grass (Poa aquatica); the common, but handsome Reed (Arundo Phragmites); the Gipsy-wort (Lycopus europaeus); the Bur-Marigold (Bidens cernua); the Water Mint (Mentha aquatica); the Skull-cap (Scutellaria galericulata); the soft or twisted Rush (Juncus effusus); J. obtusiflorus, Carex muricata, Cyperus longus, or the English Galingale, which is comparatively rare, Hypericum quadrangulum, or square-stalked St. John's Wort, Lysimachia vulgaris, or great yellow Loosestrife, Alisma Plantago, or water Plantain, and many others.

A small pond contained that pretty little aquatic plant Peplis Portula, or Water Purslane, with creeping reddish stems and inconspicuous axillary flowers, and had for its companion Potamogeton natans, or the floating Pond-weed. On the banks grew Myosotis caespitosa, the tufted Scorpion-grass, while but a short distance further, on some sloping ground, the lovely Hare-bell *alias* Scottish Bluebell (Campanula rotundifolia) lent its lustrous light.

Thus it will be seen that Osterley possesses a fair percentage of British plants as well as a large variety of exotic ones, and that it is particularly adapted for naturalising such things as Mimulus luteus, Impatiens fulva, Leucojum aestivum, &c., &c.

Woodlake, too, is a charming spot in summertime, as it is the haunt of wild fowl, as the trees which surround it are joyous of the song of birds and full of the drowsy hum of many insects. At least that is so when "Sol" is ardent, but on the occasion of our visit the meteorological conditions were unfavourable to their activity. Fish, however, sports in the depths and shallows of the lakes, while many a would-be "Isaac Walton" plays his piscatorial part. But whether it be for fauna or flora, for pomona or Priapus, or for any other phase of Nature, it is good for man to attach himself to some special pursuit—it is the wine of life to him, the music to which his soul most readily conforms.—*C. B. G.*

MONTBRETIAS.

A paper from M. Emile Lemoine, of Nancy, France, translated from the French, was read, in the absence of the writer, by Harry J. Veitch, Esq., at the Drill Hall meeting of Tuesday, August 28th. There was a good attendance, and the paper was admirably delivered by Mr. Veitch.

Montbretia crocosmiaeflora was first mentioned. This was a hybrid, and by no means a common one. The well-known Tritonia aurea, though introduced fully fifty years ago, and much praised at its introduction, is now only found in the gardens of enthusiastic amateurs. It is a pretty species with little tufts of long narrow leaves from which rise the racemes of golden-yellow flowers. It does best in a light soil. Twenty-five years ago Montbretia Pottsii was barely known, but so showy, robust, and hardy is this beautiful Iridaceous plant that few gardens in Britain and none in France are without it. M. crocosmiaeflora resulted from the crossing of the above and Tritonia aurea. It may be explained that most botanists include the genus Montbretia under Tritonia.

So vigorous is M. Pottsii that at the end of a season, from even one good corm, a fair sized clump may be lifted as the result of its increase. Speaking of M. crocosmiaeflora as a bigeneric hybrid, M. Vilmorin said that it can be raised from seeds, though this is not often necessary. The essayist had also prepared a list of varieties of Montbretias, beginning with M. elegans, M. Rayon d'Or, &c., which were sent out about 1880, and described all that are included in the lists down to last year. In 1892, a disease appeared amongst M. de Vilmorin's stock, and affected the seedlings for that and a few subsequent years, for care was taken to send out no tainted bulbs. So strictly were precautionary measures observed that the pest was stamped out.

In the few cultural remarks which were appended, it was advised to select or prepare a light sandy soil, well exposed to the sun. The bulbs should be planted in April or May, or they may be started in frames to be planted out later on. They must have a supply of moisture and liquid manure throughout the growing season. To protect them during severe winters, it is advisable to cover the ground surface with leaves or other material. It is indeed a good plan to lift the bulbs yearly and store them in sand. Much care, however, has to be exercised else they become too dry and hard, and so refuse to start. When diseased corms were cut through, the wood fibres were found to be blackened, and nothing can cure the malady; they therefore should be burned. To prevent infection, dipping the corms occasionally during the winter in a quantity of Bouille Bordelaise is recommendable.

BALLONE COS LETTUCE.

I have grown this Lettuce for two seasons and I consider it the very best one in cultivation. It grows to a large size, quite distinct from any other, it is so crisp and sweet. Another great advantage is that it remains longer in use than any other which I know in use. Four or five sowings will be sufficient to last for the season. Sow the seed in rows a foot apart; thin out the plants to nine inches apart; and plant out the thinnings of the plants. In fact, those now planted are the best. I have never proved its hardiness for standing the winter, but am now to sow seed of it and may let you know the result.—*W. Carmichael, 14, Pitt Street, Edinburgh.*

SOCIETIES.

DAHLIA SHOW.—*September 18th, 19th and 20th.* A Dahlia show was held at the Royal Aquarium, Westminster, S.W., on the above dates, when nearly all the leading Dahlia growers set up displays of very superior excellence. Mr. R. Dean, V.M.H., had acted as hon. secretary and superintendent, and had managed his duties to the highest satisfaction and success. Our report is necessarily limited but enough is recorded to show how fine the display was. There was a class for seedling varieties, but we found none but those which we have already noted in our columns.

Competitive Exhibits.

Nurserymen: Show and Fancy Dahlias. For twenty-four blooms, distinct, the prizes respectively were awarded to Mr. J. Walker, Oxon; Mr. Geo. Humphreys, Kington-Langley, Chippenham; and Messrs. Keynes, Williams & Co., Salisbury. For the twelve, ditto, Mr. E. West, Jun., Henley-on-Thames, led off. Some good blooms were exhibited in these stands, including Victor, Daniel Cornish, John Hickling, Arthur Rawlings, Chieftain, J. T. West, Muriel Hobbs and Comte de la Saux.

Cactus.—Messrs. J. Burrell & Co. won for the twelve varieties of Cactus blooms, in bunches of six; they having a splendid lot, including many new varieties. Messrs. J. Stredwick & Son, St. Leonards-on-Sea, came second; and third, Messrs. Keynes, Williams & Co. For twenty-four single blooms, on boards, the latter took the lead, followed by Messrs. Burrell & Co., second; and third, Messrs. Keynes, Williams & Co. The chief varieties were Zephyr, Goliath, Mr. C. Page, Up-to-Date, Britannia, Uncle Tom, Innovation, Debonair, &c.

For three vases of Cactus blooms, nine flowers in each, open to all, Mr. M. V. Seale here again was first; Messrs. Keynes, Williams & Co., second; and Mr. A. Taylor, East Finchley, third. Mr. Vine led for twelve varieties of singles in the nurserymen's section; and Mr. Seale for a like entry of pompon blooms, six blooms each.

Miscellaneous Exhibits.

Messrs. H. Cannell & Sons, Swanley, Kent, showed a magnificent collection of Cactus Dahlias with banks of finely flowered Cannas at either end. Amongst the newer improved varieties of the latter were Mephisto, Ville de Poitiers, bright orange; Solfatara, deep orange-red; Duke of Marlboro', glowing scarlet; and Martha Washington, a variety of quite a distinct and rare colour, described as rose pink.

Messrs. A. W. Young & Co., Stevenage, Herts, showed a collection of hardy cut flowers, which included some very fine Gladioli, Rudbeckias and Dahlias. (Silver Medal.)

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Tottenham, London, also had a display of such fine stuff as Delphiniums, Helenium grandicephalum striatum, Asters, Dahlias, &c. (Silver Gilt Medal.)

Mr. M. V. Seale, Vine Nurseries, Sevenoaks, set up a bright and beautiful display of cut Dahlias, Physalis Francheti and foliage sprays. (Silver Medal.)

Messrs. J. Burrell & Co., Cambridge, had a collection of Gladioli spikes, similar to that staged at the last Drill Hall meeting. (Gold Medal)

Messrs. B. S. Williams & Son, Upper Holloway, exhibited their new white decorative Dahlia named Snowflake.

Messrs. Dobbie & Co., Rothesay, N.B., had a marvellously fine exhibition of cut Dahlias, Marigolds and Antirrhinums. The flowers and the method of arrangement were well-nigh perfect. (Gold Medal.)

Messrs. D. Dowell & Son, Ravenscourt Avenue, Hammersmith, W., staged a table of pottery ware and garden sundries.

Mr. J. Williams, 4A, Oxford Road, Ealing, displayed his table decorations.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., had a beautiful Gold Medal group of choice stove and greenhouse flowering and foliage plants. These were admirably arranged for effect. Begonia Moonlight, B. carminata, B. Gloire de Lorraine, Cannas, &c., with Acalyphas, Palms, Crotons, Caladiums, and Bamboos were included. (Gold Medal.)

Mr. A. Edwards, Arnold, Notts, showed his "Edwardian Table Decorations."

Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., showed some handsome seedling double flowered tuberous Begonias, picked from the open ground. Some of these were bright, of great substance and good form. (Silver Medal.)

Messrs. Lawes Chemical Manure Co., 59, Mark Lane, London, showed a very large assortment of their various well-known "Ideal" fertilisers, &c.

Mr. J. T. West, Tower Hill, Brentwood, had a bright collection of pompon and Cactus Dahlias. (Silver Gilt Medal.)

Messrs. Hobbies, Ltd. (Mr. John Green), Derebam, had an exhibition of cut Dahlias of great magnitude and merit. The arrangement was altogether on a massive scale and perfect in its way. The splendid varieties Radiance, Major Weston, Red Rover, Innovation, Zephyr, Mrs. Carter Page, Mrs. J. J. Crowe, and Lucius Green's White were especially brilliant and fine. (Gold Medal.)

Messrs. Fenlow, Tudor Street, Temple, E.C., showed their Temple hot water apparatus, which burns oil and gas, giving great heat, and causing no smell.

ROYAL HORTICULTURAL.—*Sept. 11th.*

THE show held in the Drill Hall, on Tuesday, September 11th, was a bright one. Roses and cut hardy flowers, including very large displays of Gladioli and Sweet Peas, were the principal features. Messrs. Veitch & Sons showed a large collection of seasonable fruits. Orchids were scarce. The day was agreeable but the attendance was only moderate.

Orchid Committee.

PRESENT.—Harry J. Veitch, Esq., in the chair; with Messrs. J. O'Brien, J. G. Fowley, de B. Crawshay, H. M. Pollett, H. J. Chapman, J. T. Gabriel, W. H. Young, H. A. Tracy, W. Potter, F. J. Thorne, W. Cobb, T. B. Bond and Arthur Hay.

Messrs. F. Sander & Co., St. Albans, showed a number of strongly flowered specimens of Dendrohium phalaenopsis schroderianum.

Walter C. Walker, Esq. (gardener, Mr. Geo. Cragg), Percy Lodge, Winchmore Hill, N., also showed a number of plants of this Dendrohinm.

From J. Gurney Fowler, Esq. (gardener, Mr. Davis), Glebelands, South Woodford, came a finely-flowered specimen of Cattleya bicolor Glebelands variety.

Floral Committee.

PRESENT.—N. Marshall, Esq., in the chair; with Messrs. W. P. Barr, Chas. T. Druery, Geo. Nicholson, H. B. May, R. Dean, Wm. Howe, J. Hudson, J. Jennings, F. Fife, C. R. Fielder, J. D. Pawle, C. E. Pearson, J. Walker, H. Cutbush, H. J. Jones, E. H. Jenkins, W. J. James, Charles Blick and E. T. Cook.

Messrs. Barr & Sons, King Street, Covent Garden, W.C., had a magnificent group of Gladioli and herbaceous plants. There was something peculiarly "fresh" in this group of autumn flowers. Montbretias, Lilium speciosum rubrum, Scabiosa cancasica, Helenium autnmnale striatum, &c., were shown. (Silver Banksian Medal.)

Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., had a collection of Pompon and Cactus Dahlias, Asters, Helianthus Miss Mellish, Tritomas, Delphiniums, and Statice latifolia, were included in this bright display.

Messrs. H. Cannell & Sons, Swanley, Kent, set up a fine group of Cannas, well flowered plants, in 5-in. and 6-in. pots. (Silver Gilt Flora Medal.)

Messrs. Cant & Co., Braiswick Nursery, were again exhibitors of decorative Roses. The best of the Teas, H. T.'s, &c., now in flower, were here shown. (Silver Banksian Medal.)

Mr. G. W. Piper, Uckfield, Sussex, had a small collection of the finest Tea Roses we have seen this year. Sunrise of course was shown; Maman Cochet, the new Tea Rose Liberty, white Maman Cochet, Admiral Dewey, and Berthe Gemen were also among the new varieties shown.

Messrs. Wm. Paul & Son, Waltham Cross, Herts, staged basketfuls of cut Roses, including Corallina, Queen Mab, Empress Alex. of Russia. They also showed a group of Salvia Ruhm Von Stuttgart, an improved form of the well-known S. splendens. (Silver Banksian Medal.)

Mr. J. H. Witty, Nunhead Cemetery, set up an attractive group of early flowering Chrysanthemums. Most remarkable was a very dwarf variety in 5-in. pots, scarcely a foot high, and clustered with blooms. (Silver Flora Medal.)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., set up a very seasonable group of winter flowering Heliotropes, Begonia floribunda rosea. Moonlight, Gloire de Lorraine, carminata, and others. In regard to Moonlight, the flowers are a soft mellow cream hue, in elegant clusters, and the leaves are dark, shining, and clean cut. Ferns, Bamboos, &c., were included. (Silver Banksian Medal.)

Messrs. W. and J. Brown, Peterboro', sent sixty bunches of Sweet Peas, embracing most of the best and most popular varieties. They were good for so late a collection. (Silver Banksian Medal.)

Messrs. J. Cheal & Sons, Crawley, showed a collection of cut Dahlia blooms, exquisitely fine, and of the highest standard all of them. The best of the singles named in our report of the Dahlia show (p. 44), were here shown. The same may be said of the Cactus, the shows, and fancies. (Silver Gilt Flora Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, had a limited but choice collection of Gladioli spikes. The finer varieties were Jean Dybowski, glowing crimson; Viviand Morel, scarlet crimson; and Canrobert, crimson with a white throat. They were all large and fine forms of the Nanceianus section.

Mr. James Stredwick, Silver Park, St. Leonards-on-Sea, showed a number of seedling Cactus Dahlias.

Messrs. Harrison & Son, Leicester, showed over fifty bunches of Sweet Peas. The blooms were large and fine, deeply coloured and strong. Her Majesty, Lady Penzance, Royal Rose, Dorothy Tennant, Mrs Eckford, and Mars were exceedingly bright. (Bronze Flora Medal.)

Messrs. J. Burrell & Co., Home House Nurseries, Cambridge, showed about 170 spikes of Gladioli; Dora Craven was a good white and mauve-tinted variety; Grand Rouge was also fine; Acis, Martial, Casilda, and Baroness B. Conthe were first-rate. They also showed Cactus Dahlias. (Gold Medal.)

Messrs. Dobbie & Co., Rothesay, N.B., again showed Marigolds and Antirrhinums.

Mr. Geo. Prince, Rose Grower, Oxford, set up a remarkably fine display of cut decorative Roses. W. A. Richardson, L'Ideal, Longworth Rambler, Mdme. Chedanne, &c., were especially noteworthy. (Silver Gilt Banksian Medal.)

Messrs. Thos S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, had an extensive display of choice hardy cut flowers. Liliums, Crinum Powelli, Galtonia candicans, Helianthus Miss Mellish, Liatris pyrenostachya, Aster Miss Stafford, with Phloxes and bulbous flowering specimens were shown. (Bronze Banksian Medal.)

Mr. Amos Perry, Winchmore Hill, London, N., also had a hardy flower display. Verbena venosa, Asclepias tuberosa, Actaea spicata fructo alba, Aster Mrs. Peters (white), Delphinium Belladonna, and Lobelias, Liliums, Tritoma MacOwani, Senecios, Anemones, &c., &c., were well shown. (Silver Flora Medal.)

Messrs. Geo. Cooling & Sons, Bath, set up such fine "garden" (decorative) Roses as Mdme. Hoste, Medea, Bridesmaid, Gustave Regis, Mdme. Guinoisseau, Papa Gontier, Marquis of Salisbury, and Marechal Niel, were included in the collections. (Silver Floral Medal.)

Mr. Charles Turner, Slough, had a choice collection of cut sprays of Hibiscus and Roses. The best of the varieties now in flower were here set up. Souv. de C. Guillot, Perle d'Or, and others, specially fine. (Silver Gilt Banksian Medal.)

Models of improved greenhouses and such-like structures, patented by Mr. J. T. B. Fairburn, Edentonn, Carlisle, were shown before the floral committee. These are likely to be heard more of.

Fruit and Vegetable Committee.

PRESENT.—Philip Crawley, Esq., in the chair; with Messrs. H. S. Rivers, J. Veitch, J. Cheal, Geo. Kelf, H. Esling, W. Pope, A. Dean, S. Mortimer, C. Herrin, J. Barham, E. Beckett, F. L. Lane, J. Smith, G. Reynolds, G. Norman, and Geo. Bunyard.

Messrs. H. Cannell & Sons, Swanley, Kent, showed over four dozen heads of Cabbage Cannell's "Defiance," a neat and firm variety. (First-Class Certificate.)

Mr. John Watkins, Withington, Hereford, staged a collection of Damsons, Bullaces, and Damson-like Plums. The Colchester Black Bullace, Frogmore Damson, Farleigh or Cluster Damson, &c., were shown.

Melons came from Mr. H. Balderston, Corner Hall, Hemel Hempstead.

Messrs. Sutton & Sons, Reading, showed Potatos "Supreme" and Centenary. They also had Tomato Golden Nugget.

Messrs. Cutbush, Highgate, London, N., showed Tomato The Cropper; and from Messrs. Dobbie came Cherry Ripe Tomato and Golden Drop.

Monarch Plum was shown by Messrs. T. Rivers & Sons, Sawbridgeworth.

Damson John Seden came from Messrs. Veitch & Sons, Ltd., Chelsea. This firm sent a collection of fruits comprising Apples, Pears, Plums, seedling Crabs, Blackberries, Peaches, Currants, and Raspberries. Two specimen young Crab trees in pots, of the variety John Downie, laden with fruits, proved how ornamental this is. (Silver Knightian Medal.)

Mrs. Burns (gardener, Mr. C. R. Fielder), North Park, Hatfield, sent a collection of 18 dishes of Plums. (Silver Banksian Medal.)

LYNN HORTICULTURAL.—*September 12th.*

THE Lynn Horticultural Society held their annual flower show in Walk's Field, on Wednesday, September 12th, and were favoured with pleasant weather. In conjunction with the show, sports were included, a fact that was evident from the numbers of people which this feature, of itself, attracted. The show, speaking in general terms, was most satisfactory. There was a slight shrinkage in the number of entries, but the exhibition proved to contain produce of superior merit. The usual seasonable flowers were shown extensively, and fruits and vegetables, more especially the latter, also occupied a considerable portion of the show.

The staging and general arrangements were carried out by the hon. secretaries, Messrs. F. J. Hall and G. Alexander, assisted by a strong committee. Mr. J. A. Parsons, the hon. treasurer, was also active in various necessary duties. The most successful exhibitors in the show, carrying off respectively Messrs. Toogood & Sons' Silver Medal, Bronze Medal and Certificate, were Messrs. G. Laws, J. Ping and R. J. Clarke. Others of the chief prize-winners included Messrs. T. Lee, J. Barker, F. Valentine, R. Simpson, J. W. Williamson, W. J. Belderson, F. H. Daisley, T. C. Reed, G. Gutteridge and W. Tooley.

ROYAL CALEDONIAN HORTICULTURAL.—

September 12th and 13th.

(Concluded from p. 46.)

FRUIT.—In order to encourage the better cultivation of the Black Hamburgh Grape, the society offered a medal for the best bunch of that variety which should win 7½ points out of a maximum of 9. There were thirty-seven entries in two classes for this variety, showing that gardeners were determined to uphold their reputation for growing this variety. A Bronze Medal was awarded to Mr. James Mattison, gardener to Messrs. Craigs, Currie, and to Mr. J. Potter, gardener to W. Parkin Moore, Esq., Whitehall, Wigton, respectively. Mr. Mattison also took the lead in the class for two bunches amongst eighteen entries. He was followed by Mr. J. Potter; and Mr. R. H. Cockburn, gardener to H. W. Hope, Esq., Luffness, came in third. Mr. T. Lunt, gardener to Capt. Stirling, Keir, Dunblane, took the lead for one bunch of Muscat of Alexandria, very finely finished. Messrs D. and W. Buchanan, Forth Vineyard, Kippen, were a good second; and Mr. Thos. H. Cook, Gosford House, came in third. Mr. J. Potter, who won one of the Bronze Medals, took the lead in the class for one bunch of Black Hamburgh, in a competition of nineteen entries. The bunch was cut from a Vine planted in 1861. Mr. R. Stuart, gardener to Lord Lauderdale, Thirlstane Castle, was a good second; and Mr. A. Knight, gardener to P. Wordie, Esq., Lenzie, came in third. Messrs. D. and W. Buchanan took the premier award for one Alicante, a huge bunch weighing 4¾ lbs., and well finished. Messrs. Wm. Murray & Son, Orchard, Park Hall, Polmont, made a good second; and Mr. J. Beisant, gardener to Mrs. Geo. Armitstead, Castle Huntly, Longforgan, took the third place with a fine bunch. There were twelve entries Mr. T. Lunt led the way for Alnwick Seedling with a superb bunch about 14 in. long. He was followed by Messrs. D. and W. Buchanan and Mr. Andrew

Hutton, gardener to G. Keith, Esq., Usan House, Montrose, in this order, both bunches being grand. Mr. J. Beisant took the lead for a bunch of Gros Colman, having enormous berries. Mr. John Leslie, gardener to Mrs. Coates, Pitcullen House, Perth, was a good second; and Mr. J. MacPherson, gardener to Miss Raffin, Mayfield, Edinburgh, came in third. Mr. J. Anderson, gardener to F. W. Black, Esq., Peebles, took the lead for Lady Downes; being followed by Mr. D. Kidd, gardener to Lord Elphinstone, Carberry Tower, Musselburgh; and by Mr. T. Lunt in this order. He came to the front, however, for Madresfield Court, with grand berries. Mr. T. C. Sutherland, gardener to T. L. Learmouth, Esq., Park Hall, Polmont, was second; and Mr. J. Potter was third. Mr. W. J. Green, gardener to Sir C. M. Palmer, Bart., M.P., Grinkle Gardens, Loftus, had the best bunch of any black, showing Gros Maroc in grand form. Messrs. Wm. Murray & Son were a good second; and Mr. J. Beisant a good third amongst fifteen entries. All these exhibits of Grapes were marvellous of their kind. Mr. T. Lunt had the best bunch of any white, showing a grand Foster's Seedling. Mr. John Potter was a very good second; and Mr. J. McNeill, gardener to Major Thorburn, Peebles, came in third. For the finest flavoured black, Mr. T. Lunt was the first prize winner, showing Muscat Hamburgh in beautiful form. Mr. T. C. Sutherland was second with Madresfield Court; and Mr. Jas. Mattison, third, with the same variety. Mr. T. Lunt also took the lead for the finest flavoured white, with Muscat of Alexandria. He was followed by Mr. Thos. H. Cook and Mr. John Leslie, both showing the same variety. Mr. T. C. Sutherland was first for a black Grape, with the finest bloom, showing Alnwick Seedling.

Mr. Jas. Shearer, gardener to J. Rutherford, M.P., Annan, took the lead for a green fleshed Melon amongst twenty entries; Mr. T. Lunt was second; and Mr. J. Day, gardener to the Earl of Galloway, Garliestown, was a good third. Mr. James Shearer again led the way for a scarlet fleshed Melon, amongst thirteen entries; Mr. T. Lunt was second; and Mr. D. Kidd was third. Mr. Jas. Bilton, gardener to Major Balfour, Fernie Castle, Fife, had the best Figs; Mr. T. Lunt was second. Mr. J. Leyden, Whitehill Gardens, Boswell, took the lead for twelve Peaches; and was followed very closely by Mr. N. F. Barnes, gardener to the Duke of Westminster, Chester. Mr. Wm. Smith, gardener to the Earl of Stair, Oxenford Castle, had the best Nectarines, beating Mr. T. Lunt, and Mr. D. Murray, gardener to the Marquis of Ailsa, Maybole, in this order. Mr. A. Rowland, gardener to the Marquis of Tweedale, Yester Gardens, Gifford, took the lead for Apricots; Mr. Jas. Morrison, gardener to Mrs. N. Hamilton Ogilvy, Archerfield, was a good second. Mr. N. F. Barnes had the best twelve Gage Plums, beating Mr. G. Mackinlay, gardener to the Rt. Hon. Earl Cowper, K.G., Wrist Park, Beds. The latter came to the front for twelve red Plums, showing Fonthill in grand form; Mr. M. McIntyre was a good second. Mr. N. F. Barnes took the lead for twelve purple Plums; Mr. J. Day being second. Mr. N. F. Barnes had the best collection of dessert Plums, and was followed by Mr. A. Rowland. Mr. J. Day scored for the collection of culinary Plums; and was followed by Mr. J. Dymock, gardener to B. Wentworth Vernon, Esq., Towcester, Northampton.

For a collection of twelve varieties of Apples the lead was taken by Mr. N. F. Barnes, who had grand dishes of Peasgood's Nonsuch, The Queen, Melon, Lady Sudeley, &c. Mr. R. M. Whiting, Credenhill, Hereford, was a good second. For the collection of Apples grown in Scotland, Mr. J. W. Carnegie, gardener to M. Smith, Esq., Prestwick, secured the leading award with a fine lot; Mr. J. Day was a good second. Mr. D. Gibson, gardener to J. B. Johnstone, Fsq., Coombe Cottage, Kingston-on-Thames, took the lead for the collection of six varieties of Apples, with fine samples of Lord Suffield, Lord Grosvenor, &c. Mr. N. F. Barnes was second. Mr. David Gibson again came to the front for six dessert Apples, all being highly coloured. Mr. N. F. Barnes followed. Mr. R. M. Whiting was first for Blenheim Pippin. Mr. David Gibson led for Cox's Orange Pippin. Mr. N. F. Barnes had the best Gascoyne's Scarlet. Mr. J. Dymock was first for Irish Peach. Mr. J. Day had the best dish of James Grieve Apple. For Kerry Pippin, Mr. J. Dymock was first. Mr. R. M. Whiting was first for King of the Pippins. Mr. N. F. Barnes led for Lady Sudeley. Mr. Thos. H. Cook was first for Oslin Pippin. Mr. J. Dymock led for Ribston Pippin. Mr. J. W. Carnegie had the best Thorle Pippin. Mr. R. M. Whiting led for Worcester Pearmain. Mr. J. Dymock had the best yellow Ingestrie. For culinary Apples leading exhibitors were Messrs. N. F. Barnes, R. M. Whiting, J. Dymock, and Geo. Edgar (gardener to Jas. Cleland, Esq., Co. Down), the first and third of these exhibitors taking most of the first prizes.

Plants: Nurserymen.—Mr. John Downie, 144, Princes Street, Edinburgh, was easily first for twenty-four hardy evergreen shrubs, showing Hollies, Diplopappus chrysophyllus, Veronicas, Bay Laurel, Portugal Laurel, Osmanthus, Euonymus, Choisya ternata, Box, &c. He was followed by Messrs. James Dickson & Sons, 32, Hanover Street, Edinburgh, with Hollies, Eugenias, Laurels, &c. They also had second prize for twelve hardy Conifers. Mr. John Downie again took the lead for six Palms; and was followed by Messrs. J. Geddes & Co., Murrayfield Nursery, Edinburgh. Mr. John Downie took the leading place for six new plants, showing Ficus radicans variegata, Anemia rotundifolia, Maranta picta, Evodia elegans, Dracaena Victoria, and Kentia sanderiana. He also took first prize for twelve plants for table decoration, showing graceful plants, with the pots draped in blue and pink covers. Messrs J. Geddes & Co. were second.

Cut Flowers: Nurserymen.—Prizes were offered for a collection of Dahlias, representing any varieties, in a space 7 ft. by 5 ft., shown with their own foliage, and the lead was taken in fine style by Messrs. Kerr Brothers, Dumfries, with a splendid exhibit. They had over 100 varieties, and the centre was occupied by a trophy in the form of a half cone, done with Cactus Dahlias, mixed with Gypsophila. Some of their finest varieties were Emperor, Ajax, Cornucopia, Loyalty, Mayor Tuppenny, Mrs Carter Page, Uncle Tom, Up-to-Date, Wm. Treseder, Red Rover, and Mrs. J. J. Crowe. Pompons were very finely displayed on devices along the back, and on either side were pillars of Cactus Dahlias with long stems. Messrs. Jones & Sons, Shrewsbury, made a very good second. They had sixty varieties of Cactus Dahlias, eighteen bunches of Pompons, and twenty-four double show varieties. Very fine were such Cactus varieties as The Clown, Ruby, Keyne's White, Bridesmaid, Knight, Progenitor, and others which were first class. Messrs. M. Campbell & Sons, High Blantyre, Lanark, came in third in strong competition in this class with a very fine display of Cactus, show, Pompon, and single Dahlias.

Mr. W. Gold, Durhambank, Wisham, took the lead for eighteen bunches of Cactus Dahlias, showing them on a velvet covered, upright stand, the varieties and blooms being fine. Messrs. M. Campbell & Sons were a good second; and Mr. John Smellie, Busby, came in third, but took the lead for twenty-four show Dahlias. He was followed by Messrs. M. Campbell & Sons. Mr. John Smellie took the lead for twelve fancy Dahlias, followed by Messrs. M. Campbell & Sons. Messrs. Harkness & Sons, Bedale, Yorks, took the lead for thirty Gladioli, the spikes being very fine. Mr. Geo. Mair, Prestwick, N.B., came in second with a more crowded arrangement of fine spikes.

In the nurserymen's class for thirty-six Roses there were seven entries, and the leading award was taken by Mr. Hugh Dickson, Royal Nurseries, Belfast. He had grand blooms of Mrs J. Laing, S. M. Rodocanachi, Mdme. Eugene Verdier, Ulrich Brunner, Countess of Rosebery, Mdme. Lefebvre, de la Place, Lady Mary Fitzwilliam, &c. Messrs. Jas. Cocker & Sons, Union Street, Aberdeen, were a very close second, showing handsome blooms of La France, Caroline Testout, Mdme. E. Verdier, Mdme. Joseph Bonnaire, Ulrich Brunner, Dr. Andry, Her Majesty, and many others. For eighteen Roses the lead was again taken by Mr. Hugh Dickson, with many fine blooms in his stand. He was followed by Messrs. D. and W. Croll, Dundee. Messrs. W. and R. Ferguson, Dunfermline, had the best twelve Roses, showing several very fresh and handsome blooms. He was followed by Mr. Hugh Dickson. Messrs. Adam and Craigmile, Fernielea, Rubislaw, Aberdeen, took the lead for twenty-four Tea Roses, showing fine blooms of Francisca Kruger, Bridesmaid, Madame Hoste, The Bride, Muriel Grahame, &c. Messrs. D. and W. Croll were second. Messrs. Jas. Cocker & Sons had the best twelve scarlet Roses, showing Alfred Colomb, being followed by Messrs. D. and W. Croll with Mons. E. Y. Teas. Mr. Hugh Dickson took the lead for twelve pink Roses, showing Caroline Testout. Messrs. Adam and Craigmile had the best twelve white Roses in The Bride; Messrs. D. and W. Croll were second. The leading award for twelve vases of Roses was taken by Messrs. James Cocker & Sons, who had very handsome bunches of good varieties. They were followed by Messrs. W. and R. Ferguson.

Plants: Gardeners.—Mr. A. Knight, gardener to P. Wordie, Lenzie, took the lead for six foliage table plants, with neat specimens. Mr. J. Potter was second; and Mr. M. McIntyre, gardener to Sir Charles Tennant, Bart., The Glen, N.B., was a good third. Mr. Geo. Wood, gardener to Jas. Buchanan, Esq., Oswald House, Edinburgh, took the lead for four large specimen Palms. He was also first for one Palm, showing a splendid Kentia, being followed by Mr. Geo. McKinna, gardener to Sir John Usher, Bart., Ratho. Mr. J. H. Pearson, gardener to P. N. Fraser, Esq., Rockville, Murrayfield, took the leading place for four British Ferns, with fine specimens. Mr. T. Gibb, gardener to Mrs. Edmonston, Kilgraston Road, had the best Selaginellas; Mr. Geo. Wood being second. Mr. W. Sharp, gardener to Collingwood L. Wood, Esq., of Freeland, was first for four Orchids, and one Orchid. Mr. Geo. Wood had the best Cypripediums. Mr. J. Staward, gardener to Henry Cook, Esq., Milton Bridge, had the best nine dwarf British Ferns.

Miscellaneous Exhibits.

Mr. John Downie, 144, Princes Street, Edinburgh, set up a splendid exhibit of stove and greenhouse plants, in the form of a circle 18 ft. in diameter. The centre piece consisted of a pedestal or framework of virgin cork, with arms and pockets for various plants of a pendent or drooping habit as well as those of an arching contour, which entirely prevented an appearance of flatness. The pedestal was 7 ft. to 8 ft. high, and was furnished with well-grown plants—Lilies, Campanula Mayi, Ferns, Grasses, Cannas, &c., with a fine Palm on the top. The body of the exhibit was made up of well-grown and coloured plants of Crotons, Dracaenas, Lilies of various kinds now in season, including Lilium auratum, L. speciosum, and their varieties. There were two small groups of Ficus radicans variegata placed on the outskirts of the large group. Graceful Palms were suitably placed. They also had a circular group of fruit trees in pots, the area occupied being 15 ft. in diameter. They have made good provision for this kind of exhibit at their Beechhill Nursery, where all the fruits in pots or otherwise were grown. The fruit trees consisted chiefly of dessert Apples, well grown and fruited; but the exhibit also included Plums, ornamental Crab Apples, and Cherries, making four dozen trees in all. Between the trees were thirty-five dishes of gathered fruits of the kinds mentioned. The Strawberry-Raspberry in pots, the Japanese Wineberry, and the perpetual bearing Oregon Strawberry, were also features of this fine exhibit. The whole exhibit was edged by the neat-habited, dwarf and uncommon Veronica salicornoides, more like a Heath or a Salicornia than a Veronica.

Messrs. John Ford & Co., Her Majesty's Glass Manufacturers and Potters, 39, Princes Street, Edinburgh, and at Aberdeen, had a very handsomely executed dinner table, arranged for twelve persons. It consisted of a centre piece, two end pieces and four corners, the latter being single tubes with Ormolu mounts. The centre piece consisted of glass with gilt fittings. The glass service was made at their Royal Holyrood Glass Works. On it were finely cut stars in panels, the cost of the suite being £35, which will give some idea of the superior character of the exhibit. The dinner service was in the finest English porcelain, with dark blue band and festoons of pink Roses. The flowers employed consisted of Shirley Poppies and grasses set up or arranged with great skill and taste. Coloured foliage also was placed about the table in the style usually followed in this kind of decoration. Formerly, Messrs. J. Ford & Co. exhibited specialities in the way of crockery, vases, glass, etc., so that on this occasion they have made a new departure in introducing table decoration.

Messrs. James Cocker & Sons, Union Street, Aberdeen, set up a very extensive exhibit of hardy herbaceous plants on staging arranged in five tiers

with a shelf in front occupied with Dahlias, Tea Roses, and Carnations. The Tea Roses were fresh and charming at this season of the year. The herbaceous plants included fine bunches of Galtonia candicans, Montbretias in many fine varieties, Gladioli, Statice Gmelini, Michaelmas Daisies, Veronica incana, Rudbeckia laciniata plena, Polygonum amplexicaule, Lysimachia clethroides, Sunflowers, Scabiosa caucasica, S. c. alba, Phloxes, Chelone obliqua, Globe Flowers (Trollius), Bocconia cordata, Liatris spicata, the rare Eryngium amethystinum, and many other subjects in first-class condition.

Messrs. T. Methven & Sons, Princes Street, Edinburgh, exhibited a tall and conical group of Negundo aceroides variegatum, Palms, Araucarias, Crotons, Aralias, and similar subjects. These were brightened with such flowering plants as Lilium auratum, L. speciosum, and their varieties, Vallotas and Bouvardias. The outline of the group was circular.

Messrs. Sutton & Sons, Reading, made their appearance at this show and set up a very distinct and interesting group of various flowers in season with them at present. The group was 18 ft. in diameter, and built up in the form of a low pyramid. The Gesneras and tuberous Begonias around the central Palms on the top were very bright and varied. Four bands of China Asters in pots ran from top to bottom, with three lines of them on the floor, thus hiding the staging. Graceful Palms were placed at suitable points. Between the bands of Asters were nice groups or panels of white and crimson Streptocarpus and Saintpaulia ionantha. The rest of the staging was covered with a beautiful green carpet of a very fine British moss, upon which were tastefully arranged such vegetables as Cauliflowers, Celery, Leeks, Onions, Beet, Carrots, Parsnips, Turnips, Runner Beans, Cucumbers, Tomatos, &c., all in Messrs. Sutton's best style. They also had a fine lot of Melons. The exhibit attracted much attention.

Messrs. Dobbie & Co., Rothesay, N.B., set up an exhibit upon the floor, in a form different from any which they ever previously attempted. Three stands covered with virgin cork occupied the central line, with devices in ornamental Bamboo stands between. This diversified arrangement was filled with a great variety of subjects, mostly hardy or grown in the open air. Fresh and prominent were the large bunches of Sunflowers, Montbretias, Lilium tigrinum, L. Henryi, Rudbeckias, Galtonia candicans, Bocconia cordata, Anemone japonica alba, Statices, &c. Early flowering Chrysanthemums were plentiful, as were Cactus Dahlias, which Messrs. Dobbie & Co. grow so largely. Single blooms of new Cactus Dahlias were placed on velvet covered stands.

Messrs. James Grieve & Sons, Redbraes Nursery, Edinburgh, set up an exhibit of useful subjects, such as Palms, including Kentias, always in requisition, Dracaena terminalis, D. Bruanti, Bouvardias, single and double, and such Ferns as Pteris Wimsetti, P. cretica cristata, P. c. albo-lineata, Asplenium biforme, A. pumilum laxum, Phlebodium aureum, Gymnogramme Mayi, Adiantum Capillus-Veneris imbricatum (a grand variety), Pandanus Veitchi, Araucaria excelsa, Ficus elastica, Asparagus Sprengeri, early flowering Chrysanthemums, and French Marigolds, all edged with Violas in fifty of the best varieties.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, set up a very showy and varied group of hardy flowers, amongst which were such Lilies as Lilium Maximowiczii, L. longiflorum giganteum, L. thunbergianum Wilsoni, L. auratum platyphyllum, L. a. rubro-vittatum, L. speciosum, L. s. roseum superbum, and L. s. compactum, very similar in colour to L. s. Melpomene, but only growing half the height. They also had fine bunches of the yellow Statice Bonduelli, Crinum Powelli, C. P. album, Montbretias, Hemerocallis aurantiaca major, Rudbeckia purpurea, Scabiosa caucasica alba. Gladioli were fine, including the Gandavensis, Lemoinei, and Nancieanus types.

Messrs. Storrie & Storrie, Dundee, set up an exhibit of single tuberous Begonias in many fine colours, such as white, pink, rose, orange, buff, scarlet, &c., for which an Award of Merit was accorded. They also had some Carnations, zonal Pelargoniums, Celosias, &c., set up with Ferns and Palms. Messrs. D. & W. Buchanan, Forth Vineyards, Kippen, exhibited some stands of Grapes, including their new Diamond Jubilee, now pretty well known; also a very striking new white Grape, the large, oblong berries of which are tipped with pink or pale red, giving them a very distinct appearance. Mr. Petrie exhibited specimens of his new patent Rotary Hedge Cutter, which has a long stem with a rotary cutting apparatus at the end driven by a winch and a chain.

AWARDS.

A Gold Medal was awarded to Messrs. Sutton & Sons for their exhibit. Silver Medals were awarded to Messrs. D. and W. Buchanan, for Grapes; Messrs. Dobbie & Co., for Cactus Dahlias, &c.; and Messrs. R. Wallace & Co., for their exhibit. Special awards were accorded to Messrs. Cunningham, Fraser & Co., Mr. John Downie, Messrs. R. B. Laird & Sons, Ltd., Messrs. Thos. Methven & Sons, Messrs. James Grieve & Sons, and Mr. James Rowatt. Awards of Merit were also given to Messrs. Brown Bros. & Co., Mr. R. Bolton, Messrs. M. Campbell & Sons, Messrs. Cocker & Sons, Mr. M. Cuthbertson, Mr. H. Deverill, Mr. H. Eckford, Mr. John Forbes, Messrs. Harkness & Sons, Mr. Charles Irvine, Messrs. Jones & Sons, Messrs. Laing & Mather, Messrs. Alex. Lister & Sons, Mr. Charles Page, Mr. John Phillips, Messrs. Storrie & Storrie, Messrs. W. Wells & Co., Ltd., and Mr. T. M. Whitehead, for their respective exhibits, which will be found in this and last week's issue. Mr. John Forbes also received a First-class Certificate for his new Begonia Caledonia.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

THE prize last week was awarded to Mr. Sillitoe for his article on "A Beautiful Flowering Shrub," p. 37

QUESTIONS AND ANSWERS.

Special Prize not Competed for.—*J. R.*: We fail to see how a horticultural society could claim and appropriate for its ordinary uses what has been voluntarily offered as a special prize for some particular purpose, seeing that there was no competition. It seems to us that the society, out of courtesy to the donor, should return the prize, or ask it again for the same purpose next year; or allocate it as a special prize for some other or different exhibit, according to the wishes of the donor. We do not remember a similar dispute having been settled at a court of law. The society, however, in its own interests, should maintain good relations with its patrons, and be mindful of the future.

Greatest Weight of Vegetable Marrow.—*E. Smith*: We have heard of Vegetable Marrows having reached the weights of 28 lb. and 30 lb. No doubt they were very exceptional specimens, and either grown upon very vigorous plants or only one or two might have been grown upon the plant. You might let us know the weight of yours, especially if you beat the record.

Caterpillars on Senecio elegans.—*A.C.*: They are not identical with those which you find on the Gooseberry bushes early in the season, highly coloured though they be. They are the caterpillars of the Cinnabar moth (Euchelia Jacobeae), a day flying and highly-coloured moth which often comes into gardens in the early part of summer. Out in the fields the caterpillars may be found upon the common yellow Ragwort (Senecio Jacobeae), hence the name of the moth. The caterpillars feed on various other Ragworts (Senecio) when the eggs get laid in gardens.

Dwarf Sunflowers for a narrow border.—*S. H.*: There are several varieties of Helianthus multiflorus which would suit you; but they flower in August rather than September. They are H. multiflorus, H. m. flore pleno and H. m. Soleil d'Or. H. rigidus flowers early, but H. r. Miss Mellish, and H. m. Daniel Dewar would keep up a succession.

Should Stachys tuberifera be lifted in Autumn?—*W. Davis*: It would not be advisable to take the tubers out of the ground until you require them for use, or to replant them. They very soon loose substance, and dry up when exposed to the atmosphere. Should you require the ground, however, you could possibly leave them where they are until the stems thoroughly die down; then carefully lift the tubers without breaking or bruising them, and store in damp sand for the winter, just keeping them from frost or from getting dried up.

Names of Plants.—*G. C.*: (Ivy). Hedera Helix marginata media; see THE GARDENING WORLD for April 21st, 1900 pp. 540, 541.

Names of Fruit.—*D. E.*: Apples—1, Lord Suffield; 2, not known; 3, Irish Peach; 4, Barchard's Seedling; 5, rotten, a miserable thing. Plums—1, Most probably a mis-shaped fruit of Victoria; 6, Nectarine; 7, not known; 8, Prince Englebert; 9, Jefferson.

Communications Received.—C. Macquarie.—R. Dean.—P. Murray Thompson.—John Russell.—D. W. D.—Thos. J. Panley.—"George."—H. J.—Mr. Murray.—J. Proctor.—Correspondents not answered in this week's issue please kindly consult next week's number.

TRADE CATALOGUES RECEIVED.

ALEX. CROSS & SONS, LTD., 19, Hope Street, Glasgow.—Choice Flowering Roots; List of Horticultural Fertilisers and Fumigants.

H. CANNELL & SONS, Swanley, Kent.—Bulbs, Strawberries, and Small Fruits.

H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, S.E.—Choice Bulbs and Tubers.

INTERESTING INVESTIGATION.—Mr James L. Wood (of Wm. Wood & Son, Ltd.) is visiting some of the principal places in the north on his way to Scotland, where he will investigate the results of Fungoid and other diseases on the various crops this season, and the effect that "Veltha" has had upon them. For this purpose it is his intention to traverse the country as far north as Inverness, and afterwards proceed to Ireland. During his journey Mr. Wood will be pleased to make special calls, which may be arranged for by letter addressed to Wm. Wood & Son, Ltd., Wood Green, London. A very concise pamphlet has been published by the firm entitled "The Rational Method of Treating Fungoid Diseases." The book is sent post free on application.—ADVT.

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SHOW FIXTURES FOR 1900.

SEPTEMBER.
27.—R.H.S. Fruit Show (3 days).
OCTOBER.
9.—National Chrysanthemum Society (3 days).
NOVEMBER.
6.—National Chrysanthemum Society (3 days).
7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).
DECEMBER.
4.—National Chrysanthemum Society (3 days).

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, SEPTEMBER 29th, 1900.

GRAPES AT LARBERT HOUSE, STIRLINGSHIRE.—Larbert House, the residence of J. H. N. Graham, Esq., is situated close to the village of Larbert and within a mile of the railway station; yet so closely is it hidden by the large trees in the park that little or nothing of it can be seen, even from the main road to Glasgow, and which runs close by the park wall. On this particular occasion we shall confine our remarks to the Grapes and other fruit grown under glass. Notwithstanding the fact that the Edinburgh September show is well patronised with Grapes, for which Scotch cultivators are justly famed, yet not all the best Grapes are even represented there. Though Mr. David Airdrie, the gardener, no longer exhibits he has lost none of his old enthusiasm in their cultivation, for the Grapes at Larbert House have never been finer. Grapes are not wanted by his employer while small fruits are plentiful so that forcing in the usual acceptance of the term is not carried out. Such being the case the bulk of the crop is still hanging in all of the three vineries. The early vinery is occupied with Muscat of Alexandria, Black Hamburgh, Madresfield Court, Chasselas Napoleon, Lady Hutt, Gros Maroc, Diamond Jubilee, and Muscat Hamburgh. Some of these are only young, being intended, in some instances, to replace others upon which they have been grafted. Black Hamburgh is bearing huge bunches for this variety, so that the cultivation of this fine old variety is not neglected everywhere, notwithstanding some alarmist rumours to the contrary. A rod of moderate length is allowed to carry about six bunches, weighing about 3 lbs. to 3½ lbs. each, and measuring 9½ in. in length by 8½ in. across the shoulders. The leaves are of large size and leathery; while the Vines, which are seven years old, measure 8½ in. in circumference at 2 ft. from the base. The berries are nearly as large as those of Gros Colman, and well hammered at the end. Madresfield Court has been grafted on the base of Black Hamburgh, and taken up another rafter of the house; while a neighbouring Vine of the same variety supplies a shoot which has been worked upon Madresfield Court. The latter will thus have two root systems upon which to depend for its sustenance. The object of this is to obviate the planting of a young Vine in an old border, because such a proceeding usually, if not always, ends in failure. By working Madresfield Court on two root systems the strain of two rods on one root system is avoided.

A young Vine of Chasselas Napoleon has also been introduced to this vinery. It is double grafted, being worked upon Lady Hutt, and that again upon Black Hamburgh, which possesses the root system. This is in the nature of an experiment, because Lady Hutt has got the vigour of Gros Colman and might prove a good stock. Lady Hutt in another case has been grafted upon Gros Maroc, and though still quite young has been allowed to bear two or three bunches. The berries are as round as those of Gros Colman, and hammered at the end; and although the colour is greenish yellow and not very attractive, the flavour is good if the bunches are allowed to hang on the Vine to become mellow. For this reason the variety is much appreciated at Larbert House. A young Vine of the new Diamond Jubilee has been grafted on the Black Hamburgh stock, and Mr. Airdrie hopes to do it better and get larger berries than the raisers (Messrs. D. & W. Buchanan). Gros Maroc carries magnificent bunches of 3½ lbs. each, of shapely triangular form. The berries are of huge size, globular, more hammered upon the end than we have ever seen them before, and covered with a splendid bloom. In the same house is a heavy crop of Muscat Hamburgh, the well finished bunches of which are about 2½ lbs. each. No fire heat is given except that from the surface pipes beneath the grating near the back wall. The latter is covered with Vines; and Black Hamburgh carries better bunches than is often seen at shows. Gros Maroc in this instance has oblong berries corresponding to those known as Cooper's Black, and quite distinct from the large globular berries of the Vines of the same variety grown against the glass of the roof. There are also two small trees of the Brown Turkey Fig on the back wall.

The second vinery is the Muscat house; and the first three Vines consist of Muscat of Alexandria which is a great favourite here as elsewhere in most private establishments. Some of the bunches weigh about 6 lbs., and the berries are grand though not yet quite finished. There are five bunches to a rod, and they have been well and carefully thinned, while there is no shanking.

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50 Daffodils, mixed
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50 Ranunculus
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The gardener attributes this circumstance to his practice of watering the borders with hot water all through the season. The house in the meantime is kept fairly warm. The bunches of Madresfield Court are in many instances perfect, and the finest ever grown at Larbert House. They are 12 in. to 14 in. long, and six of them have been allowed to a rod. The largest of them measure 7 in. across the shoulders, a very good size, considering that the variety is not given to the production of big shoulders and wide bunches. The careful and perfect way in which the bunches had been thinned attracted our attention very much. The huge, shapely bunches of Mrs. Pince would weigh about 5 lbs. to 6 lbs. each; and they were much better finished than those often seen in gardens. The huge bunches of Muscat Hamburg are triangular and weigh about 4½ lbs. to 5 lbs. each. The berries are finely developed, dead ripe, and had been so carefully thinned at the proper season that the bunches are now perfectly solid and the stalks completely hidden.

The third or late vinery contains several varieties, different from those already mentioned. The new or relatively new Appley Towers, grafted on Alicante, carries the largest bunches of that variety we have seen this year. The oblong berries are of the deepest black, covered with a fine bloom. This stock is evidently well suited for it; but its value can better be determined when the rods have been cut away, leaving Appley Towers to enjoy the full benefit of the root system of the foster-parent. About nine to eleven bunches of Lady Downes are borne by each rod, and they are perfectly finished and of great length. Mrs. Pearson succeeds well here, and is handsome in appearance when mature, as the berries retain their clean and clear skin to the last. The variety is much appreciated here on account of the fine quality and flavour of the berries. About seven bunches of Gros Maroc have been allowed to a rod, and the magnificent berries are perfectly finished. The difference between Gros Maroc and Cooper's Black cannot be detected, when grown side by side, well grown and given similar treatment. The huge, globular berries of the last named are very decidedly hammered at the end. When poorly grown the berries are oval, appearing distinct, but the two are really synonymus, as is proved by good cultivation. Gros Colman requires a great deal of heat to mature the crop, which is not yet so well finished as the rest. All the rods of this variety, however, have been grafted with Appley Towers, and Gros Colman will presently be cut out, because the flavour of the berries is not appreciated at Larbert House, and the space is thus needlessly occupied at present. The back wall is furnished with Lady Downes, which bears useful table bunches, though now much shaded by the Vines against the glass.

The foliage of the different varieties is assuming beautiful tints, more or less decided according to the sort, and is much used for garnishing at the dinner table, as well as for decorating vases. These beautiful tints are due to the results of a liberal application of oxide of iron to the borders two years ago. The Vines at Kippen are on the red sandstone, and Mr. Airdrie conceived the idea of applying the oxide of iron to get colour in the foliage, and the results prove the correctness and utility of the practice. Root pruning of the Vines is carried out every two years on a plan that would be considered drastic by many cultivators. A trench is taken out, at a distance of 3½ ft. from the Vines or thereby, and right down to the drainage. At the same time all the roots projecting into the trench are cut clean away with a sharp knife. The outside border was so treated the other week; and the inside borders will next be dealt with, if, indeed, the operation has not by this time been accomplished.

Weather in London.—Save for a light shower of rain on Monday morning, the 24th inst., the weather during the past week has been bright and agreeable.

Tilia argentea, the White or Silver Lime, is the most fragrant of the genus. The perfume it emits on a gently breezy evening can be detected many yards off.

The "Hurst & Son" Musical Society will resume rehearsals at the Bishopsgate Infant School, Bishopsgate Churchyard, E.C., on Monday, October 1st. Full particulars as to forthcoming concerts will be notified in due course.

Worthy Benevolence.—In the will of the late Mr. Benjamin H. Pierce, of Watertown, a bequest of $1,000 is left to the Massachussetts Horticultural Society, the income therefrom to be devoted to the introduction of new fruits.

American Carnations *versus* English.—A writer to one of the American florist papers who had seen Carnations at some of the English exhibitions last summer, deprecates them most vigorously. Our Carnations in Britain appear to be nowhere when American varieties are compared with them.

Death of Mr. William Saunders.—Mr. Wm. Saunders, superintendent of the Experimental Gardens and Grounds, Department of Agriculture, Washington, D.C., died at his home in that city, on Tuesday, September 11th, aged seventy-eight. Mr. Saunders was a native of Fifeshire, Scotland. He commenced gardening in Scotland, going thence to London and afterwards to America.

Horticultural School for Hampshire.—We learn that the Hampshire County Council have just established a farm and horticultural school at Old Basting. The farm comprises sixty-one acres, and the instruction is to be open to both sexes. The instruction will, as far as possible, be kept on practical lines, and with sufficient science to secure a proper understanding of the practical work. Mr. Wm. Nixon is manager and head teacher, and the chairman and secretary of the Royal Counties Agricultural Society are on the committee.

Royal Horticultural Society of Ireland.—At a meeting of the council, held at 61, Dawson Street, Dublin, on Tuesday, September 11th, when the secretary's report of the autumn show was heard and adopted as satisfactory, the council, on the recommendation of the judges, awarded the following medals:—Messrs. W. Drummond & Sons, Limited, for their beautiful collection of hardy cut flowers and plants, including a new Acer Drummondi, which was greatly admired; Messrs. Richard Hartland & Sons, Cork, a Gold Medal, for a grand exhibit of miscellaneous fruit and flowers; Hugh Dickson, Belfast, for a collection of tuberous Begonias, &c.; Messrs. McGredy & Sons, Portadown, for a collection of cut blooms of tuberous Begonias, most beautifully arranged. A Certificate of Merit was awarded Messrs. Dicksons, Chester, for collection of Phloxes and hardy herbaceous cut flowers.

Honey Production in Queensland.—Queensland is a splendid country for bees, since nearly all its forest trees flower and give large supplies of honey and pollen, and the winters are so mild that the bees are not compelled to remain in the hives and consume their own stores as in colder climates. The supply of honey which the colony could produce if the industry were shown to be profitable is practically unlimited. In the apiaries, having all the modern appliances, much of the wax is, after being clarified, made up into "foundations," and put into the hives for the bees to work into new comb, and is of great advantage when flowers are plentiful, and enables the greatest advantage to be taken of the bees' labour in honey-gathering at the best time. The bees in a strong hive will convert several sheets of foundation wax into honeycombs, and fill them with honey in far less time than it would take them to make a single comb. It is stated to take about 15 lb. of honey to produce 1 lb. of wax.

Granaries Required.—Seven out of every eight loaves eaten in London are made of foreign Wheat.

Weeds.—According to the late Sir John Lawes weeds reduce the value of a crop one-fourth. They largely absorb the efficiency of manure, and are often a harbour for insects.

Physalis Francheti.—The beautiful bladder calyxes which enclose the fruits of this Physalis are now at their best. The stems should be cut and dried so that the "bladders" may be secured for winter decoration.

An Appreciative Correspondent.—Mr. George Potts, of Streatham, S.W., has been a correspondent of THE GARDENING WORLD for more than ten years past, and tells us that he still delights to contribute to its pages. Other correspondents from time to time have taken an interest in his practical remarks upon various popular and useful garden subjects.

Loughborough and District Gardeners' Mutual Improvement Association.—The members of the above association attended the annual general meeting and dinner on the evening of Tuesday, the 18th inst., in the Co-operative Room, Woodgate. The annual report referred with satisfaction to the position of the association.

National Chrysanthemum Society.—The following are the dates fixed for the exhibitions of the National Chrysanthemum Society in 1901:—Early Autumn Exhibition of Chrysanthemums, Tuesday, Wednesday, and Thursday, October 8th, 9th, and 10th; Great Autumn Competition and Fete, Tuesday, Wednesday, and Thursday, November 5th, 6th, and 7th; Early Winter Exhibition, Tuesday, Wednesday, and Thursday, December 3rd, 4th, and 5th.

The Autumn Squill (Scilla autumnalis).—It may be of interest to state that I saw several colonies of this rare plant to-day at Greenwich. This and our recent find of Spiranthes aestivalis at Chislehurst, brings two fresh plants into the flora of Kent.—*A. D. Webster.* [In the *Flora of Kent* (1899) it is recorded that Ray mentioned the occurrence of Scilla autumnalis at Blackheath in 1696; and Reeves stated that it was still there in 1884. Other botanists have found it between Plumstead and Shooter's Hill; on the green between Lea and Eltham; at Chalk in gravel pits; and near Shorne Warren. It is, therefore, not new for Kent. Spiranthes aestivalis does not appear to have been previously recorded for Kent.—ED.]

The Sale of Poisons and the General Election.—The following is a question which my society is forwarding to be answered by each candidate at the coming General Election:—"Are you prepared to support a Bill in Parliament, making it legal that chemical compounds (although containing poisons) which are *not* for medicinal use *nor* intended for the preparation of medicine, may be retailed by traders such as agricultural agents, seedsmen, nurserymen, corn dealers, iron and hardware dealers, and other tradesmen (including pharmacists), for any trade or technical purpose, *in original sealed packages* as received from the wholesale dealer or manufacturer?" I trust that your readers who are interested in the subject will use their best endeavours to also bring the question to the front.—*T. G. Dobbs, Secretary, 5, Clement's Inn, Strand, London, W. C.*

The Jersey Potato Crop.—There have been published lately, says *The Midland Counties Herald*, some interesting particulars of the Jersey Potato season now concluded. From May 12th to July 21st the total quantity of Potatos shipped from the island was 54,062 tons, valued at £445,872, or about £8 4s. per ton. Owing to damage by frost, the crop this year was not nearly so abundant as last year. The price, however, kept up so well, until all but a small proportion of the Potatos had been shipped, that the total return in money was much greater than that of some much larger crops. In fact, it has only been twice exceeded. The money returns exceeded £52 per acre, an average surpassed only in 1896, when the return was over £58 per acre. It is not all profit. The expenses are very heavy, the growers paying rents amounting in many cases to £10 an acre, and even more for specially-favoured spots; while the expenditure on manure and labour is also very high, bringing the total outlay in many cases up to about £30 per acre, including seed, part of which is frequently bought afresh in England.

"When is a Butterfly like a Kiss"?—"When it lights on (two) Tulips."

School Gardens.—An interesting experiment has been on foot at Boscombe with the object of directing school boys in gardening. Unfortunately, as it seems to us, the scheme comes under the control of the local schoolmaster, who, unless he knows much more of horticulture than schoolmasters usually do, is not likely to be more successful with the boys than in amusing them. Nobody can doubt that working-class boys yet at school are better in every way for such manual exercise as horticultural operations involve; and gardening is a craft which is as well entitled to be taught at the public cost as some other occupations for which the technical education grants are available.

The Sale of Poisons.—Referring to a paragraph under the above heading in last week's issue of your journal, I notice that your correspondents say: "Attention has been drawn in several of the horticultural papers to the inconvenience of being compelled to purchase Weed Killer and insecticides from ordinary chemists. Your readers will be interested to know that we have now obviated this difficulty by establishing a wholesale and retail manufacturing chemistry department under the management of a qualified pharmaceutical chemist." Your correspondents have doubtless by this enterprise placed themselves for the time being on the right side of the law for retailing purposes, but it must be remembered that they can only supply direct to their customers and not through an agent. How then does the consumer benefit? He must pay the carriage of the goods from your correspondents' factory; and how do the seedsman and the florist benefit? They can be left to answer the question themselves. Your correspondents have simply by their action enrolled themselves on the side of the chemist whose monopoly the T. in P. or P. C. for T. or T. P. P. Society are seeking to overthrow, in order that gardeners, florists, seedsmen, and others may obtain and sell these compounds equally with the chemist, but under proper restrictions. How then can your correspondents be helping horticulture? They are not. On the contrary they are helping the chemists' monopoly by upholding it. The aims and objects of this society you have already in former issues of your valuable journal been so good as to put before your readers, and therefore it only remains for me to inform them that we are making strong headway with our work, and have overcome many of the difficulties that at the commencement of our short career appeared almost unsurmountable. But much remains to be done. Will your readers help us and so help themselves? Copies of the proposed Bill and of the petition in support thereof, together with any further information on the subject may be had upon application to me.—*T. G. Dobbs, Secretary The Traders in Poisons or Poisonous Compounds for Technical or Trade Purposes Protection Society; Offices, 5, Clement's Inn, Strand, London, W.C.*

GARDENING MISCELLANY.

ELYMUS GIGANTEUS.

The Elymuses or "Bunch-Grasses" are handsome plants for certain appropriate parts of the hardy plant garden. There are a number of species of which the one under notice is the tallest and probably most popular. The foliage is ¾ in. broad, quite glaucous and bushy like a Miscanthus or the Pampas Grass. The flower spikes are erect and tall, resembling those of Wheat. In height these spikes go 7 ft. Such a plant when properly used is of great value to the gardener who plants for effect. E. arenarius is considerably dwarfer than E. giganteus, and is used on the seashore in places and on different spots where something is required to bind the sand together. Increased by seeds or by division, and when planted in sandy soil they do well.

TOMATO "TWENTIETH CENTURY."

At the autumn show of the Royal Horticultural Society of Ireland, held recently, there was exhibited a new variety of Tomato, named "Twentieth Century." This was staged by Messrs. Hogg and Robertson, of Mary Street, Dublin. The variety is of medium size, with a smooth skin, free from spots, of good colour, and a heavy cropper. As a nice eating Tomato this should find a place.

ACAENA MICROPHYLLA.

To the lover of alpine plants the above is an interesting and pretty little subject. It is quite distinct; I can liken it to nothing else I am acquainted with. Growing close upon the earth in the "canny" nooks of a sunny rockery, a patch of this Acaena with its reddish spinous fruits which almost hide the minute Brier-like brown leaves, is an object worthy of a second and a third inspection. It is a native of New Zealand, and proves quite hardy in any latitude of our isles. It is not partial to any special soil, though it, in common with many other alpines, prefers a well-drained loam. Propagation is chiefly accomplished by dividing the plants. Its vigour and hardiness are vouched for by the fact that it is used as a surface shelter plant for outdoor Orchids, and tender bulbous subjects. As an edging plant it also is useful. A. microphylla is the most ornamental of the genus, which contains some forty species, natives all over the South Sea Islands, South America, and upward to Mexico.—*D.*

URGENT WORK,

Of which there is much to be done just now, includes thinning out Mignonette that has been sown in pots 3 in. to 4 in. apart; and the same might be said of Rhodanthes which are very bright in early spring, and last a long time fresh if kept from damp in the greenhouse. The species of Schizanthus make a grand show if grown well. The thinnings of the latter can be planted in pots if an increase of stock is wished for, but the two former are much better sown in the pots they are to flower in. Pot up Calceolarias from boxes, keeping close for a few days and shaded from the sun, as well as fairly moist. Repot the latest batch of Cinerarias, 6-in. and 7-in. pots being large enough to grow fine specimens. Guard against green fly establishing itself on these plants, as well as the small grub or leaf miner on the last named, which soon disfigure the foliage. They usually lodge at the back of the leaf. Give Calanthes all the sun and light possible, and if much scale abounds sponge with clean water and feed with cow or deer water fairly diluted. Get Bouvardias and tree Carnations into the greenhouse, giving plenty of light and air. Richardias in pots require plenty of water and an open position. The same remarks apply to Salvias, Eupatoriums, Solanums, Marguerites, and Libonias.—*Grower.*

"CUT FLOWERS."

Twenty or thirty years ago, gardeners in large places had quite a craze for collecting all sorts of plants, whether they were useful for making a display in the houses or for cutting, if they had only some curious point either in the foliage or flower; but flowers were not so extravagantly used then for table decorations. As a general rule, a few glasses in the dining room, and some vases in the drawing room were all that was required; but in these times we must supply the house with sheaves of flowers instead of a basketful, as almost all the rooms and lobbies have different sizes of glasses and vases to be filled. To meet this demand, it is imperative that we discard all rubbish, and grow profusely all good useful stuff for cutting. Batches of each of the following in their seasons are excellent for this purpose:—For spring months: bush-trained Chrysanthemums, Bouvardias, Eucharis grandiflora, Sparmannia africana, Hyacinths, Tulips, Azaleas, Callas, Cyclamen, Tea Roses, Primula obconica and Narcissus. For summer: Gypsophila, Pelargoniums, Gloxinias, Pinks, Spanish Iris, Pyrethrums, East Lothian Stocks, Spiraeas, Campanula persicifolia, Roses and Sweet Peas. From August onwards: Anemone japonica, Carnations, Gaillardias, Begonias, Comet Asters, Gladioli, Montbretias, Cactus and single Dahlias, Ivy Geraniums, Early Chrysanthemums and Michaelmas Daisies. Late Chrysanthemums and Christmas Roses will fill up the gap till the Snowdrops appear. For small glasses, Freesias and Sweet Violets are useful. Asparagus of sorts is splendid for greenery intermixture at any time of the year.—*John C. Dick, Champfleurie House, Linlithgow.*

CARNATION DUCHESS OF FIFE.

I herewith send photograph of one of our borders of this beautiful Carnation. I also enclose a handful of flowers which I consider very good at this time of year (September 24th). This is the sixth year they have been grown in the same border, and they are, I think, better this year than ever I had them. To ensure success the border gets a good, liberal dressing of Melon-bed manure. After the layers are lifted this is dug in deeply, and the surface allowed to remain rough during winter. Before planting I give a dressing of superphosphates and dissolved bones, and about two or three weeks after planting a sprinkling of sulphate of ammonia between the rows is given, and repeated again when throwing up their flower shoots. I generally layer a batch about the end of July. These are at present carrying flower stems with buds. I have them lifted and potted to do duty in the Carnation house during winter and spring; then they are planted out in one principal Carnation border (which has a roof of glass over it), where they grow into very large plants, between 4 ft. and 5 ft. high, and flower most profusely.—*A. D., Kilmarnock.*

PROPAGATING BY LEAF CUTTINGS.

A large number of plants of different classes can be propagated by taking off a leaf, full-grown preferably, and laying it on damp soil, or cocoanut fibre, in a fairly warm greenhouse or in a stove. For instance, various Begonias may be propagated in this way, such as Begonia Rex in variety, Begonia Gloire de Lorraine, &c. Then, again, with such tuberous-rooted plants as Gloxinias and Achimenes, if a good seedling is obtained and one wishes to increase the stock of it pure, what is easier than to strike a few leaves in a stove, as they strike readily, even on the shingle frequently used on stages in greenhouses, &c. Another plant with a leaf of somewhat similar texture, and capable of this method of propagation, is that charming little plant, Saintpaulia ionantha, which, with its abundance of pale blue flowers, makes a very pretty plant in a 3½-in. pot. Rochea falcata, a succulent plant bearing a large inflorescence of bright scarlet flowers, also, may be propagated by leaf cuttings, similarly to the above-mentioned plants, as may many plants of the natural order, Crassulaceae. Bryophyllum calycinum and B. proliferum may be propagated similarly, though the latter is, perhaps, more usually propagated by seed, and by small bulbils, which arise in the axils of the leaves. Besides these flowering plants, some Ferns can be propagated by the leaves, as a full-grown frond of some of the Shield Ferns (Aspidium) will produce young plants all along the midrib, in the axils of the pinnae; if treated similarly to the above-mentioned plants, but in a lower temperature it may be done.—*C. J. G.*

SHRUBBY SPIRAEAS.

As soon as the present dry weather breaks up, our attention will be turned towards planting hardy shrubs. Planting early cannot be too strongly advised, for the plants get settled for the winter, and "first come, first served" cannot be better applied than to a nurseryman's stock. Though not so common in gardens as one would like to find them, the Spiraeas are amongst the most beautiful and graceful. They prefer a rich loam and plenty of moisture, for they are relations of the Meadow Sweet (Spiraea Ulmaria) of our ditches. They are easily propagated by layers, cuttings in autumn, and division. The following species can be recommended:—S. lindleyana is a graceful bush 8 ft. to 10 ft. high, with large feathery clusters of white flowers. It prefers a warm moist soil, and slight protection from cold winds in spring. S. ariaefolia forms a splendid specimen with sprays of small whitish flowers. S. Douglasii, nobleana and Billardieri, differ from the others in their upright growth, and compact clusters of red flowers, and like hard pruning. S. callosa (syn japonica) and varieties form dwarf compact bushes with rose coloured flowers in spreading clusters. S. Anthony Waterer belongs to this class and is the finest with dark red flowers. S. prunifolia fl. pl. is curious in having double flowers produced along the whole branch in the axils of the leaves. S. confusa and S. Thunbergii form loose bushes with white flowers, which are useful for cutting purposes.—*K.*

ARUM ALBUM MACULATUM.

This, as frequently met with, is not a very attractive subject. The treatment accorded to it does not bring out the full merits of the plant. Having recently seen a square rod or two of ground densely covered with it, has been the motive cause for this note. I found it in full flower in the open, where no protection has been given it of any kind for several years, and the vigour of foliage, its glossy-green with clear white spots, and profuseness of spathes, rendered it a sight which we think it would be difficult to match. Hundreds of flowers could be gathered without being very much missed, so that in these days when the demand for long-stalked flowers is so great a similar plantation to this would be a great boon in many establishments. The flowers, which are well known to many, are a delicate creamy-white colonr, with a dark marking in the centre which, unless in very fully expanded flowers, requires looking for, and are not much larger than those of Arum (Richardia africana) aethopicum Little Gem.—*W. B. G.*

BEGONIA "MOONLIGHT."

I think anyone seeing this in good condition will agree that it is a most desirable variety. It certainly has the merit of being distinct, and though I would not guarantee that it would keep up a succession of bloom for such a long period as does Gloire de Lorraine, it lasts some months in fine condition. The plant exhibited at the Aquarium last week had been in flower nearly two months, and though the three days' exposure to the dry gaseous air of that building punished it somewhat, I can assert that it came home in better condition than any of the other Begonias, including Gloire de Lorraine, which had not a flower or bud left, while Moonlight had quite a number of good blooms still fresh.

It may be interesting to note that Moonlight was raised by the late Col. Trevor Clarke, and was the result of a cross between Dreggei and Pearcei (a dwarf tuberous variety, with deep velvety-green foliage and yellow flowers). It was grown at the Royal Horticultural Society's Gardens, Chiswick, and received a First-class Certificate in the autumn of 1876, but since that period it had become almost extinct. This was probably owing to its requiring careful treatment. Gloire de Lorraine nearly suffered the same fate, but since its culture has been understood, it has become one, if not the most popular plant for winter flowering, and Moonlight under the same treatment makes a worthy companion.—*A. Hemsley.*

WEED KILLER.

I noticed your recommendation of weed destroyers to a correspondent some time ago. We are sometimes not inclined to heed advertisements, but certainly in the case indicated there is nothing overstated. We have tried the liquid weed killer, and found that a small portion goes a long way, and is most effective. The same can be said of that which is sold in powder, and in some cases may be more advantageous than in liquid condition. The present season is one of the worst years known for growth of weeds, but on our walks and roads where the weed killer was freely used last season scarcely a weed has appeared, except in lines a few inches wide by Box edgings where the destroyer was not applied. Walks, smooth, firm, and bright are much appreciated by all proprietors, and weed killers have done wonders to maintain these conditions. In Scottish gardens finely-kept walks are seldom seen. They are hard raked and left loose instead of being rolled, and kept smooth as pavement, as most walks are seen in England. The famous "Kensington" and other such gravels are first-rate.—*M. Temple, Carron, N.B.*

MALMAISON CARNATIONS

That were layered in the beginning of August will be finely rooted now. Some may strike them from cuttings. We inserted 400 cuttings the first week of last month in a frame that was filled with leaf mould and sand. The frame was kept rather close for a day or two, air being afterwards admitted very freely both night and day, shading them with a mat on scorching days. An average of 95 per cent. rooted. However, layers or cuttings, as the case may be, will require to be potted into 4-in. pots. Put one crock in these, with a few rough leaves or moss over it. To one barrowload of stiff loam add one-third leaf mould, a 9-in. potful of soot, also one of lime rubble and sand, with a good bit of charcoal through it. A sprinkling of a fertiliser may be incorporated with it. Mix it all thoroughly. It will be found necessary to make this compost pretty fine for the first shift. Lift the layers very cautiously, so that you may *not* break a root. Pot fairly firm. The Peach house will be found the most suitable place to stand the pots if there is not a Carnation house at command. Water them with a fine rose for a time or two, and only when the pot rings out a hollow sound when tapped with a short stick or your knuckle. These will soon require a shift into 6-in. pots.—*A. V. Main, Morton Hall Gardens, Liberton.*

Strawberry Veitch's Prolific.

STRAWBERRY VEITCH'S PROLIFIC.

The free bearing character of this variety is one of its most telling features, the bunches of fruit being of large size and the berries ripening in succession over a considerable period. A showery season would assist the gradual development of the successive fruits. The variety was derived from Empress of India crossed with the pollen of British Queen, and possesses the aromatic and delicious flavour of the latter, with the richer colour of the mother plant. The fruits are conical or occasionally compressed, the former being the more common form, as the variety is characterised by numbers rather than the size of its fruits. The accompanying illustration, put at our disposal by Messrs. J. Veitch & Sons, Ltd., Chelsea, will give a good idea of the character of the bunches produced. A First-class Certificate was accorded the variety by the Royal Horticultural Society, on July 12th, 1898, in recognition of the high quality of the fruits and the profusion with which they are produced.

CANNAS.

The time will shortly arrive when it will be necessary to remove these plants from the places they occupy in the beds. If they have been well supplied with water they will be found to have made large masses, and the qnestion is, What is to be done with them? They will be found useful if treated in the following manner:—First of all the stock for next year must be secured, select the dormant eyes or nodes, and sever them close to the shoots that are 2 in. or 3 in. high. These should be placed in boxes of cocoanut fibre, or potted up, and placed in a frame where frost is excluded and kept just moist enough to keep them plump. They will then be found quite sound when they are wanted to start into growth for the beds next year. Next there will be fonnd a number of shoots from 2 in. to 4 in. in height. Sever these where they join the main stems, retaining as many of the roots as possible. Pot them up into 24 or 32-size pots, and place them in the intermediate house. They will then flower in the spring, and can be removed to the conservatory, where their brilliant flowers and bold foliage will form a pleasing contrast to the plants usually in flower at that time. —*G. Robins, The Gardens, Dudley House, Springrove, Isleworth.*

CRESSINGHAM PARK

Is the pretty country residence of H. Lonergan, Esq., and is situated between Reading and Earley. The pleasure grounds are well kept, and are ornamented by many fine specimen trees and shrubs. Very noticeable were Cedrus Deodora, C. atlantica, C. Libani, Cupressus lawsoniana albo-variegata, a fine tree of Thuyopsis dolobrata, and a young tree of Ginkgo biloba, &c. On the terrace were some fine tubs of Agapanthus umbellatus, carrying from eleven to fifteen large trusses of flowers. Mr. Chamberlain, the gardener, is a very successful exhibitor of fruit, flowers, and vegetables, which his medals and certificates testify. He is to be seen at the Crystal Palace Fruit Show, the "One and All," and also at the Royal Aquarium, besides at local shows. The fruit crop is heavy, and the trees look remarkably healthy, the colour and shape of the fruit excellent. There are many varieties of Pears, including Doyenné du Comice, Louise Bonne of Jersey, Pitmaston Duchess, Beurré d'Anjou, Glou Morçeau, Madame Treyve, Clapp's Favourite, Marie Louise, Williams' Bon Chrétien, Brockworth Park, Duchesse d'Angouleme, Winter Nelis, Beurré d'amanlis, &c. These varieties were all heavily cropped, and were trained trees.

Plums and Greengages were good, as were some fine Morello Cherries on a north wall. The Apple crop we did not inspect, owing to failing light. The vinery is lofty and contains Buckland Sweetwater, Black Hamburgh, purple Hamburgh, Royal Muscadine, and black Alicante, the latter carrying fifty-seven good bunches, from which he will select those he requires for exhibition. The Peach house had been partially cleared, but the fruit left proved of high quality, especially Barrington. Although there is a walled-in kitchen garden it is only used to supply the house, Mr. Chamberlain preferring an exposed piece of ground to grow his exhibition vegetables. His Scarlet Runners were remarkable, long, straight, and yet very tender; the variety, he said, was

Sutton's Best of All, evidently correctly named. Some good rows of Peas, Sutton's Autocrat, will furnish a nice dish every day for some time, and Mr. Chamberlain is proud to say he has not missed a day since before Ascot races, May 12th, without sending in a dish of Peas. His Onions Ailsa Craig were very large, as was also the Celery. There is a Roman Catholic Chapel on the estate which has to be re-arranged with fresh plants and flowers twice a week, and numerous other duties which must keep the gardener and his staff very busy.—*C. P. C.*

THE RASPBERRY-STRAWBERRY.

THIS new fruit has of late been receiving some attention through the medium of the daily press, and from all appearance it is well worthy the attention of the horticulturist.

A certain amount of doubt seems to exist as to the origin of this species, and as I am unable to comment on the point with any authority I will leave it to the more enlightened readers of your valuable paper.

Some very good samples of the fruit were shown at the Royal Caledonian Show last week, especially those exhibited by Mr. John Downie, Beechhill Nurseries, Murrayfield.

This enterprising firm had rather a novel departure in the way of a group of young fruit trees—Apples, Plums, &c., loaded with fruit with a collection of dishes of other fruits interspersed between them. These included the Japanese Wineberry, Perpetual Strawberry, Oregon, and the Raspberry-Strawberry.

The latter fruit is, however, the most striking of all, some of them measuring nearly 2 in. in length, and the colour being of a vivid crimson, gives it a very tempting appearance. From the size of the fruit one would naturally expect less quantity, but that is not so, for in this case the branches were literally covered with berries.

That the flavour is lacking I will freely admit, it being slightly acrid and scarcely pleasant to the average palate. Careful cultivation will, however, tend to remedy this defect, and should it never reach the standard of a dessert fruit, I have no doubt but that it will be in demand with the preserve maker.—*T. Kirkwood, Garvald Gardens, Dolphinton.*

TOMATO TRIALS AT READING.

THE relatively warm and dry weather that has prevailed since the beginning of the present month has been responsible for the ripening of a large quantity of Tomatos in the open and entirely without protection of any kind, except a single stake to support the stem. After seeing the extensive trials of Tomatos in the Trial Grounds of Messrs. Sutton and Sons, Reading, one feels a little doubt whether walls, fences and similar protection can effect such an acceleration of growth and maturity as they are supposed to do. In any case we are convinced after such an unstable and cold summer as the past has been that walls are unnecessary for the ripening of Tomatos out of doors. Messrs. Sutton & Sons have 230 trials of Tomatos in the open, each consisting of ten plants, so that the total is 2,300 plants, grown in a fully exposed position. Plenty of sunshine and air is all that they evidently require to ripen a bountiful crop of fruits. They are kept to single stems by the removal of the laterals; yet the leading stem has not been stopped, nor the leaves cut about and maimed as we frequently see them. All of these trials were put out in two days' time, so that all have had an equal chance of displaying their relative earliness.

Earliest of All is the most reliable for ripening in the open air and was the earliest this year by some days. The fruits commenced to colour in July, and large quantities are now hanging ripe. Eight lines of them were planted. By a process of selection the fruits of the variety are evidently getting smoother or less corrugated every year. Winter Beauty is not much behind Earliest of All, and though it did not commence colouring in July it did so soon after. It is one of the best for winter work. Chiswick Red is an enormous cropper, the oval fruits being produced in great quantity. Magnum Bonum is naturally dwarf, producing a great crop of heavy, dark red fruits from the base of the stem upwards. There are several rows of Early Large Red, the fruits of which, although corrugated, are produced in great abundance

Fruits of exhibition size, form and smoothness are produced by Ruby, which has ripened a wonderful crop of fruit, the bunches at the base of the stems being already dead ripe. The small, round fruits of Sutton's Peerless are smooth and handsome, being produced in large clusters close together, from the ground upwards. The fruits of Princess of Wales are much larger, quite smooth, slightly flattened, deep red and handsome. Another fine variety is Sutton's Abundance, a dwarf variety producing a wealth of medium sized, smooth and deep red fruits. Between and amongst the above are many selections on trial to prove their relative merits. Sutton's Maincrop has foliage like a Potato and is singularly distinct on this account. The fruits are large, mostly smooth, and produced in great quantity.

Small fruited varieties are pretty numerous here, commencing with the Currant Tomato, the miniature fruits of which resemble red Currants but are produced in racemes of great length, and highly suitable for decorative purposes. Red Cherry produces large clusters of fruits about the size of a Cherry. Wonder of Italy seems to be a development or selection from Pear-shaped, but the fruits are Plum-shaped, and the flavour excellent. The enormous bunches range from fifty to eighty fruits, making the plants highly ornamental. Pear-shaped is also a fruitful variety, the deep red fruits resembling a small Pear. Of small kinds few are more distinct than Sutton's Cluster, the globular fruits of which are produced in long, two-ranked racemes. The lower bunches are almost touching the ground, while many of the top bunches are already ripe. The fruits are solid, of good flavour, and very useful for dessert purposes. Sutton's Dessert produces considerably larger fruits than Cluster, and in bunches rather than racemes. They are globular, smooth, deep red and of excellent flavour, so that they are very useful for dessert purposes.

The fruits of Eclipse are of a clear bright red, of good size, perfectly smooth, very solid, with hardly any seeds, and of excellent flavour. The stems are short-jointed, and there is an absence of small and useless fruit, so that the variety is one of the best and suitable for general purposes. Sutton's Ai was hard picked for the recent show at Edinburgh, yet the fruit continues to ripen freely. It is a free bearer, the Apple-shaped fruits being of good size (like a Cox's Orange), solid, and of excellent flavour. Ten rows of this variety are grown, which will give some idea of the estimation in which it is held. Best of All is not such a deep fruit as Ai, being more flattened, though less so than Perfection. It is a large and good market fruit, with a solid, deep red flesh of first-rate flavour. Twelve rows of it are on trial. Perfection is a large and shapely, smooth and popular variety for exhibition purposes. There are ten rows of it, and the fruits commenced to colour in the second week of August.

The Peach was one of the parents of a new race of Tomatos, which have been undergoing development for some years past. Tender and True is one of the best. The large and handsome, smooth fruits may be described as of terra cotta colour, while the crop is very heavy. The large, smooth fruits of Peachblow are much paler in colour, while the flesh is solid and light red, with a brisk, sub-acid flesh, becoming quite mild, however, when perfectly mature. The lower bunches are hanging almost upon the ground. Pomegranate may be described as brick-red, verging towards the ordinary scarlet-red of the most popular types. The dark red flesh is very solid with few seeds.

Yellow Tomatos in great variety enjoy a place in the trials, and constitute a striking contrast with the red sorts. Very handsome are the Plum-shaped, smooth, golden-yellow fruits of Sunbeam, which often assume beautiful amber tints. The fine fruits are of brisk flavour, with a sweet juice, and at maturity highly suitable for dessert purposes. Though small, the globular, rich golden-yellow fruits of Golden Nugget may yet find many admirers. They are produced in great profusion. Golden Queen is of dwarf habit, and the golden-yellow, corrugated fruits ripen early. It is the largest of the yellow varieties. A beautiful variety is Prince of Wales, having globular fruits of moderate size, and pleasantly tinted with amber at full maturity. Dwarf Gem stands only 2½ ft. high, though the stems have never been stopped. The smooth, globular fruits are of a light yellow hue. Golden Perfection is similar in shape to the well-known red variety of that name, but produces perfectly smooth, golden-yellow fruits.

The light, gravelly soil of the district is evidently highly suitable for the production and ripening of Tomatos in the open air, and so successful has the crop been that gardeners and others might follow the example in choosing the lightest soil in their gardens for Tomato growing in the open.

Kitchen Garden Calendar.

OUTDOOR TOMATOS.—Close attention must be paid to these, as we may now expect frost to cut them down. Any fruit that has grown to its full size should be gathered and taken to a dark room where it is warm to ripen. We have been successful by placing such in boxes, which were afterwards stocked in the boilers in the stoke hole. Green fruit is very useful for a variety of purposes, it makes a good pickle, preserve, or marmalade, so that all that are of any size ought to be taken care of. The late hot weather has been very beneficial to the growth of these, so that good crops are the result.

LATE PEAS.—Dwarf varieties that were sown on borders or other sheltered places with a view of protection ought to have every attention paid to them. If temporary frames have been made canvas should be put over at night to ward off the frost. With us the thermometer has on several occasions fallen below freezing point, so that it is no longer safe to leave them neglected.

FRENCH BEANS.—These must now be afforded protection at night, otherwise the first frost will cut them down. Those sown in pits should have the lights removed in the day-time while this hot weather lasts to keep them as sturdy as possible. Another sowing should now be made to keep up a supply of fresh pods about Christmas.

WINTER CROPS.—Late Turnips in spite of the dry weather are looking well, though they do not make much progress. Where a plentiful supply of water is to be had, a good soaking would be very beneficial to them. See that thinning is done in good time that the plants may be sturdy from the commencement. Winter Spinach must also be looked to and kept singled out that a robust growth may be made. Cauliflower plants that have made two or three leaves should be pricked out into cold frames. The old-fashioned plan of wintering them under hand lights has quite died out since it has been possible to raise the early varieties in a gentle heat in spring. Plants wintered in frames will turn in about the same time as those sown in February, but they produce finer heads, and are less difficult to establish in the open quarters should dry weather prevail in April. It is, therefore, worth while to have a frame set apart for their protection. Any that are now turning in should be looked over daily in case we should have a sharp frost. Instead of bending the leaves down, as is usually done, bring them together and tie them near the top; this will form a perfect protection against several degrees of frost. As the days get shorter, and the ground becomes moist they will not turn in so quickly; therefore where a supply has to be kept up a reserve must be had. This difficulty can be readily overcome by pulling up some and hanging them up in a cool shed or cellar. It will soon be time for storing roots, therefore preparations should be made for their winter quarters. Carrots are very fine this season, and if we should have a quantity of rain fall, in all probability many of them would split owing to the excessive moisture. It would, therefore, be a good plan to lift them before this happens. It is, however, not well to be in too great a hurry as those stored early do not keep sound so long. Select a cool dry place for storing; a few degrees of frost will do them no harm, so long as they are not frozen hard. Protection can usually be afforded in severe weather. Beetroot, too, must also be lifted and treated in like manner. Celery should be earthed up to protect it from frost when fully grown, but the late planted lots ought to be left exposed as long as possible, as the stems are much hardier when not blanched. Prick out winter Lettuce, Endive, Parsley, and Cabbage plants as they become forward enough to prevent them becoming unduly drawn.—*F. W. J.*

HINTS FOR AMATEURS.

Tuberous Begonias. — Amongst other plants which at present are flowering in the beds or borders, and which can be successfully lifted for potting, tuberous Begonias may be included. Where the beds are wanted for Wallflowers, and are at present occupied with Begonias, the latter may be lifted at this time, and, if carefully potted up and rightly treated, they will bloom satisfactorily for some time in the greenhouse during winter.

Those which are not required should be left in the beds until the foliage dies down, or is blackened by frost. When lifted they should be cleaned as far as possible, and kept through the winter by placing them in layers in wooden boxes. They should then be covered over with cocoanut fibre. The drying process must not be too speedily accomplished; that is, when they are lifted from the beds they should not be placed straight away into dry boxes, but first should be set on a moderately damp border, and covered over with leaf soil. Later they may be finally stored.

Crocuses.—A mere reference need now be made to Crocuses, and this simply to state that the end of September is considered the best season for the planting of Crocuses out of doors. This brightly flowering genus succeeds when grown in pots for dwelling room embellishment.

Gloxinias.—With the approach of their resting season the water should gradually be withheld from Gloxinias. Many of the earlier batches will have gone to rest, but some may yet have been kept growing because nothing better was ready to take their place. The matured plants when they have been dried off may be kept in the pots (which is a good plan), or they may be turned out and stored, if the pots are wanted for something else. Usually, however, the plan is to place the dried off plants on shelves—pots and all—out of the way of drip and damp. Or the pots may be placed closely together and on their sides, which will ensure the crowns being kept dry.

Dog's Tooth Violets are general favourites, because they seem to fulfil all the poetical conception of what flower-form should be. They somewhat resemble the Violets in the shape of their flowers, but otherwise one could never imagine them *as* Violets. I do not know why they were in the first instance called Violets; nor worse still, why Dog's-tooth was prefixed. "There's something in it" as the "street man" would say, but we must puzzle away till the something turns up. Most of them are pink, purple, or white, or shades of these colours. They enjoy a shaded corner in a rockery or in a border, though, of course, dry rockery pockets ought not to be selected. Once they have become established, it is best to leave them undisturbed until such time that it is necessary to divide and replant them. The planting may be done now.

Cape Bulbs are not so thoroughly known as they may presently be. When they become cheaper by being more liberally grown and imported, their culture will naturally be more fully understood and the fine flowers of such as Babianas, Ixias, Sparaxis, &c., will be provided plenteously. In favoured quarters Ixias do fairly well in the open air, and their culture in pots is not very exacting. Five or six bulbs of any of the above genera placed in a 5-in. pot, using a friable compost, will be quite sufficient. Plunge the pots in a bed of ashes, and cover them over to the depth of a few inches as a protection against frost. When the first signs of growth appear above the soil of the pots, remove them from the ash covering and place them on the shelves of a well-lighted greenhouse, or suchlike cool structure. Their treatment from this point is similar to that accorded to Freesias or Hyacinths.

Cyclamens will be benefited by the occasional stimulus of manure water. Plants which are not very vigorous may at the same time be better without this incentive. They may be coaxed and otherwise treated, by treatment on other lines. The ash bottom, which it is presumed they are standing on, should be made and kept clean; the pots should be clean, and the plants themselves should most assuredly be free from anything deleterious to them. They may be removed to the stages of a span-roofed house (a low-roofed one preferably) any time from the present. A house which has been utilised for Tomatos during the summer may be sanctioned for the Cyclamen. These may occupy one side of the house, and Zonal Pelargoniums the other side. It is well worth anyone's endeavours to devote the whole of one house to these two classes of plants for the sake of winter flowers. Young stock should be grown on each year for this winter display, and if a little warmth is allowed and some care exercised both in watering and in ventilating, quite a small house will be found able to keep up a supply even to heavy demands. The Zonal Pelargonium should also be housed at the present time. Chrysanthemums, Eupatoriums, Salvias, Cinerarias, and other soft-wooded plants, may be removed to safe quarters whenever time and convenience will permit.

Agaves and Aloes which have been out on pedestals and steps during the late months, will, like all the other tender plants, now undergo the carting-in process. Any shed or cellar—even loose boxes in stables—will do till spring time. They will not require water, so that it little matters where they go. A vinery or other fruit house should be preferred where space can conveniently be allowed for them.

Liliums.—Over-anxious cultivators have a desire to lift their Liliums oftener than is necessary for the good of the latter. Some indeed appear to think that they should be lifted annually. But they should be left alone so long as they are vigorous and healthful. They will become better still if the soil conditions suit them. When a clump has become too thick, it is then the right and proper thing to lift and to divide them, enriching the soil while doing so. Or if disease has made its appearance amongst a collection, the speediest measures should be employed to suppress and stamp it out. The lifting of Liliums yearly destroys many or all of their basal roots. When they are undisturbed these roots remain fresh, and the bulbs also continue plump, and ready, when favourable conditions occur, to start off into renewed healthy growth.

The planting Season.—By this title I mean to refer to tree and shrub planting. In another week planting operations will have commenced, and will continue right on, according to weather conditions, until about April of 1901. The month of October, and the first fortnight of November (the linking period between these two) have long been unanimously agreed upon as the very best time of the year during which to plant fruit and ornamental trees and shrubs. This is also the great bulb planting season. Hardy herbaceous plants are also divided, propagated, and freshly bought stock is placed in the borders at this time. It is a busy season; but all seasons are busy to the energetic and strenuous gardener. In this place I would ask my readers to look over the back numbers of THE GARDENING WORLD, to choose from some of the pages a few of the many names of hardy plants which have appeared, and to give those plants they may choose a fair trial. Nothing beats variety for sustaining the interest and for feeding enthusiasm. So if you can afford to add one or two newer plants, or good old ones which are often neglected, by all means do so. In the meantime, where planting has been decided on, the fullest arrangements should be made. The plans should be definitely made out; there's no use in going to business with the intention of planning as the work progresses. Some worthy men do a little job "to see how it looks," and then they have another trial to see how it appears in a different formation. But such is not the way to be either economical, expeditious or tasteful.

Dahlias.—The flower shows yield as much information about what is what amongst Dahlias, as can be had from any other source at present. By watching the reports one can form an opinion about the favourite varieties, and the favourites are the best we may be sure. The only section that is receiving much attention this season, is that of the Cactus varieties. The small pompon sorts, and the best singles are also much in evidence. Show and fancy Dahlias I would have none of, or at least, only as a curiosity and for variety.

Carnations.—These should be potted up or planted out as the case may be, whenever they are rooted and strong upon the layers. Pot Strawberries may be left out of doors yet, but those for open-air plantations should be planted now at latest. —*Beacon.*

Sawdust, *per se* is no use as a manure, but is a good absorbent of urine, &c.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Leaves *versus* Stems.—*W. L.*: When such leaves as those of Begonias, Streptocarpus, Gloxinias, and the like are used for propagating from, it is not correct to say that they are ill-fitted for emitting roots. Much, of course, depends on the manner in which the practical details are applied, on experience and the judgment of the cultivator. But leaves with the structure that those of the above named plants have, are perfectly adapted for developing a callus, and once this is formed roots are pretty sure to follow. It is from the veins or "ribs" of the leaves that the callus grows. And the veins are simply fibro-vascular bundles, identical with the bundles which may be found in young stems. These bundles of the stem (which are half composed of woody tissue, and half of bast or sieve tissue) are primarily of individual existence, situated around the pith in the centre. When the young stem expands, they, of course, also enlarge, seeing they at this time almost solely compose the stem, and by and bye they all join, forming a complete ring. It is the growth that these rings make each year that we count when summing up the age of a fallen tree. The leaf bundles (called also the ribs or veins) are indeed just a continuation of the bundles which travel from the largest stem up through its branches, branchlets, and twigs. The difficulty with the leaves often is, that the parenchymatous tissue, that is, the pliable web-like portions of the leaf lying between the ribs, decomposes, and so the "damping off" demolishes our leaf cuttings.

Sending specimens.—*J. T.*: We are always willing to help our correspondents and regret when questions are sometimes delayed or are overlooked for a day or two. These things sometimes occur. Your specimens would be fresher if you wound damp moss around the bases of the flower stems. Some of the damp moss ought also to be placed between the different flowers, or if they are of special interest and value, damp tissue paper is better. A number should be written on a small slip of paper, and these slips should then be made secure to the specimens they are intended for. If you follow these few rules, and use strong cardboard or tin boxes, you will have done all that will be necessary.

Flower garden questions.—*Mrs. J. T. Sharpe*: Alyssum variegatum and the dwarf edging Lobelias may be lifted from the beds for potting-up. They will stand the winter if you are careful in giving only enough water to keep them slightly growing. If the shoots and centres of such plants as these are allowed frequently to become damp, "damping-off" occurs. An ordinary greenhouse shelf, or even a shelf in a dwelling house window where the air is not kept very dry, will suit them well. The bedding Pelargoniums, or "Geraniums," as you call them, should have had cuttings taken from them which may have been dibbled into open borders, or into wooden boxes among sandy soil. Your best plan would be to lift the old plants shortly and pot them. Or do away with them and get young plants next May. Iresines, Verbenas, Heliotropes, Coleuses, Ageratums, &c., are kept through the winter as cuttings, repeatedly striking the tops whenever the rooted plants become too tall. But with most of these we have found it much easier and quite as satifactory to raise them from spring-sown seeds. Chrysanthemums you will have directions upon at the proper time. Dahlias and Gladioli are lifted and stored as a rule. Pentstemons and Antirrhinums you may leave where they are. Do not cut down the old growth when it dies, as this protects the young shoots which grow from the base. We advise those who have limited conveniences to rely a good deal more on seeds, or on plants like Salvias and tuberous Begonias which are easily stored in any cool, dry shed.

Weeds in a Lawn.—*H. L.*: Though you may find it tedious, the best plan to clear out weeds from a lawn is to carefully hand-weed it. This is a capital time to do the work, for the weeds are now less vigorous, and by filling up the holes with fine

soil and sowing grass seeds thereon, the lawn will soon become perfect enough to withstand the weeds.

Chrysanthemum Leaves Dropping.—*H. B.*: This generally accrues from the plants being overcrowded, or from their having experienced droughts. It is difficult to keep the lower leaves on. Attention to watering and as much exposure to light and air as possible may overcome the trouble.

DESSERT CHERRY NOBLE.

At various times since its introduction over a year ago, our readers may have observed the comments about it which have appeared in The Gardening World. By the courtesy of the raisers of this fine Cherry (Messrs. W. Ray & Co., Teynham, Kent), we are enabled to furnish an illustration (from a photograph considerably reduced) which will fully confirm our own encomiums of it. Some may imagine that the photograph was from an abnormally fruitful branch, but this is not so. Every branch bears equally well, and while the crop is heavy, the Cherries are still large, we might even say they are of superior size. The average diameter of the fruits measure ¾ in., and this speaks for itself. The colour of the clusters is an intense dark red, the fruits being firm, juicy and richly flavoured. Its firm flesh favours it as a good variety for travelling without suffering damage. It also withstands wet weather and, according to a good authority, is not apt to split. It ripens at the end of July, and as it is a vigorous grower, it furnishes a suitable kind for orchard planting. At the meeting of the Royal Horticultural Society held on July 25th, 1899, it was awarded a First-class Certificate. One of the best fruit nurserymen known to horticulture, to wit, Mr. George Bunyard, V.M.H., speaks of this new variety as being one of the best Cherries in cultivation. Those who are planting during the coming season would do wisely to bear in mind this introduction.

Cherry Noble.

LILIUMS.

At a recent meeting of the Royal Horticultural Society in the Drill Hall, Westminster, Mr. R. Wallace, of bulb fame, nurseryman, at Colchester, delivered a lecture on the subject of "Lily Culture." After giving various reasons and citations to show the probability of Lilium chalcedonicum having been the subject of biblical reference, and the one meant by ancient authors, he proceeded to describe their geographical distribution. Lilies are found in many countries, though the greater portion are found in Europe, Asia, and America. Asia furnishes the greatest number of species, and America the least. Special stress was laid on the wisdom of getting Lilies that are perfectly hardy—Lilies of the Hansoni, Brownii, and Martagon type. These may be grown in any ordinary hardy plant border, where, so far as possible, we must imitate their natural conditions. Partial shade they always like. In Japan they are found growing in soil which has been washed down from the hill sides, by the banks of the streams, sheltered by the undergrowths, and protected overhead from the mid-day sun. The ideal place is a forest glade with a small stream running through. Here they would flourish like natives, and L. giganteum, L. humboltianum, &c., could be grown in massive clumps. Still, it is not wise to plant directly beneath trees, nor should either a hot, dry soil or a heavy, damp one be selected.

L. Henryi, L. speciosum longiflorum, and others of a like nature are not hardy enough to succeed well in all open air situations. To do well they should be planted out in a temperate house, or grown in pots. Any good garden soil is suitable for Liliums Brownii, candidum, croceum, Henryi, thunbergianum, tigrinum, &c. A slightly strong soil or rich loam is best for Liliums auratum, Humboldtii, dalmaticum, rubescens, wallichiana, and superba. L. philadelphicum likes a peaty soil.

More Lilies are planted in spring than in autumn, yet according to Mr. Wallace autumn is the best time for the operation. All Lilies do not have the same root action; some Lilies only produce roots from the base of their bulbs, while others in addition emit roots around the base of the stems. Thus for stem rooting sorts it is of advantage to top-dress them, room for this being left at the first potting. It is found, too, when lifting such as L. auratum that the parent bulbs which have good roots produce robust bulbils, whereas if stem roots alone have been able to develop these bulbils collapse. And so every care should be taken to preserve the bulbs at all times in

the best condition. The late planting of Martagon Lilies is often the sole reason for their failure. But good, sound Japanese Lilies may be planted as late as March or April if they are fresh when received. Coolness at the root is also necessary to success in Lilium culture. In planting place the bulbs down three times their own depth. Around the base it is advisable to furnish a layer of leaf mould, sea sand, and gritty soil, or, indeed, the bulbs, as at Colchester, may really be covered over with such compost. Mr. Wallace complained of the harmful encroachment of tree and shrub roots into the soil which ought to be specially reserved for the sustenance of the Lilies. To overcome this, he advised the use of tubs. These could be sunk in a bed of shrubs, with the Lilies in them, and nothing could disturb the latter. L. giganteum does well generally in the shelter of glades and woods. L. auratum, L. speciosum and varieties; with L. longifolium Harrisli, L. Henryi, L. wallichianum, do well in pots, when a compost of turfy loam, peat, and sand should be used. After potting them they should be plunged in a frame to be taken into the greenhouse when root action has started.

Amongst the best of the newer Liliums are L. Lowii, L. Henryi, L. Krameri, and L. rubellum. The latter, however, has in many cases proved disappointing, as it seemingly requires very special conditions for growth. In conclusion, while lamenting the fact of somewhat slow progress in the evolution of new varieties of Lilies, Mr. Wallace said that bulbs of this genus of plants were now numerous and cheap. For bulbs which twenty years ago sold at a guinea each, the seller now only received from one to five shillings. Japan annually exports £25,000 worth of bulbs of all kinds. So many as 1,400 dozen Lilium racemes have been sold in Covent Garden, London, in one Easter week, which shows the use that many of the bulbs are put in.

IMPATIENS FULVA.

This is another North American plant of great but transient beauty, which seems to have taken up its permanent quarters on our shores, and which is so rapidly extending its habitats along our rivers and canals, that in the future it must become a "weed" of some importance. It grows from 2 ft. to 4 ft. high, and seems quite happy in association with the purple Loosestrife or the hairy Herb Willow. It is sometimes called the American Jewel Plant. Its flowers are certainly curious as well as ornamental, and if they be not precious things they are highly interesting, both as to colour and contour. The flower possesses a remarkably long spur and irregular petals, which are so spotted and splashed with tawny-crimson as to give this colour the predominance, although the groundwork is orange-yellow. The flowers, moreover, depend most gracefully and fantastically from their slender petioles, and thus are subject to every breeze that blows, so that they may be said to swing to and fro like tiny hammocks roped from tree to tree. These flowers, although they are fugaceous and fragile, succeed each other very quickly. The whole plant is like a Balsam in appearance, and, in fact, it is allied to the garden Balsam, and has dark red, swollen, brittle stems. It is a fine companion to that other naturalised sub-aquatic North American plant already noticed, the Monkey Flower (Mimulus luteus). Where the one grows the other may be found.

In addition to the districts given in Pratt's *British Flora*, I have picked this "jewel" up near Kew, Teddington, and Twickenham, but I have never seen it in such great profusion as I saw it the other day when following, with a piscatorial friend, the course of the Gade from Cassiobury Park to Rickmansworth, where this rapid little trout-haunted river loses its individuality in the larger waters of the Colne.

An annual plant like the one under notice is sure to become freely distributed when one takes into account the nature of its irritable capsules, which burst and scatter their contents, spring-gun-like, a considerable distance. This can be accelerated by touching the capsules, hence the botanical term, *Impatiens*, or the native one, *Touch-me-not*. Thus many of the seeds are thrown on to the swirling waters, or are carried down by floods, and, adhering to the sides of the banks, germinate, form new plants the next season, repeat the process, and so on *ad infinitum*.

Thus also given a suitable site at or near the fountain-head of any of our numerous streams its regular distribution will be merely a question of time.—*C. B. G.*

HERBACEOUS PHLOXES.

The Phlox family has been well described as a numerous one. The sections of it provide our gardens with many beautiful members, some of which may be had in flower for nine months out of twelve. In the meantime, I would merely refer to the tall summer and autumn-flowering perennial herbaceous Phloxes. They have been a long time in British gardens, though one might have expected P. decussata and P. paniculata, which are wild in the United States, to have been introduced previous to 1732. But the varieties of P. paniculata and P. decussata (P. maculata) have practically been "made" in all senses of the word, since the original species was introduced.

Though they are economical in their fragrance yet their handsome panicles of various and brightly coloured flowers which demand so little skill to produce and which are in all ways so beautiful, win for them a place in every garden, and we have beds of Phloxes just as we have lines and clumps of Pyrethrums, Paeonies or Pentstemons. The tall herbaceous Phloxes enjoy a rich, well-worked soil and a light sunny position. If the border for their roots is cool and slightly shaded, with their heads free in the air, Phloxes will do immensely well. They are sometimes mulched in dry summers, and while it helps the plants it does not add to the pleasantness of the appearance, &c.

They are perfectly hardy. At this time of year they should all be staked. Each nursery firm has its own names, it would seem, for varieties, which are identical, are in different places differently named. A selection made at Messrs. Barr's nursery at Long Ditton shows Toreador to be one of the finest and brightest of their varieties. It is a lovely salmon-pink sort with immense wide trusses, being also dwarf. Ouragon has large panicles of violet-purple blossoms. Le Vengeur is a bright rosy-purple with pyramidal, even trusses, while Lawrence is a good dwarf white. Hambeau, another of the rose-crimson class, is very telling. This is one of the best sorts for effect. Floreal is distinct in its way, after the style of Ouragon but somewhat lighter in colour. Champignol is a bright lilac-crimson variety. Henri Murger is much prized. It has a crimson centre and white edge, the flowers individually being large. Le Soleil, on the other hand, has a white centre and a cerise edge. Le Siecle is deep pink. Eugénie Danzanvilliers, a lovely soft lilac-blue with a white centre; and Sappho, a fine, dwarf, branching white variety are also very select. Flambeau is a dazzling scarlet-crimson. Paul Bert takes us to the pale lavender shades, while in Jaconde we have a heliotrope coloured variety. A beautiful soft pink variety is that named Souvenir d'Emile Liebig. Adonis is a bright salmon-pink, admired by all. Jocelyn is deeper in colour than Flambeau, so that it too, may be taken. Leonardo la Vinci has noble trusses of snow-white and crimson-edged flowers. The foregoing are all worthy of a place in the best of hardy plant collections.—*D. K.*

SEPTEMBER FLOWERS.

From the middle of August till the first week in September, there is a slight cessation in the bloom-wealth of the garden. The summer flowers are then ripening or spreading abroad their seeds, and the autumn flowers have not all begun to flower. These, be it noted, are largely represented by tall yellow flowered composites. Among the really good subjects in bloom in the open borders this month are: Achilleas, Aconitum autumnale, Anemone japonica, Apios tuberosa, the Ground-nut, a handsome leguminous climber requiring a sunny position; perennial Asters, Bocconia cordata, the Plume Poppy. There is also Calystegia (Convolvulus) pubescens fl. pl., a sweet rose heliotrope flower, the plant being suitable for hedges or pillars, &c. Chrysanthemums are in full blow; Chicorium Intybus or Wild Endive, Colchicum autumnale, Coreopsis in variety, Dianthus deltoides, D.hybridus, Funkias, Helianthus multiflorus, H. orygalis, Harpalium rigidum, Eryngium giganteum, Erysimum pumilum, Erigeron caucasicus, and Galega officinalis. Fine beds of Hydrangea paniculata grandiflora are now prominent garden features. Hypericum calycinum has lasted on well and is still good. The Linums are still showy; so are the Monardas, M. didyma, and M. fistulosa. Physostegias, otherwise called Dracocephalum, are fresh, P. virginiana being one of the best. Ononis rotundifolia and the pretty Origanum pulchellum are still showy; and so are many of the tall Polygonums of which every garden should have a large collection. Rudbeckias are still all aglow; Pyrethrum uliginosum, various Statices, Tritomas, Tropaeolums, Phloxes, and other worthy but lesser known plants are yet in bloom.—*G.*

NEW STRAINS OF STREPTOCARPI.

Of late years, nurserymen having found their efforts to evolve anything new or startling from the classes of florists' flowers which they had so long attached themselves to, were forced to turn their attention to newer genera, and it comes that the Streptocarpus, a lovely and easily grown greenhouse plant, was fixed upon for operations. Messrs. J. Laing & Sons, Forest Hill, London, S.E., among other firms, have had it in hand, and have now a strain in which purple, violet-purple, pure violet, amaranth-blue, deep indigo, light lavender and pale blue shades have been brought out. The flowers are long and funnel-shaped, borne in clusters of twos and threes in fine long erect stalks, the plants all being profuse bloomers. The foliage is peculiar, being wrinkled, curled, thick—indeed, almost fleshy. Streptocarpi are sometimes propagated by means of the leaves, but the practice requires skill and some amount of time. If seeds are sown about March, in nicely prepared pans of light soil, and these softly watered and placed in a genial propagating frame, having a temperature of about 65°, the seedling may be expected to advance satisfactorily. From the seed-pan to the individual existence in thumb pots is the next step, still using a sandy soil. A lower temperature should at the same time be accorded—say 60°. Attend very carefully to the watering and keep the shelves and foliage slightly damped. Whenever they require a shift (which will be so soon as the pots they are in are comfortably filled with roots) do not delay the operation. A 6-in. pot is usually large enough for flowering them in. They should be grown all the summer of the first year in cool pits and kept slightly shaded. In autumn, remove them to the shelves of a greenhouse. They will flower during the spring and summer of the year following. The light-coloured varieties with the pencil-lined throat are remarkably free and exceedingly showy, no plant of a like nature more so. These multiflora hybrids are persistent bloomers, and useful either cut or growing. There is a delicacy, yet richness and beauty of form, among the plants of this strain that must surely appeal to all who are judges and lovers of plants and flowers.—*R. S. N.*

THE GREENHOUSE AT KEW.

Among the many subjects blooming in the greenhouse in the Royal Gardens, Kew, the following at the present time may be enumerated—Tomato Cluster Currant, a fine decorative subject; Campanulata pyramidalis, blue and white, mixed in groups upon the ground staging; trained specimen Ivy-leaved Pelargoniums, Primula obconica, Agelonia salicariae folia alba, Callistemon salignus, Cannas in masses, pink Carnations, of the variety Mrs. de Rothschild, well-flowered specimens being interspersed with Miscanthus japonicus zebrinus, a finely-marked hardy grass, grown in this case in pots. Cyperus Meyeneanus, a bright green curving leaved species of dwarf habit; clumps of Lilium speciosum album and rubrum. There are, indeed, some seven varieties of L. speciosum in flower throughout the house. Impatience Sultani is a sweet, salmon-pink, dwarf species. Cockscombs are staged and good ones they are; also Asclepias curassavica, Salvia Grahamii, Agapanthus umbellatus, Fuchsias, mostly as roof climbers and showered with their beautiful flowers. Other roof decorative plants are Lonicera semperflorens, Tibouchina macrantha, Jasminum grandiflorum, Plumbago capensis, Maurandya scandens, Abutilon Golden Fleece, and other things. Mimulus cardinalis in 7-in. or 8-in. pots is very handsome as seen in the mass. Begonia coccinea is exceedingly fine; B. semperflorens rosea on the stages, with double pink Petunias, Lobelia elatior, Nierembergia. filicaulis, Bredia hirsuta, Chaenostoma hispidum, Cuphea

insignea (which might give way for something better), Crinum Moorel, Campanula isophylla Mayii, a splendid new variety raised at Edmonton; Abelia chinensis, Streptosolen Jamesonii, Cestrum elegans, Tuberoses and Primula floribunda.

The staging of the plants is on the massing principle, all of a genus is kept by itself, or at best only two kinds of plants are put together and this is simply for contrast and effect. The houses have stages 3 ft. high and broad, all around the house which is cruciform in shape. The central parts are only a few inches raised from the ground and two large beds on the right and left from the centre are permanently planted with Acacias, Daturas, Streptosolens, &c. This is the best form of house for purely show purposes.

APPLE MRS. PHILLIMORE.

THE fruit of this new Apple is somewhat smaller than Cox's Pomona though similar in shape, being oblate, more or less distinctly five angled on the top, and of a rich crimson-red on the exposed side. It will thus be seen to take largely after the character of Cox's Pomona, which was one of the parents, the other being Gladstone. The flesh is soft or tender, brisk, and aromatic, the flavour resembling that of American Mother. Cox's Pomona is a handsome Apple, but only a moderate cropper, and in this respect Mrs. Phillimore is a great advance upon it, inasmuch as the tree is short jointed and bears heavily. It is a dessert variety of the first quality, and comes into use during the winter months from November onwards. It was raised by that veteran of horticulture, Mr. Charles Ross, of Wellford Park, Newbury, who has made himself notable as a raiser of Apples for some years past. On November 7th last, he brought a dish of it before the members of the R.H.S. Fruit and Vegetable when that body accorded it an Award of Merit. The stock of the variety has been acquired by Messrs. George Bunyard & Co., Maidstone, to whom we are obliged for this opportunity of placing an illustration of it before our readers.

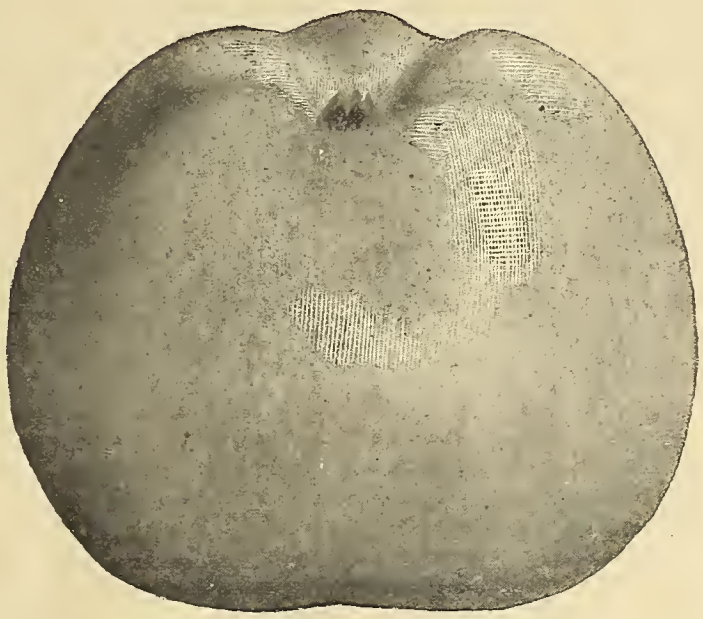
LANGLEE, GALASHIELS, N.B.

FOR choice of situation, this place is superb, occupying, as it does, a fine, southern exposure, and sheltered most beautifully on all other sides. On the north, the picturesque Langlee Hill rises abruptly behind the house, and stretches from east to west, like a strong, defending arm; while on either side, it is finely belted by substantial trees. The place is modern, having been built by the late James Dalrymple, Esq., in 1857, and has been in the tenancy of Dr. and Mrs. Murray for a good many years.

No attempt is made around the house at floral decoration, a preference being given to a beautiful sweep of pretty lawn, adorned here and there by pretty shrubs, of which we noted some fine Cedars, Cupressus lawsoniana, pretty Limes and sturdy Oaks. The place is within a mile or so of Galashiels yet is most pleasantly secluded from that busy little town. From the park in front of the house, a most lovely lookout is got of a fine stretch of the Valley of the Tweed, the ground on which this place stands being the highest point on the Melrose-Galashiels road, which runs past the lodge gates, while on the other side of the road it dips away down to the valley, where the Gala and Tweed join hands almost immediately in front of the house, and glide in serpentine fashion, away on past Melrose. On the other side of the river, rises the finely-wooded slopes of Abbotsford, the top of which historical building can be seen peeping out from amongst the trees. The writer can recall with pleasure the beautiful picture presented to the eye in his many walks up this road in early spring or late autumn, while living in this neighbourhood, the beautiful tints of the trees on the fine hill on the one hand, and the fine sweep of the strata with "Tweed's silver stream" gliding through it, is certainly a sight to be treasured.

Passing from the house to the garden, we cross a neatly-kept piece of grass bordered round by fine shrubs and come to a neat range of glass, which stands on slightly elevated ground. The first house entered from this side is a lengthy lean-to greenhouse in which was a fine show of Fuchsias, regal and zonal Pelargoniums, Begonias—single and double—some fine Gladioli in pots, and a host of the usual greenhouse decorative plants. Next, we enter a fine little vinery, carrying a good crop; then we come to span-roofed, intermediate house, with a bright assortment of useful things for house decoration. Again, we enter another vinery, with fine bunches of Hamburgh, &c., while underneath the Vines were some fine Ferns. Next, we find ourselves in a very nice stove, similar in size to the greenhouse, and which completes the range. Here we found a fine, healthy lot of plants, amongst which we noted some good Palms of serviceable size, viz., Cocos weddeliana, Kentias, &c., some fine Eucharis grandiflora, Ardisia crenulata, Anthuriums, Pandanus, Dracaenas, &c. Some nice Ferns amongst these, with good bits of Bougainvillea, Allamanda and Clerodendron on the roof, make the house very attractive. At the back of this range are the offices and frame ground; and here, also, is a very useful propagating pit, in which were a promising lot of Melons, Cucumbers, &c., and the remnant of what had been a fine lot of Gloxinias, and which were still showing some fine blooms, were stood on the stage below.

Mr. Farquhar, although not an exhibitor, is all the same a great enthusiast with the Chrysanthemum, and grows a large collection with remarkable success. Unfortunately his plants have suffered this season by the terrible storm which visited the "Gala" district in the month of June. Some of the plants we saw had their flowering stems clean snapped over by the force of the hailstones, while glass was smashed in all directions.



APPLE MRS. PHILLIMORE.

The kitchen garden is a cosy square of a full acre in extent, and one could imagine that, in close weather especially, it would be a little too "cosy" so well surrounded is it with bushy trees and good walls. Although Mr. Farquhar confesses to a lack of quality owing to the wetness of the season, his fruit and other crops have all given an average good return. Plums, Pears, and Apricots on walls are all good; Apples, on bush and standard trees, good; and all small fruits a good crop. A practice carried out here by Mr. Farquhar, and which makes his flower borders all the more interesting, is that the "massing" system is adopted to a fair extent. Borders of from four to six feet broad run all round the vegetable quarters. The one on the east side is devoted to bulbs, and we can remember how gay a sight it was, and we understand still is, in the spring and early summer months. Another border on the south is well taken up with tree Paeonies and other things in keeping with them. On the west are large patches of early flowering Chrysanthemums and Carnations, while the double borders on either side of the intersecting walk are filled with a good collection of herbaceous plants, interspersed with a fine lot of half-hardy and other annuals.

Just one word in connection with one of the vegetable crops, and which may prove useful to some of our younger men in charge of such. The ground here is a stiff clay and to get a good Carrot crop was a difficult matter. Mr. F. tried the plan of "punching" his ground for this crop with an ordinary pailing "stobb," and then filling up the holes with sand, and sowing over the top of this. This he has continued to do now for about twenty years on the same ground and lifts an excellent crop of clean Carrots as the result.

As this is the great "Sweet Pea" year I cannot help but remark, in closing, on a very fine white perennial species which we have seldom seen in any other neighbourhood, and which we found here nearly covering a fine rustic arbour. We cannot give it a name but we grew it for many years ourselves and it was always much admired. It is of robust growth and throws up a grand truss of pure white flowers set up like a Gladiolus on a strong flower stalk. Can our worthy Editor tell us anything about it?—*Richard.*

[It is Lathyrus platyphyllus albus, generally termed L. latifolius albus in gardens.—ED.]

CACTI AND OTHER SUCCULENTS.

THOUGH one cannot expect the average cultivator of plants, who generally has to devote his always limited space to subjects which provide a quick and sure return of flowers, to throw heart and soul into the growing of cactaceous plants as a quiet means of recreation, it is at the same time still within the scope of reasonable desire to expect that these remarkable plants should arouse far larger sympathy. We know that many of them are as monotonous as the dreary deserts whereon they grow wild, but others again have charms and beauties which can occupy the attention of enthusiasts for hours on end. So strange are they that at a show of Cacti and succulents, made by Messrs. Cannell & Sons, of Swanley, in the Royal Aquarium, Westminster, at a recent date, some of the visitors would hardly credit the statement that they were plants! Of course, this may seem strange to us, but the "Rock of Ages" Cactus (Cereus peruvianus monstrosus) is scarcely plant-like; it is remarkably well named. It is like a shapeless mass of brownish, rounded rock, and not much like a living organism at all. Then the Old Man Cactus is surely a very funny vegetable production, clothed over as it is, with long, coarse, white hairs. The Grizzly Bear Cactus (Opuntia ursinus) takes after the same character. One of the most handsome succulents for general use is Echivera (Cotyledon) metallica. When fully developed, its large, shell-like, lustrous and coppery leaves are indeed beautiful. Sempervivum tabulaeforme is a strangely-shaped species, in much request by park superintendents for edging their raised beds with, for which it is useful, being flat and round. One does not see it often in flower, but when grown in small pots, as the Messrs. Cannell do, it throws up a graceful, creamy panicle. Dasylirion planifolia may hardly be included among Cacti, but it arranges harmoniously with them. Crassula profusa, with its fleshy, boat-shaped leaves, has the appearance of having had these latter strung to the stems in the same manner as Beech seeds or corals are placed on strings. Cereus peruvianus, with its eight-angled stems, contrasts greatly with C. Brumanni, which is erect, is about 2½ ins. in diameter and bears long brown spines. Euphorbia grandidens branches like

Pine tree, and so far as stem structure goes, one would not class it in the same order with the handsome Echinocactus Grusoni. E. cylindracius has red spines, whereas E. Grusoni is protected with long, yellow ones. E. rigidissimus is covered with close, even, rosette-like tufts of spinous growths, Mammallaria pusilla has always been a favourite with us; first, because of its extremely interesting morphology, and, secondly, for the real beauty it possesses. It has been likened, when in fruit, to a tuft of Nertera depressa, the popular Fairy Orange Moss, only that the latter grows flattened and green, while the Mammallaria is "lumpy" and bristles with silvery spines or hairs. Rochea falcata nearly resembles the Kleinias which are also liberally used in bedding. Rochea falcata, as a name, ought now to be given up, Crassula falcata being authoritatively recognised. Other Cacti of outstanding merit which were seen at the show included Opuntia tunicata, O. Englemanni monstrosus, O. lurida, Aloe plicabilis, Euphorbia lacta, E. candelebra and Mammallaria nogalensis. We heve necessarily condensed these notes because writing is instrumental in calling attention to subjects worthy of notice, but only personal inspection (in the case of plants, &c.) can prove the full merits to the likely cultivator.

The culture and propagation of Cacti, like that of any special class of plants when made a study of, is found to contain intricacies whose unveiling and mastering furnishes the incentive for further progress, and what may have at first appeared a dry, gray, rigid study, expands and builds up a fascinating hobby. Of their individual cultural needs someone better acquainted with the order may give a few notes. Their general requirements are met if a house be set apart for them, keeping the tropical kinds in the warmest division, and according the temperate-loving genera the cooler quarters. The house should not fall below 50° during winter, and 60° in summer, rising, in the latter case, with sun heat, up to 90°. They are seldom shaded. The tropical species should be kept dry during winter. Those from the rocky regions in the west of North America do fairly well in cold frames. A suitable potting compost for most cacteous plants consists of a half part fibrous loam, and the other half made up of charcoal, sifted lime rubble, broken crocks and coarse sand.

STREATHAM HALL

Is situated on the suburbs of Exeter, commanding extensive views of Dartmoor and its surroundings, the beauties of which have been written over and over again by abler pens than mine; so I will confine my remarks to the gardens which concern us most.

Entering the lodge gates we were fortunate to find Mr. Franklin, the head gardener, just going towards the mansion, which is reached by an extra wide drive half a mile in length. On either side were noticed fairly good specimens of Pinus insignis, Cedrus Deodara and C. atlantica, Wellingtonia gigantea, nicely feathered, and though situated on such sloping ground and a dryish subsoil, they were the picture of health; while two very fine specimens (the largest that I have met with) of Quercus Cerris (Turkey Oak), Thuja gigantea, Thujopsis borealis, very fine; Libocedrus decurrens (Incense Cedar), Abies albertiana, a very fast grower, which in good soil makes beautiful specimens, were also observed.

The flower garden which adjoins the house was very bright with Pelargoniums, Ageratums, Coleus, etc., and though the beds were small, their number fully made up for this. Here were remarked two grand specimens of the variegated Wellingtonia gigantea, fully 20 ft. high, a rich treat for me to see, as this tree does not succeed with us. On the walks and terraces, of which latter there are a number, stood fine plants of Aloes, green and variegated, in tubs, as well as several well-flowered plants of the African Lily, Agapanthus umbellatus.

The first glass structure we entered was the huge Palm house, erected about four years ago, 75 ft. in length, by 45 ft. in width, truly a grand house and the inhabitants in luxuriant health, the majority of which were planted out in a kind of rockwork, and draped with Panicum variegatum, Rex Begonias of many colours, Fittonias and Tradescantias. Several trees of Seaforthia elegans were in flower and fruit on the same plant, quite a feature to behold. Latania borbonica of large size, fully 40 ft. high; Phoenix dactylifera (Date Palm), 12 ft.; Satae princeps, 20 ft.; and Dicksonia antarctica were in grand form. Marantas and Dracaenas, as undergrowth in variety, made a very interesting house, heated with a pair of upright tubular boilers.

Next we entered a span-roofed conservatory, gay with the usual occupants at this time of year (first week in September). In the centre bed were several large Oranges in tubs, good pots of Eucharis grandiflora in flower and two very fine plants of Chamaerops excelsa, 25 ft. high (hardy in Devon). Adjoining is the Camellia house, all planted out and full of bud. This structure contained Habrothamnus and Bongainvillea glabra, nicely in flower. A lean-to Rose house proved most useful from January onward for buttonholes. Of course the lights were off here, and Mr. Franklin informed us that he found Mdme. de Watteville most useful as a succession and nicely scented.

The Melon house contained several fruits on the verge of ripening. The Cucumber house was just prepared for winter fruiting. A small Tomato house looked attractive with its many fruits.

The fernery is a span, and mostly planted out among stones and in crevices, with small basins of water every few yards, which is always in good keeping where this family abound. Leaving this we enter a small stove, where nice decorative stuff is grown, such as Crotons, Dracaenas, Aralias, Pandanus, &c. The next house is a span, with a lantern top, used for stove plants of larger size, and here we noticed Crotons, Ixoras, Allamandas, Medmilla magnifica (a huge plant), Marantas, Caladiums, of sorts, in very large pots. From here we emerge into the Orchid house, where several Peristeria elatior (Dove Orchid) were in flower, and good pans of Coelogyne cristata finishing up their growth. In another structure good plants of Salvia splendens and Poinsettia pulcherrima were remarked.

The Pines are well done here, and three divisions are allotted them in all stages from the recently put in sucker to the ripening fruit. In the next division, Telegraph Cucumber was in excellent form. The vineries contained bunches of Muscats, Hamburghs, Tokays and Mrs. Pinces—medium-sized bunches that should keep well into spring. The earliest Grape house, of course, had been relieved of its crop.

The kitchen garden is not very extensive, a supply coming from another estate further in the country. On the south wall, the Dymond Peach was cropping well, and so was Glou Morçeau and Duchesse d'Angoulême Pear on a west wall. On the outer sides of this walled-in garden, iron Peach houses are erected, but on account of so many large trees so near, the wood of the Peach naturally does not ripen and heavy crops are not expected, but the cases come in most useful for storing Azaleas, Camellias, Aloes and suchlike half-hardy plants. Good crops of Brussels Sprouts, Cauliflower, Broccoli, &c., were noticed; and in the borders, Richardias, Bouvardias and the herried Solanum all planted out and doing well. The Bouvardias were just being lifted and coming into bloom, being most useful subjects for the conservatory and greenhouse from now up to Christmas.

One feature of the place was its tidiness inside as well as out-of-doors. In fact, the whole place was in excellent order, which shows that Mr. Franklin is always on the alert, and after more than twenty years' service, he knows most of the turnings there, and having over twenty men under him, speaks for itself that his position is one of responsibility.

Mrs. Thornton West, who owns this beautiful estate, is very fond of her gardens and gives much encouragement to the man in charge. Her only son and heir, Mr. B. West, a most wealthy gentleman, left this earthly paradise only a few months ago—and let us hope for a heavenly one—at so early an age as thirty-five, mourned by the county in general, especially so in and around Exeter, where he was always ready to help a deserving cause. It is doubtful whether the public will ever know one-half the good he did. It was mainly through him that county cricket was again brought forward in Devon the past season.—*J. Mayne, Bicton.*

Campanulas.—Max Leichtlin speaks of Campanula rupestris as a worthy companion to C. mirabilis, and states that it does well in sandy loam.

TASTY BEDS IN LONDON PARKS.

Victoria Park.

Those who are within such easy reach of London that a 5s. return fare covers the railway expenses, usually make an effort to visit the larger parks during the brightest part of the summer. The gardener or garden lover never comes on a "bedding" visit, but he returns with a few selected designs noted in his pocket book. But while a few can avail themselves of the ideas begot in the minds of the best fitted in such matters, the majority cannot come, and for them these notes are intended.

Only the more pleasing combinations have been noticed, and among the smaller beds in Victoria Park, which is under Mr. Moorman's superintendence, there is a specially bright one suitable for any sized garden, and one not expensive to imitate. A bright blue variety of Lobelia was employed around the edge. The variegated Flower of Spring Pelargonium and Iresine Lindeni filled the body; while just above the level of the white leaves of the Pelargonium the mauve-heliotrope flowers of Verbena venosa were apparent. Finely-formed specimen plants of Acacia lophantha were lightly arranged over the bed to give it greater height and balance. Those who may not have seen Verbena venosa should try to get hold of some seeds. Another of the commoner class of bed, yet an exceedingly attractive one, was filled with stately, handsome Heliotropes, intermixed with a crimson-flowered variety of Ivy-leaved Pelargonium, and edged with a fine broad band of the variegated Ground Ivy. The dark trusses of a fine body of well-grown Heliotropes filled the centre of another large oblong bed, and to form a white bordering line around the edge of the Heliotropes Stocks had been employed. The effect of a short distance was sufficient to make one have a second and prolonged gaze, while finally a close inspection was prompted. A broad edging of the red-flowered Cuphea ignea added further contrast, but whether the flowers of the Cuphea were past their best, and thus dim and faded, we were unable to decide, but something more brilliant was required to give the fullest effect to the combination.

An oblong bed filled with scarlet-flowered Pelargoniums, and having an edging of what we took to be the variegated Pelargonium Mrs. Mapping, and outside this a band of Ageratum was very pleasing and tasty. Above the centre mass of scarlet a number of specimen Acacia lophantha reared their dark green pinnate leaves. A large bed, in which double pink flowered Fuchsias were mixed with yellow Celosias and the blood-red Coleus Verschaffelti, was unique and interesting. Another bed filled with Cannas of red and green leaved varieties intermixed was worthy of special attention.

The large parterre near the conservatory in this park, is one expansive blaze of brilliant colours. Bedding Pelargoniums are almost solely employed, and everyone knows how glorious a show they can make when used *en masse*, and seen at the height of their splendour. There are very large and elaborate beds in this part of the flower garden. One of the handsomest of these, shaped somewhat like a Maltese Cross, minus one of its sections, and having the side wings drawn out, contained Echeverias around the edge, then a broad band of neatly trimmed Fuchsia Meteor, followed by an equally broad band of the purple leaved Iresine, and inward still, flower of Spring Pelargonium, a large mass of the variety Brighton Gem being in the centre, and the pink-flowered Christine forming panels at each extremity of the side wings. It is difficult to describe such a bed, but anyone employing such combinations may rest assured that the effect will be most brilliant.

In this park, too, there is one of the finest pieces of carpet bedding to be found anywhere. In one long flowering curved bed, over 100 ft. long, the following very apt, patriotic quotation from Tennyson's "Ode on the death of the Duke of Wellington" appears in bold, "living" letters:—

"Not once or twice in our Island story,
The path of duty has been the way to glory."

This is easily read, and is certainly a masterpiece amongst work of its kind. Even visitors from America have come enquiring for this exhibition of bedding skill, having heard of it in Yankee land. This piece of carpet bedding is principally worked out in Alternantheras, with some dwarf Dracaenas,

Celosias, Chlorophytum elatum variegatum, and other light and ornamental plants, which are dotted about for the sake of variety. Other large, massive beds occupy the background, and serve to throw up the aforementioned carpet bed. These variously contain such plants as Ficus elastica, Palms, Abutilons, Cannas, and Erythrina crista-galli, the Coral tree.

The herbaceous borders form a special feature of Victoria Park, containing as they do a moderate collection of Gladioli, Helianthus, perennial Asters, Chrysanthemums, Rudbeckias, and most of the favourite hardy autumn plants. Around the recesses of the ornamental water the specimen tropical plants usually employed find a place during summer.

Before closing our brief review the succulent beds come to mind as an additional character in Victoria Park bedding. The superintendent is proud of his efforts in this phase, a feature which is but very very seldom seen in gentlemen's private gardens. When succulents (which include Agaves, Aloes, Echeveria metallica, and the other species, Kleinias, Sansevieras, Opuntias, &c.) are well grown and massed so as to bring out their individuality of colour and form, there is nothing more interesting or more constantly beautiful in summer gardens.

SOCIETIES.

BOSTON AND DISTRICT DAHLIA AND CHRYSANTHEMUM.—*September 13th.*

THE show held by the above society in the Artillery Drill Hall, Main-ridge, Boston, on Thursday, the 13th inst., was the second which it has carried through. The exhibition was all round satisfactory. A "champion class" had been provided, and as five guineas were offered besides a N.D.S. Silver Medal, it may be imagined the class brought out a keen competition. Most of the leading specialists were present in strength.

Messrs. Hobbies, Ltd., of Dereham, had a magnificent display, as also Messrs. R. H. Bath, Ltd., The Floral Farms, Wisbech.

Messrs. Keynes, Williams & Co., of Salisbury, had a number of certificated varieties in their collection. Mr. S. Mortimer also figured well, and obtained a number of awards.

Messrs. W. W. Johnson & Son, Ltd., exhibited amongst other things Asters, Sweet Peas, and hardy annuals. A set of their Selected Alisa Craig Onion, and of their new Runner Bean Enormous, were much admired. The latter received a Certificate of Merit. They obtained a Silver Medal.

The chief prize-winners in the larger classes include the names of well-known Dahlia growers. Messrs. Keynes, Williams & Co., were first in the champion class above referred to for twenty-four show and fancy blooms, distinct. Mr. J. Walker, of Oxon, came second; Mr. M. V. Seale, third; and Mr. S. Mortimer, fourth. These winners, together with Messrs. G. Humphries, of Chippenham, and W. Baxter, of Woking, carried off the principal awards in the other classes of this section, and also for Cactus and pompon varieties.

Messrs. Z. Ingold, W. H. Rawnsley, F. Martin, H. Lockwood, W. Garfit, and J. Moore were the leading amateur exhibitors.

Of the certificated varieties we may mention "Fighting Mac," "The Dragon," and "Edith Bryant," from Messrs. Keynes, Williams & Co. Mr. Mortimer had certificates for "Thos. J. Pauley" (named after Mr. Pauley, the energetic secretary of the show), and for "Prince of the Yellows." Mr. G. Humphries had "The Florodora" and "Major Hobbs."

ROYAL HORTICULTURAL.—*Sept. 25th.*

THE fortnightly meeting at the Drill Hall on Tuesday last witnessed a great assemblage of autumn flowers of all classes, those grown out of doors being the most numerous, including Dahlias, Roses, and hardy herbaceous plants in great variety. There were also various fine exhibits of summer and winter-flowering Begonias, Capsicums, and fruit and vegetables in some quantity. The committee of the National Dahlia Society also sat, and a large number of Dahlias received Certificates, with which we shall deal next week. Orchids were also fairly well represented for the season.

Orchid Committee.

PRESENT.—Harry J. Veitch, Esq (in the chair), with Messrs. James O'Brien, De B. Crawshay, A. H. Smee, J. Colman, H. Little, J. T. Gabriel, H. J. Chapman, W. H. Young, H. A. Tracy, E. Hill, T. W. Bond, J. Jaques, C. Winn, C. Rochford, H. M. Pollett, and H Ballantine.

Messrs. J. Veitch & Sons, Ltd., Chelsea, had the largest exhibit of Orchids, showing a nice collection of Cattleyas, Laelias, and Laeliocattleyas chiefly. Very fine were Lc. wellsiana, Lc. callistoglossa, Lc. Isis, Lc. Nysa; also Laelia splendens, L. Novelty, Cattleya Mantinii, C. Enid, C. porphyrophlebia, and C. Mrs. J. W. Whiteley. They also exhibited several very showy and useful Cypripediums, including C. Morganiae, C. Baron Schroder, C. Mrs. F. L. Ames, C. H. Ballantine, and C. vexillarium. The last four all had C. fairieanum as one of their parents; all are very handsome, but the rich spotting on the dorsal sepal of C. Baron Schroder makes this variety the choicest and most handsome. (Silver Flora Medal.)

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, had an attractive exhibit in a small group of specially fine things like Laeliocattleya Roy Wigan, Cattleya Greyae, and two plants of a very fine Laeliocattleya without a name. Messrs. Hugh Low & Co., Bush Hill Park, Middlesex, staged a fine variety of Oncidium Papillo, Cattleya gaskelliana alba, also very choice and handsome, and C. Maronii with khaki coloured sepals and petals.

Sir James Miller (gardener, Mr. J. Hamilton), Manderston, Duns, N.B., exhibited flowers of Cattleya bowringiana velutina and Laeliocattleya callistoglossa Princess of Wales, with large and delicately coloured flowers, with exception of the lip, which was darker. Henry Little, Esq. (gardener, Mr. A. Howard), The Barons, East Twickenham, exhibited Laeliocattleya Sallieri and Laelia velutina elegans. Norman C. Cookson, Esq. (gardener, Mr. Murray), Oakwood, Wylam-on-Tyne, exhibited Cattleya hardyana Oakwood var. and C. Lord Rothschild. F. A. Rehder, Esq. (gardener, Mr. R. Norris), The Avenue, Gipsy Hill, staged Cypripedium Mrs. Rehder, a hybrid with boldly blotched flowers. Col. Shipway (gardener, Mr. W. Walters), Grove House, Chiswick, exhibited a well-grown piece of Vanda sanderiana, bearing two spikes of bloom.

Floral Committee.

PRESENT:—W. Marshall, Esq., in the chair; with Messrs. Charles T. Druery, H. B. May, R. Dean, H. Turner, Geo. Paul, H. J. Jones, E. H. Jenkins, James Walker, J. T. Bennett-Poë, J. D. Pawle, E. T. Cook, J. F. McLeod, Jas. Hudson, J. Fraser, H. Selfe-Leonard.

Mr. M. V. Seale, Vine Nurseries, Sevenoaks, had a tasty exhibit of single pompon, show and Cactus Dahlias. The blooms were rather small. Some of the single Dahlias were very fine, Peacock was especially good, Edie Obleln, The Gelsha, Alice Nicholson and others, were also very fine. (Silver Banksian Medal.)

Mr. John Russell, Richmond Nurseries, Richmond, came forward with a group of Bambusas and other graceful growing hardy plants. Bambusa palmata was well shown, being broad-leaved and handsome. B. nigra, B. (Arundinaria) Simoni, B. S. striata, Phyllostachys aurea, P. mitis, Arundinaria Hindsii graminea, &c., were also included. (Silver Banksian Medal.)

Messrs. J. Cheal & Sons, Crawley, Sussex, had a bright though limited collection of cut shoots of Crab Apples laden with their handsome fruits. Transcendant Crab, Dartmouth, Orange, John Downie and other Crabs were on view.

Mr. J. T. West, Tower Hill, Brentwood, exhibited a collection of cut Dahlia blooms, of which the Cactus varieties were naturally the most favoured. Lucius, Mrs. Carter Page, Mrs. J. J. Crowe and other new varieties of this latter section were well shown. (Silver Banksian Medal.)

Messrs. Hobbies, Ltd. (Mr. John Green), Dereham, had a magnificent bank of Cactus Dahlias, solely. They seem to devote their energies almost entirely to the Cactus section, and with what success Dahlia growers are well acquainted. The newer of their varieties were here shown, embracing Baden Powell, Hobbies' Yellow, a good strong flower; Major Weston, Red Rover, Mrs. C. Page, Ajax, a buff terra cotta; Starfish, Wm. Cuthbertson, Sandpiper, Debonaire, Exquisite and many others, all of the finest character and merit. (Silver Gilt Flora Medal.)

Mr. H. J. Jones, Ryecroft, Lewisham, S.E., arranged a collection of winter-flowering Begonias (Gloire de Lorraine and Moonlight) and perennial Asters, in the varieties Acris, Jno. Wood, Longifolius formosus, Amellus bessarabicus, R. Parker, Linosyris and W. Bowman, the exhibit being set up in two distinct sections. Mr. H. J. Jones' Malmaison Carnations and the new Cactus-flowered Pelargonium Fire Dragon, were also exhibited. (Silver Flora Medal.)

Mr. Norman Davis, Framfield, Sussex, came out strongly with perennial Asters, his collection including the largest flowered and showiest species and varieties. The arrangement was on a large and handsome scale, tall glass vessels being used along with wide-mouthed jars. Aster Amellus var. Onward is an exceedingly fine sort, of great decorative merit A. A. bessarabicus, John Wood, cordifolius elegans, Novae-Angliae Mrs. F. W. Rayner (purple-mauve), Mrs. Peters, and a large lavender coloured seedling were amongst the finest of them. (Silver Gilt Flora Medal.)

Messrs. James Veitch & Son, Ltd., Royal Exotic Nursery, Chelsea, set up a collection of useful and brilliantly coloured Tritomas and perennial Sunflowers, &c. Rudbeckia laciniata, Helianthus multiflorus Bouquet d'Or, H. m. maximus, H. doronicoides, a graceful and beautiful variety; and H. rigidus, were all in good condition. A basketful of the Fiery Thorn (Crataegus Pyracantha Lelandi), laden with its scarlet berries, was shown.

Besides this hardy cut flower exhibit they also, on this occasion, arranged a collection of their famous Nepenthes. The quality of these seems still to become more perfect, and each occasion seems to surpass the preceding in the value of the plants shown. N. mastersiana, N. hookeriana, N. rafflesiana, N. mixta, N. Chelsoni excellens, N. Burkei (a perfect picture of excellence), and N. balfouriana, were among others of those shown. The firm received an Award of Merit for a new black Grape named Prince of Wales, a sport from Mrs. Pince. This is a variety of great excellence, and is meritorious in all respects. (Gold Medal.)

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, had a most effective group of Begonia Mrs. Leopold de Rothschild, the pink sport from the deeper coloured B. Gloire de Lorraine. The plants were well developed and well laden with blooms. Ferns, &c., were used with them. (Silver Banksian Medal.)

Mr. Amos Perry, Winchmore Hill, London, N., set up a hardy cut flower group. This contained a large assortment of Asters, Anemones, Rudbeckias, Gaillardias, Tritomas and Sunflowers. Liatris pycnostachys was finer than we have ever seen it. Helianthus occidentalis hybridus was worth attention. Tritoma MacOweni was also neat and good. Lobelia cardinalis, Physalis Francheti, Geum coccineum plenum, &c., &c., were also well seen. (Silver Flora Medal.)

Messrs. J. Burrell & Co., Cambridge, set up a choice selection of Cactus Dahlia, most of them new, as for instance Ajax, Vida, Regulus, Ignea, Debonair, Rosine, Artus, Vesta, Galliard, Casilda, Lyric, &c.

Messrs. B. R. Cant & Sons, The Old Rose Gardens, Colchester, had bunches of decorative Roses, including Mignonette, Souv. de Catherine Guillot, Fabvier, W. A. Richardson and others of a like nature. (Silver Banksian Medal.)

Messrs. I. House & Son, Coombe Nurseries, Westbury-on-Trym, near Bristol, showed Phloxes and Pentstemons, both genera being represented by admirable named varieties.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, had an exceedingly fine selection of late flowering garden Roses. Gustave Regis was on view, Maman Cochet, Gruss an Teplitz, W. A. Richardson, &c., were amongst others included. They also showed a collection of hardy cut flowers. (Silver Flora Medal.)

Messrs. W. W. Johnson & Son, Boston, Lincs., exhibited Sweet Peas, in the varieties Lord Kenyon, Mrs. Dugdale, Her Majesty, Hon. F. Bouverie, Countess Cadogan, &c.

Messrs. Barr & Sons, King Street, Covent Garden, London, had a rich collection of hardy cut flowers. Gladiolus Gen. Duchesne, G. Benvenuto, G. Soliman,

Rudbeckia Autumn Glory, Anemone japonica elegans, China and quilled Asters in small pots, single Cactus Dahlias, Physalis Franscheti, Zauschneria mexicana, Phloxes, &c., &c, were shown. (Silver Banksian Medal.)

Mr. J. H. Witty, Nunhead Cemetery, again showed early flowering Chrysanthemums in pots. His group on this occasion was larger and finer than on the preceding date that he made his show. (Silver Gilt Banksian Medal.)

Messrs. Keynes, Williams & Co., The Nurseries, Salisbury, showed Cactus Dahlias of the varieties Zephyr, Magnificent, Ajax, Elsie, Fighting Mac, The Clown, &c. (Bronze Banksian Medal.)

Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, showed the following new Chrysanthemums, all of which are beautiful and well worth attention:—Alfred Fleurot, pink; Queen of the Earlies, creamy; and a yellow variety of the same; Jeannie Vuillermet, Mytchett Glory, Etienne Devillat, Mdme. Gagae, rose-mauve; Mdme. Zephir Lionnet, Victor Mew, Miss Ruth Williams, yellow; Moliere, pink with bronze centre; Ivy Sparke, bright orange and brown; and Market White. (Bronze Banksian Medal.)

Mr. W. J. Godfrey, Exmouth, obtained a First-class Certificate for Chrysanthemum Ettie Mitchell as a market variety. This is a bright gold coloured variety, the yellow being overlaid with reddish-brown.

Messrs. Wm. Paul & Son, Waltham Cross, Herts, had a display of Roses which excelled any of the groups he has yet set up. All the more brilliant of the late-flowering Tea and bedding Roses were included. (Silver Gilt Flora Medal.)

Messrs. Wm. Clibran & Sons, Altrincham, showed "Clibran's Prize strain of Celosia pyramidalis." The plants were peculiar in their fluffy, feathery heads of flowers.

Mr. James Stredwick, Silverhill Park, St. Leonards-on-Sea, showed cut Dahlia blooms, the pompons being as fine as any that one is likely to meet with. The Cactus and other sorts were also good.

Leopold de Rothschild, Esq. (gardener, Mr. Jas. Hudson), set up a beautiful group of "autumn flowers," including Sternbergia macrantha, S. lutea major, Colchicum speciosum album, C. speciosum, and other things, forming a most attractive little group.

Fruit and Vegetable Committee.

PRESENT: Philip Crowley, Esq., in the chair; with Messrs. W. Wilks, P. C. Veitch, W. Poupart, H. Esling, A. F. Barron, E. Shaw Blaker, A. H. Pearson, Geo. Kelf, Alex. Dean, S. Mortimer, W. Bates, Edwin Beckett, Geo. Wythes, F. Q. Lane, Jas. Smith, Thos. Coomber, and James H. Veitch.

Her Majesty the Queen (gardener, Mr. Owen Thomas), Frogmore Gardens, Windsor, exhibited a large collection of Plums. Diamond, Ickworth Imperatrice, Lawson's Golden Gage, Grand Duke, Prince Englebert, Late Rivers, White Magnum Bonum, Pond's Seedling, and Monarch, were all of the finest. (Silver Knightian Medal.)

Miss Adamson (gardener, Mr. G. Kelf), The Gardens, Court Villa, Regent's Park, N., had a creditable display of vegetables, which, when we consider that they were grown within two miles of Charing Cross in the centre of London, will seem all the more praiseworthy. The exhibit included fine Cauliflowers, Onions, Leeks, Marrows, Celery, Beet, Carrot, Brussels Sprouts, Tomatos, French Beans, and other things. (Silver Knightian Medal.)

Messrs. Dobbie & Co, Rothesay, N.B., showed a boxful of Model White Turnips, a variety of good shape and accommodative size.

Mr. E. Beckett, Aldenham House, Elstree, had a wonderfully fine display of well grown and finely-fruited Capsicums. Williams' Little Gem was very decorative, and Golden Dawn, Red Tomato shaped, Long Yellow, Long Red, were represented by plants in 5-in. pots, some of them about 3 ft. high, and others scarcely more than 1 ft. They were certainly a novelty, and were admired as such. (Silver Knightian Medal.)

OBITUARY.

MR. JOHN ROBERT JEFFERIES, a partner in the well-known firm of Ransomes, Sims & Jefferies, Ltd., died at his residence, St. Helen's Lodge, Ipswich, on Wednesday, September 12th, and was buried in the Ipswich Cemetery on Saturday, the 15th. The deceased gentleman was well known throughout East Anglia for his benevolence, and as one of a firm with a world-wide reputation for the designing and manufacture of agricultural implements. He had done his full share in making the pretty little town of Ipswich both famous and prosperous.

READ THIS.

THE competition continues as usual next week.

The prize last week was awarded to Mr. A. Thatcher, Aldenham, Elstree, for his article on the "Propagation of Herbaceous Plants," p. 54. Several of the competitors were very close in point of merit, and one article was too long to be elegible for the prize. The 250 words should not be overstepped.

QUESTIONS AND ANSWERS.

Size of Chrysanthemum Stands.—*George*: For Japanese Chrysanthemum blooms the holes in the boards must be 7 in. apart from centre to centre, and the outermost one must be 3½ in. from the edge of the board. A stand for six blooms would therefore be 21 in. from back to front and 14 in. the other way. A stand for twelve blooms would be 21 in. from back to front and 28 in. from end to end. The stands in both cases must be 7 in. high at the back and 4 in. high at the front. This is the size required by the National Chrysanthemum Society. A stand for six incurved blooms would require to be 6 in. from centre to centre of the holes and 3 in. from the edge of the board, that is 12 in. from left to right, and 18 in. deep from back to front. A stand for twelve blooms would thus be 24 in. from end to end, and 18 in. deep from back to front. For incurved blooms all the stands should be 6 in. high at the back and 3 in. high at the front.

Pruning of Young Apple Trees.—*H. I.*: If the shoots are again as strong as they were last year after cutting them back for half their length you might cut off one-third of the length only on this occasion. If you have more shoots than you require the surplus should be cut back to one or two buds at the base. It strikes us, however, that your young trees are growing too strong, and would be better for root pruning to check their vigour somewhat. Provided they are not more than two or three years planted you could lift them and trim back the roots, re-planting them again immediately. If three, four, or more years planted you might take out a trench all round the trees about 2½ ft. from the trunk, cutting all the roots met with by means of a sharp knife. Dig in beneath them and cut any strong roots that may be growing perpendicularly down into the subsoil. You will thus leave a mass of soil about the roots, so that the trees will bear next year if the season is favourable for the setting of the blooms in spring, that is, the trees will not suffer any check from the root pruning, except such as you intend to give them to restrain too vigorous growth, and throw them into a bearing state.

Hedge Trimmer Workable from the Ground.—*X. Y. Z.*: A new patent hedge trimmer, suitable for cutting hedges of moderate height without mounting a ladder, was shown at the Edinburgh show on the 12th and 13th inst. It consisted of a pole about 4 ft. to 5 ft. long with a fixed knife at the end similar to that of an agricultural reaper, but shorter. The cutting blade consisted of a rotary wheel, deeply sawed on the edge like the movable blade of a reaper, but circular and driven by means of a crank, worked by hand. The crank was keyed on to a small pinion. The latter was connected to a smaller one fixed to the rotary blade or cutter by means of a chain. The pole carrying this machinery had a movable piece fixed on the end of it, and which rested upon the thigh of the operator. We cannot say if this in any way resembles the hedge trimmer to which you refer. Possibly yours might be an improvement upon it. In any case we should be pleased to know.

Pot Roses to Bloom in June.—*D. W. D.*: Without the aid of glass we presume you intend to make the plants bloom earlier than usual by standing the pots in some sheltered position. In your northern latitude we do not see that any growth could be made before March, even under the most favourable conditions out of doors. We advise you, therefore, to prune them in March and re-pot them at the same time into 6-in. pots, or larger if the vigour of any particular variety requires it. As soon as the pots are filled with roots and the plants making good growth you can feed with weak liquid manure. We think an open shed would be as good as anything in the absence of glass for storing them in winter. Pack all round and over the pots with dry Bracken, hay, or straw to keep the frost from breaking the pots. A dwelling house would answer very well, provided it is cool and no growth is made, because it would be weak owing to the relative absence of light. When the weather becomes fine you should stand the pots on boards or a bed of coal ashes in front of a south aspect wall. The young growths must be protected in spring against late frosts by putting mats, tarpauling, or other shelter over a framework above them, but chiefly at nights. They must always be well exposed to light during the day. Your other questions will be answered next week.

Names of Fruits.—*Loaning*: Apples, 1 and 2 are handsome and early but most inferior in quality, probably some local variety.—*Philomathus*: 4, Cellini; 5, King of the Pippins. The others are probably Scotch varieties of inferior quality not worth growing.—*A. D. W.*: Plums, 1, Prince of Wales or Sultan (it had been much damaged in coming through the post and decayed); 2, Jefferson; 3, Black Diamond; 4, Lawson's Golden Gage; 5, Mitchelson.

Names of Plants.—*Adam Burnett*: 1, Hypericum calycinum; 2, Verbascum rubiginosum; 3, Aster cordifolius; 4, Centranthus ruber albus; 5, Rudbeckia laciniata; 6, Erodium Manescavii; 7, Antennaria margaritacea.—*Botany*: 1, Erigeron philadelphicus; 2, Gasteria verrucosa; 3, Cystopteris bulbifera.—*G. W., B.*: Asparagus tenuifolius.—*R. J. G. Read*: Not Lavatera cretica, but Malva crispa.—*Sigma*: Judging from your descriptions it is Aster dracunculoides, which has been fine for some time past. We should have liked a bloom or two, but suppose it was difficult to get a specimen.—*De S. Steerhope*: Solanum nigrum.—*W.B.*: 1, Chrysanthemum segetum, the Corn Marigold or Chrysanthemum, is perfectly wild; 2, Rhamnus Frangula; 3, Viburnum Opulus; 4, Prunus spinosa, the Sloe. *Interested*: 1, The Tormentil (Potentilla Tormentilla); 2, The Carrot (Daucus Carota); 3, The Cow Parsnip (Heracleum Sphondylium).—*D. M. G.*: 1, Aster Novi-Belgii densus; 2, Aster diffusus pendulus; 3, Solidago canadensis; 4, Ipomopsis elegans; 5, Colchicum autumnale flore pleno.—*R. M.*: 1, Fuchsia Dunrobin Bedder; 2, Fuchsia thymifolia; 3, Agapanthus umbellatus variegatus; 4, Spiraea hullata; 5, Erica vagans; 6, Daboecia polifolia, better known as Menziesia polifolia in gardens.

Communications Received.—J. L.—H. J.—Jas. Hudson.—Sutton & Sons.—T. F.—J. F. Hudson.—H. Gardiner.—Council and Secretary, R.H.S.—A. J. B.—T. C.—A. R.—T. H.—W. D.

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SHOW FIXTURES FOR 1900.

OCTOBER.

9.—National Chrysanthemum Society (3 days).

NOVEMBER.

6.—National Chrysanthemum Society (3 days).

7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).

DECEMBER.

4.—National Chrysanthemum Society (3 days).

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, OCTOBER 6th, 1900.

JOTTINGS AT THE GREAT FRUIT SHOW.—The exhibition of British Grown Fruit, held at the Crystal Palace, Sydenham, under the auspices of the Royal Horticultural Society, on the 27th ult., and the two following days, maintains its unique character as the leading and most extensive assemblage of fruit grown in the British Isles. There can be little doubt but that this exhibition draws together a fair representation of what can be done by British horticulturists of all classes. The show might be made larger, and even more fully representative; but at present there are at least two distinct causes that militate against this expansion, namely, distance, and climatic influences. The first is chiefly a financial question; for if the prizes were sufficiently large to tempt gardeners or nurserymen to bring their fruits from distances, varying from 200 to 600 miles by rail or boat, with reasonable hope of covering their expenses, we feel sure that British pluck would do the rest. The second drawback to competition between northern and southern exhibitors is the advantages which the latter possess in the matter of climate, which plays a very marked part in the development and maturing of hardy fruits.

The plea might be advanced that eleven classes were set apart under the title of "special distinct county prizes" to meet the necessities of the case, and enable growers from different parts of the country to stage their fruits under fair and equal conditions. The classes are good so far as they go, but should have been greatly extended if gardeners from the north of Scotland were to be placed on an equal footing with their rival competitors. Only one class was set apart for the whole of Scotland, so that growers in the Orkney Islands or even Inverness-shire would have had no chance with competitors from the south and south west of Scotland. Latitude is a very important factor in the production and ripening of hardy fruits; while natural shelter, and maritime influences, particularly along the west coast, are more local factors that range themselves under the same heading. But while we state that distance and climate are the principal or main limitations that hamper the growth of a fruit show at London, we wish particularly to apply them to the case of fruit grown in the open. In the case of Grapes, on the other hand, distance, or, in other words, the expense of conveying them to London, is the chief factor that keeps them at home. This might be remedied, provided funds were forthcoming to offer sufficient inducement to gardeners and growers to come from afar. Scotch growers make their appearance at Shrewsbury, and growers from England compete successfully at Edinburgh; and we should like to see growers from Scotland more often at the London shows, which could not but benefit from such wholesome rivalry. The railway companies might show a little more patriotism in offering cheap transit, at least, for produce intended entirely for exhibition purposes.

While speaking of Grapes we have already noted with satisfaction the vast improvement that has taken place in the exhibits at the Crystal Palace, or even for the whole of London, since the Royal Horticultural Society inaugurated the exhibition of British grown fruit. The number of exhibits, and the size of the bunches and berries have greatly increased since that event about six years ago. The quality of the Grapes may, and does vary, from year to year, according to the character of the season which has been responsible for their production; but though the past season has been both late and at times very unseasonable, many fine bunches were staged at the Palace last week. The bunches of Alicante exhibited by Lord Hastings (gardener, Mr. W. Shingles) were certainly splendid, and excited keen admiration, and much attention from all classes of people. All were well finished, and one bunch weighed 8¾ lbs. The same exhibitor also deserved the high encomiums he received from gardeners and visitors for his bunches of Muscat of Alexandria, Gros Colmar and Alnwick Seedling. The bunches were well finished, with a fine bloom, as well as being of large size. Grand bunches of Alicante were also shown by J. W. Fleming, Esq.; Gros Maroc by Lord Suffield (gardener, Mr. W. Allan); Black Hamburgh by the Earl of Harrington (gardener, Mr. J. H. Goodacre), by J. W. Fleming, Esq., by Lord Hillingdon (gardener, Mr. A. R. Allan), and by C. R. S. Dickens (gardener, Mr. A. Kemp). C. Bayer, Esq. (gardener, Mr. W. Taylor), was in good form with Chasselas

Napoleon and Lady Downes; while J. W. Fleming, Esq., had the best Madresfield Court. Finely finished bunches of Buckland Sweetwater (seldom exhibited) were shown by H. A. Attenborough, Esq. (gardener, Mr. A. Child); while alongside of them were bunches of the same early variety that had been grown entirely in the open air. The contrast between the two sets was very great, thus showing the marked difference between hothouse and open air grapes in this country. Marked attention was given to these grapes by various classes of the British public. By means of glass and artificial heat to supplement that of the sun when deficient, cultivators are able, so to speak, to make a climate suitable for any given purpose. The aid of glass and artificial heat, coupled with the skill of the cultivators, make British hothouse Grapes what they are, second to none in the world. White Grapes, but particularly Muscat of Alexandria, showed the effects of the lack of sunshine, during the past season in numerous bunches lacking in colour and finish, though there were exceptions. Cooper's Black continues to be shown as a distinct variety of Grape though some good cultivators consider it only a form of Gros Maroc. An addition has been made to this class by the new variety Prince of Wales, a sport from Mrs. Pince, shown by Messrs. J. Veitch and Sons, Limited.

Apples and Pears, particularly the former, were again a dominating feature of the show, both in point of numbers and variety. The display was fairly well modified by the presence of Peaches, Nectarines, Plums, and other fruits in smaller numbers, the prizes for collections of fruit being instrumental in bringing them to the front. In a good many instances the exhibitors made a point of adorning their exhibits with Crab Apples, also the fruits of Pyrus Aria, Crataegus Pyracantha, Rubus laciniatus, &c., for which purpose they are well adapted and appropriate. Notwithstanding the opinion of several to the contrary, we are convinced that the Apples on the whole were not so highly coloured as we have seen them on several previous occasions. This may be due in part to the fact that no prizes were offered for fruit grown partly under glass and partly out of doors. The classes were for fruit grown entirely in the open air, and for orchard house fruit. Many Apples seem to develop a high colour whatever the nature of the season may be, and though these are small as a rule, there can be no question about their ornamental character; while some are highly meritorious for dessert purposes. Dartmouth Crab, William's Favourite, Scarlet Pearmain, Caville Rouge Precoce, Sops in Wine, Duchess of Gloucester, and Duchess Favourite are some of the most handsome of the smaller varieties to which we refer. Larger and richly coloured Apples are Worcester Pearmain, Gascoigne's Scarlet Seedling, Lady Sudeley, Vicar of Beighton, Cox's Pomona, Crimson Queening, Wealthy, Swedish Reinette, &c. While most of the culinary Apples were green, many of them were very far from being so ripe as we have seen them at this season. The largest exhibits of Apples and Pears combined were shown by Messrs. Geo. Bunyard and Co., and Messrs. J. Veitch and Sons, Limited. Fine exhibits were also staged by Mr. Basham, Messrs. J. Cheal and Sons, Messrs. J. Laing and Sons, and Messrs. J. Peed and Son.

We have seen larger fruits of Pears than any staged last week, but the average standard was high. They monopolised a fair amount of space in proportion to their importance, but we have seen them in greater abundance and practically dominating the show. There were splendid samples of Pitmaston Duchess, Souvenir du Congres, Marguerite Marillat, Durondeau, Doyenné du Comice, Beurré Mortillat, The Conference, Dr. Jules Guyot, King Edward, Belle de Jersey, Catillac and others. The collection or group of orchard house fruits and trees, exhibited by Messrs. T. Rivers and Son, was unique in the Palace and attracted much attention. Amongst new Apples The Houblon was shown by Mr. C. Ross, Welford Park, Newbury; Mrs. Phillimore and Bens Red by Messrs. G. Bunyard and Company; The Paroquet by Messrs. J. Cheal and Sons; and Monstrous Incomparable by Messrs. Cutbush and Son. Pineapple Bracomorensis, a huge reddish-yellow variety tapering from the base to the crown, was another unique and rare exhibit. It was sent by Baron Nathaniel de Rothschild (gardener, Mr. James Roberts), Hohe Warte, Vienna, and attracted much attention by its handsome appearance.

Mr. David Todd, for the last three years foreman in Bargany Gardens, Ayrshire, has been appointed as gardener to Colonel McCall, Daldowie, near Glasgow.

Colchicum autumnale.—I have met with this plant so frequently that I have never considered it rare. I have seen it in great plenty in the Severn Marshes at Gloucester, and it is abundant throughout that county. It used to appear every year in an old orchard at a house I lived in at Chigwell, Essex, and I am sure it had never been planted there. Watson, in his "Topographical Botany," names thirty-two counties as its habitat, but does not mention Kent. He states that it is abundant in Worcestershire.—*Sigma.*

Lady Warwick Agricultural Association for Women.—The second annual general meeting of this association will be held at Stafford House, St. James', S.W., by kind permission of His Grace the Duke of Sutherland, on Friday, October 12th, at 3.30 o'clock. The Countess of Warwick will preside. The report will first be read, including work of the association, registry and *Woman's Agricultural Times.* Other items of the agenda are openings for women in the lighter branches of agriculture (*a*) as gardeners, fruit and flower growers, market gardeners; (*b*) as dairy women; (*c*) as poultry rearers; (*d*) as bee keepers. All members of committee (executive and general), patrons and associates, are earnestly begged to attend this meeting, which will also be open to the general public. Admission will be by ticket only, to be obtained from the Organising Secretary, Lady Warwick Hostel, Reading.

Bristol and District Gardeners' Mutual Improvement Association.—The monthly meeting of the association was held at St. John's Parish Room, Redland, on Thursday, September 27th, Mr. A. J. Hancock presiding over a large attendance. The lecture for the evening was given by Mr. J. H. Vallance, and was on the "Advantages to be derived from the Study and Practice of Horticulture." Dealing with the subject in a very interesting manner he claimed for gardeners—(1) a long and healthy life, comparing statistics on the matter with those of other professions; (2) a better and more useful life, contending that there was less crime to be found amongst gardeners than many other classes of workers; (3) a fuller life, proving how much the occupation tended to the quickening of the senses, more particularly the power of observation; and lastly, a happier life, claiming that no pleasure could be compared to that derived from the cultivation of fruits and flowers. A short discussion followed, and the thanks of the meeting was voted by acclamation on the motion of the chairman. Prizes for two table Ferns were awarded to Messrs Raikes, Curtis, Shaddock, and Binfield. Certificates of Merit went to Mr. Orchard for a collection of Dahlia blooms; Mr. McCullock, for a Vallota purpurea and Odontoglossum grande; and a Special Certificate recommended to Mr. Binfield for a new Dahlia.

Sugar Beet.—Mr. A. D. Hall, of the South Eastern Agricultural College at Wye, is not among those who regard the cultivation of Sugar Beet as having a great future before it in the United Kingdom.

Clubbing.—In the first instance, I must thank your correspondents for their information through your colums of September 22nd, but must admit that the above heading is not appropriate for my subject, although the term is often used. I am much indebted to Mr. McGregor for his theory concerning the origin of these two pests.—*W. Waite, Southfields.*

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, October 9th, in the Drill Hall, James Street, Westminster, 1—5 p.m. A lecture on "Figs in Pots" will be given by Mr. James Hudson, V.M.H., at three o'clock.

Mr. John Curror, gardener to George Douglas, Esq., Eskbank, Midlothian, is again at his old trick of producing monstrosities. Some years ago he astonished horticulturists, and brought himself into prominence, by producing the largest bunch of Grapes ever exhibited in Scotland, which weighed 26¼ lb. This time it is a Vegetable Marrow, which has so kindly responded to the loving care and attention bestowed thereon. This Marrow, variety Long Green, weighed 34½ lb., and measured 23 in. in length.—*D. M.*

Messrs. J. Laing & Sons at the Crystal Palace.—In our report of the exhibition of British Grown Fruit, held at the Crystal Palace, under the auspices of the Royal Horticultural Society, we stated on p. ii. of our Supplement last week that Messrs. John Laing & Sons, Forest Hill, S.E., received a Silver Banksian Medal for their exhibit of fruit, whereas it should have read that they received a Silver Gilt Banksian Medal. Their collection of fruit totalled 190 varieties of Apples, Pears, &c., and included all the leading and best varieties of those important fruits.

Horticultural Sundries.—The necessities of gardening in its various branches are very great; but few are really aware of the vast ramifications into which the needs have grown. Many of the requirements are, of course, special to certain branches or features of gardening so that not all of them are required in any one garden. We are reminded of these facts by the Price List (wholesale and export only) of Messrs. Holland, Beckwith & Co., 65, Columbia Road, Shoreditch, London, E. As already stated the business is wholesale, but they supply everything from a pin to soils, sand and Orchid peat; including labels, artificial flowers, bamboo canes and other stakes, syringes, insecticides, fertilisers, mats, thermometers, armoured and other hose, netting, shading material, spirit levels, &c.

Ealing and District Gardeners' Mutual Improvement Society.—The twelfth annual general meeting of this society was held in the Municipal Buildings, Ealing, on the 27th ult. In the absence of the president, J. Harris, Esq., F.R.H.S., Mr. C. B. Green was in the chair. The report and balance sheet having been read and criticised favourably, although there was a slight falling off of members and a reduction on the credit side of account, were, on the motion of the chairman, adopted without dissent. The chairman referred to the somewhat scanty attendance, and pointed out the desirability of renewed efforts and vigorous individual work, on behalf of the society, which, he said, was planted twelve years ago, and had since then blossomed and borne fruit season by season in varying degrees, but which he hoped had not yet attained its full fruition. Good results, however, could not be obtained without careful nurture and regular efforts, for as the twig is bent the tree's inclined. Votes of thanks to the retiring officers, &c., of the society having been duly recorded, the meeting proceeded to the work of the evening, viz., the election of the executive. J. Harris, Esq., F.R.H.S, was unanimously re-elected president. The vice-presidents, also, with some exceptions, were duly installed. Mr. C. B. Green was again pressed to accept the chairmanship, and Mr. H. Burgess, the vice-chair. Mr. W. Roberts, the energetic hon. secretary, was prevailed on to retain his office, while the new committee now consists of Messrs. Baird, Dack, Frost, Hogg, Holloway, Long, Stiles, Waite and Wood.

Blue Tomato.—A nurseryman of Long Island, America, has produced, so rumour goes, a blue Tomato. This he has named Pres. McKinley. It is very prolific, and of good flavour.

A Seedsman Returned to Parliament.—Col. W. G. Webb has been returned unopposed Member of Parliament for the Kingswinford Division of Staffordshire. Col. Webb is the senior partner in the firm of Webb & Sons, the Queen's Seedsmen, Wordsley, Stourbridge.

Clematis Jackmanni has been flowering handsomely and profusely for some weeks past in the villa gardens along the sides of some of the main streets of the newer portions of the city of Aberdeen. The plants are trained against the gray, granite walls of the Silver City by the sea; but the sun is never too powerful for the Clematis here, the foliage and flowers being perfect.

Crimson Rambler Rose.—Mr. Jackson Dawson, of the Arnold Arboretum, near Boston, has, says *Gardening* (American), a number of pretty little "Ramblers" in 4-in. pots. Each plant is bearing two or three large clusters of buds. These are but eight weeks' old, having been two-eye grafts on pieces of Manetti root early in January.

China Teas.—The total shipments of Teas from China to London last year were 3,000,000 lbs. weight in excess of the previous year, but this was because the India and Ceylon Teas were scarce. It is said that the taste for China Teas is decreasing. Australia and Africa also seem to prefer the India and Ceylon varieties; while America and Canada are importing more of the China sort.

Experiments in the growth of Sugar Beet.—The Sugar Beet Committee of the Central Chamber of Agriculture has completed arrangements for a limited number of experiments in the growth of Sugar Beet during the forthcoming season. Each plot shall be at least one acre in extent. In all there will be, says the *Irish Farming World*, about thirty-three different experiments. Of these, twenty-five are situated in England, four in Scotland, and four in Ireland. The methods usually adopted to obtain a crop of Mangels will, as a rule, succeed in the case of the Beet crop.

The Food of Plants.—Mr. Pearson writes as follows in *Knowledge* for October:—"The fact that roots grow downwards is so well known that mention of it may seem superfluous. This habit is due to the influence of gravity. It is easily noticed that the main root (produced by the continued growth of the radicle), is more strongly influenced by the force of gravity than are its side branches, for while it strikes a course which is, in the main, towards the earth's centre, its branches make a considerable angle with it, and frequently grow in a horizontal direction. Consequently the roots are able to exploit a much larger area of soil than would be possible if the branches and the main root were equally amenable to gravity. A further peculiarity in the growth of most roots is that they shun the light, and take the shortest course to dark or shady places. On an Ivy stem the clinging roots by which it is attached to the wall or tree all emerge on the shady side of the stem and proceed at once to bury their sensitive tips in the nearest hollows of the support. There are, on the other hand, roots which behave like stems, in that they bid defiance to gravity and grow erect and show no tendency to hide themselves from the light. These, however, are quite exceptional, and as a rule serve the plants which produce them in other ways than by the absorption of food. These two characters possessed by most roots—viz., a tendency to grow (1) in the direction of gravity and (2) away from the light—cause them to penetrate the soil in which their quest (mineral food) is to be found. . . . The roots of many plants not only absorb mineral food from the soil, but are also manufactories in which the transformation of free nitrogen into an oxidised state occurs. It has long been known that agricultural land is improved by ploughing into it the remains of previous crops, and that the benefit derived is greater in some cases than in others. Nearly 300 years ago Bacon wrote:—'The Fourth Helpe of Ground is the Suffering of Vegetables to die into the Ground; And so to Fatten it; As the Stubble of Corne, Especially Pease.'"

Agricultural Training in Yorkshire.—The Joint Agricultural Council in the East and West Ridings of Yorkshire are promoting an extensive scheme for the study of agriculture in the coming winter and onward. The Yorkshire College at Leeds is adopted as the centre, and a new scheme of instruction is in vogue. At the Manor Farm, Garforth, near Leeds, the practical experiments are carried on and special exhibitions are offered so as to enable farmers' sons to take the winter course of instruction at the Yorkshire College.

Esparto Grass Trade.—The price paid in Britain for Esparto Grass has fallen so low during the last few years that the Arabs find it almost impossible to pluck Esparto and bring it down from the mountains to the coast with any profit to themselves. The present price in the British Isles is £3 a ton. Esparto grows on the mountainous districts near the coast, in Tunis, a country in Northern Africa. Anyone who has lived or is living near any of the British east coast seaports know how great our Esparto trade is.

HARVEST THANKSGIVING BY DEAN HOLE.

HARVEST thanksgiving services, a modern Christian institution corresponding to the Jewish feast of ingathering, are growing amongst us. The only parellel to the custom existing amongst our forefathers was that of blessing the first fruits of everything as they came. On Thursday or Saturday before Easter, honey and milk were blessed in some places; on Easter Day they blessed a lamb symbolic of all flesh or meat, and eggs, herbs, cheese, butter, and small loaves; then on Ascension Day followed the blessing of various fruits, as Grapes, Beans, and Apples.

The harvest home, under any circumstances, may be said to touch the springs of religious life, and looked at from this point of view the two are brought into appropriate relationship in such a cathedral as that of Rochester, whose ministrations are guided by so famous a gardener as Dean Hole.

Last Sunday evening he preached the harvest festival sermon to a crowded congregation, farmers and soldiers predominating among the men. Pulpit and lectern were simply garlanded with Hops and Virginia Creeper; Grapes and corn were also introduced into the decoration. Again, he said, they had seen the coronation of the year in a bountiful and beautiful harvest, and again thousands of grateful hearts had sung the oratorio of the creation. Assuredly, he went on, the harvest was not only one of the greatest of mercies, but one of the greatest of miracles. Fields, orchards, gardens are now bare or rapidly becoming so, but within twelve months the valleys would again stand so thick with corn that they would seem to laugh and sing. The miracle, too, of a single grain of corn was wondrous. No scientific man could produce one for the farmer to grow.

Corn, indeed, was sent as a special gift from God to men. Not in all the rocky records stored up within the earth before man came is there one single trace of corn or wheat. Not till man came did it make its appearance. Strange and instructive, too, is the fact that though it is almost ubiquitous it will not grow without cultivation, without toil and labour, in fulfilment of the curse that had been turned into a blessing, "In the sweat of thy face thou shalt eat bread." That was the immutable law of labour, for God would not look upon lazy, slovenly work.

The Dean then read his congregation a lesson upon the diginity of honest labour, whether by hand or head, and upon the paltriness of shrinking from the title of servant, and of seeking an evasion in the French word employé. Why, too, should they be so eager to be called Esquire, a title to which none had a right save those that bore a coat of arms.

NOTES FROM NEWQUAY.

THE annual respite from work and worry led me to look about for some quiet, yet invigorating spot, where the forces of rural nature might help to make amends for the rack and ruin of urban activity. And so, after mature reflection, me-thought of Newquay; to me:—

A "foreign" Eden by a rocky shore
Where waves, in ceaseless cadence, roll and roar;
Where rocks of adamant and cliffs sublime,
Hurl back the ocean, and defy old Time.

Newquay itself is situated on the cliffs, but sheltered by higher ground from the all too-prevailing westerly and south-westerly gales, against which nothing but solid masonry can stand. The visitor, however, can hardly lose his way in Newquay, as it is comprised, roughly speaking, of one principal street about a mile long, in the form of an arc, round about and above the beautiful bay of the same name. Newquay is a name to conjure with. It is not new—the modern part excepted—for it takes its name from a quay built in the 16th century.

It has, however, considerably increased in size since the railway was opened in 1875, and appears to be advancing by leaps and bounds, although I am informed that it will not do to give too much credence to the building fiends. Anyhow, Newquay has now an established reputation as a health resort. This is consequent upon its fine position on the north coast of Cornwall, its grand rocks, its magnificent sandy bays, its efficient water supply, but, above all, its pure air, which comes right off the Atlantic in an invigorating and unsophisticated form.

But it is not for me to "boom" Newquay and its environs, except as a happy hunting ground for naturalists of all sections and shades of colour. To those, however, who love nature in all her moods, the wild scenery, the bold headlands, the quaint caves, the majestic cliffs, the palpitating ocean, the flecks of scarlet and white, and green and black in the weather-worn rocks, the ultramarine of the deep waters and the clear pale green of the shallows, the vegetation on shore and on the cliffs, the ozone in the air, and the "white horses" on the waves which break with majesty on the sand-strewn beach; these are the things which satisfy the philosophic mind, and give health and vigour and tone to the physical faculties; these are the things which render Newquay one of the most favoured and salubrious of health resorts.

But what of the vegetation? In a district so wild and wind swept, no tree can raise its head; no shrub—the Tamarisk excepted—can hope to attain its majority on this rock-bound coast. Inland, however, and in sheltered places, luxuriance prevails. A retired resident told me that he could grow almost any greenhouse plant out of doors, but—it *must* have protection from the Atlantic gales! And this gentleman used to cultivate a roof garden in Cornhill where it was necessary to wash the plants twice a day!

Extremes are sometimes like comparisons—odious, although it ought not to be a far cry, in this case, from Cornhill to Cornwall. With protection certain shrubs, such as Escallonias, Euonymuses, Veronicas, &c., do remarkably well; while the Laurustinus is positively expanding its corymbs of rosy-tinted flowers. Fuchsia Riccartoni, F. macrostemma, F. Rose of Castille, and even F. fulgens, stand out all the year round; as do likewise Pelargoniums, the Ivy-leaved variety attaining huge proportions. Many of the house fronts are gay with this popular plant, and in some cases it has ascended to adorn the bedroom windows. The lemon scented Verbena (Aloysia citriodora) is in full bloom on the walls, and the Scarboro Lily (Vallota purpurea) in the herbaceous borders. Hydrangeas, too, exhibit much floriferousness, and Lobelia cardinalis is a garish delight. In the matter of colour, flowers at the seaside seem to attain a greater brilliancy than those further away from maritime influences, the reason probably being a clearer atmosphere, as colour is a property inherent in light.

Another favourite plant of the natives, suspended in pots, is the trailing Bellflower (Campanula isophylla and C. i. alba) which I have never seen in better form or colour. In fact, it is a rare experience for me to see the *blue* one in such request, the white being generally preferred. C. fragilis is often grown in this way, but C. isophylla has hitherto been to me a *rara avis*. I hope no one will be led to assume from what I have here stated that the Newquayans are all gardeners! Such is certainly not the case, for there is little or no attempt—except in rare instances—to make the most of the soil, the situation or the sheltered parts. At Trenance, just behind Newquay, the conditions are altogether different. It lies in a deep, sequestered valley and is, as a consequence, a veritable Eldorado. Although so close

to Newquay, it is—in temperature—a hundred miles away! Here Roses are still scenting the ambient air; here Honeysuckles entwine the cottage porch; here the purple and the yellow Clematis are growing together in mutuality; here Cannas blaze in beauty; here Gyneriuni argenteum, the plumy Pampas Grass, reigns supreme. It is a lovely object when seen in good condition, its silky panicles and long glaucous-green leaves, together constituting a picture of noble proportions.

Here, also, other plants flourish; and here, also, a florist flourishes. Flowers all the year round and not a hundred miles from Newquay!

Trenance! Sweet vale!
No frosts; no gale;
No noise; sweet vale!

"Tre" enters very largely about here into the composition of village names. It is Scott, I think, who says:—

"By Tre, Pol, and Pen
You may know the Cornishmen."

But, by these same terms you may also know the towns and villages where Cornishmen love to congregate.

On the cliffs and unkempt places there are many garden escapes, such as, Stocks, Wallflowers, Antirrhinums, Mesembryanthemums, Rue, Cineraria, Oenothera, Centranthus, &c., which seem quite at home.

As it is not a very long way from exotics to wild flowers, as instanced above, and as it is desirable that gardeners should know something about our native plants, I propose—with the Editor's reservation—to add a few remarks on this subject.—*C.B.G.*

ARUM LILIES.

Arum Lilies which have been standing outside all summer will now be pushing up their new growth. Before housing them, it will be found necessary to repot or topdress. If to be topdressed, scrape off 2 in. of the surface soil. Turn the plants out of the pots to see if the drainage is in working order. Replace the new compost (which should be a mixture of loam and decayed manure) making it firm with a rammer. We will be amply rewarded for our labour in the spring months, by the production of superb spathes. They require copious supplies of water in the growing season, with liquid manure once a week. In the Glasgow Botanic Garden they are to be seen growing luxuriantly in a pond, the pots being half submerged in the water. The Arum goes under several names in gardens. Richardia aethiopica, R. africana, Callas and Trumpet Lily; but the most familiar is Lily of the Nile, as it grows in the swamps of Egypt unobserved.—*Adam Main, Morton Hall Gardens, Liberton, N.B.*

"SIMPLE PROPAGATING."

Ficus elastica, Crotons, Dracaenas, Nerlums, &c., may be propagated in bottles of water; in fact this is the easiest as well as the surest way of increasing them, and especially for Crotons and Oleanders, as it is very rare for any to fail treated thus. There is a plan of propagating Dracaenas, Ficus, &c., by means of cutting round and mossing the stem, and also by splitting pots in halves and attaching them to the stem; but the latter plan involves too much time and trouble: whereas, suspending a few bottles in a warm corner of the stove and placing one or two tops in each, is only the work of a few minutes. No further attention is required until they are ready for potting. In potting great care ought to be taken to handle them gently, not to break the roots. Simply shake the soil down amongst the fibres; give a good watering with tepid water, and the soil will subside all right. Managed in this manner there is no danger in breaking the roots; and at the next shift they can be potted more firmly. If the plants are leggy, especially Dracaenas, cut them over a few inches from the surface, and place the pots in a moist heat. A number of shoots soon spring up, and if taken off, will strike with freedom; and if potted on will be fit for table plants in about eighteen months.—*J. C. D., Linlithgow.*

HOYA CARNOSA AS A WALL PLANT.

Some twenty years ago I saw a specimen of this lovely subject in most luxuriant health. It was planted out in a small brick pit in a three-quarter span Melon house, and the growths were trained to the wall by means of shreds and nails. The plant was in such vigorous health that it had in several places rooted to the wall like Ivy. It freely produced its beautiful trusses of wax-like flowers, and contrasted strongly with the miserable specimens one often sees growing in pots twisted round a wire trellis, and standing in some out of the way position where it has no chance of looking better or recovering its health. Specimens in pots generally suffer through being over-watered, and then if the drainage is not perfect the soil soon becomes sour, and the foliage loses its crispness and lustre. The soil that the plant I note grew in was composed of turfy loam, peat, sand, and lime rubbish, placed on good drainage. The temperature was high, the plant was freely syringed, and the house was damped down several times a day. It is generally known and understood that picking off the old flowers and seed pods greatly assists a plant and prolongs the production of blooms; but such is not the case with the Hoya Carnosa. The old flower stalks should never be removed, as they produce flowers another season.—*George Potts, Streatham, S.W., September 29th.*

THE WINTERING OF ECHEVERIA SECUNDA GLAUCA.

This useful and effective bedding plant is much more hardy, and can be preserved through the winter months far more easily than is generally supposed. During the past sixteen years these have been wintered at the foot of a south wall here with the best possible results. The only protection they receive during frosty weather is double mats, except one year when the glass registered 3° below zero; then only a covering of long litter was added. Out of several thousand plants only about a score succumbed, and that was owing to drip. The great point to aim at is to keep them dry. We allow a distance of 14 in. from the foot of the wall, building them up in a slanting position to 30 in. high, which means a sharp angle, and every drop of rain is thus thrown off. Commence by putting a batten for the first row to rest on, which will just sufficiently elevate them off the ground. Arrange them neatly in rows, commencing with the largest plants, and finish at the top with the smallest. The suckers taken from the old plants will generally give the finishing touch. The soil should be of a dry porous nature, and pressed firmly on each row of plants as arranged. If done in a neat and workmanlike manner, valuable space under glass is not only saved but these form objects of interest during the dull days of winter, and the condition of the plants for bedding is far superior to those wintered under glass —*A. Thatcher, Aldenham, Elstree.*

CHRYSANTHEMUM GROWING,

To my idea, is one of the most interesting studies that a gardener has to deal with, not because they are hard to grow, but because if not taken proper care of they soon begin to show it, and if not rectified in time are soon spoilt. Chrysanthemums must never be checked when growing, or they will never get over it; they may appear to, but you can plainly see when the flowering time comes whether they have been grown properly or not. From the time they are put in their cutting pots until the time they have brought their blooms to perfection they must have great attention, potting them on as they want it, not keeping them until a certain date, and shifting them whether they want it or not. Watering and feeding are very important items, and should be carefully attended to. Plants when watered should have enough to thoroughly soak the ball of soil, not just wetted, but the pot should be filled to the brim unless a lot of room is left in the pot for top dressing. As soon as the pots are full of roots after the final potting then applications of soot water and liquid manure should be given occasionally in weak quantities. Gradually increase the strength of the manure as they get used to it. A dressing of Thompson's or Ichthemic Guano is very beneficial at times, but I always like to water alternately with clear water to keep the soil sweet.—*H. W., 42, Alexandra Road, Englefield Green, Egham.*

ROSE DISPLAY AT JACKSON PARK, CHICAGO.

The wooded Island at Jackson Park is now a mass of glowing colour, such as could hardly be equalled anywhere, and "Uncle" John Thorpe, as he is affectionately termed, says that not even the floral display at the Paris Exposition can equal it.

One of the papers lovingly alludes to Mr. Thorpe as "a red-whiskered Scotchman," but it runs in my mind he is a Lancashire man, certainly English, and formerly of the firm of Van Halleck, Son, & Thorpe, of New York State.

Fully 40,000 visited the display on a recent Sunday. All the old-fashioned sorts are represented as well as the standard varieties. Meteor and General Jacqueminot are particularly fine. The island itself is lovely, no formality being observed in its laying-out. It looks as if it had happened. Things grow riot here, and "it is very fair, and sweet and fair, in this garden by the sea."

We have, right in the city limits, a 16-acre patch of greenhouses mainly devoted to Rose culture. Forty-five thousand American Beauty plants were grown this spring, blooms fetching occasionally 4s. each. There is no other variety in such demand. They are grown in raised troughs, filled with black soil, about 8 in. deep, and will flower in August from slips rooted in sand in February. They are thrown away when one year old, after cuttings are taken The houses are lit by electricity at night, and flowers are cut twice daily. The heat is kept at from 50° to 65°

In one establishment in America eighty greenhouses, each 150 ft. long, are heated from two batteries, and regulated by one man only. At night a watchman makes his round systematically, altering heat and ventilation according to climatic changes. A series of buttons which he must press registers his visits to different houses, and in the morning it is easy to follow up his movements during the night. As far as possible exact machinery is substituted for human help with good business results. This really would be good if more widely introduced than it is. Often serious losses follow a sleepy employee, and, anyway, the above system is more economical by far.—*C. Macquarie, Chicago.*

THE USE OF FLOWERS.

God might have made the earth bring forth
Enough for great and small,
The Oak tree and the Cedar tree,
Without a flower at all.

We might have had enough, enough
For every want of ours,
For luxury, medicine and toil
And yet have had no flowers.

The ore within the mountain mine
Requireth none to grow;
Nor does it need the Lotus-flower
To make the river flow.

The clouds might give abundant rain,
The nightly dews might fall,
And the herb that keepeth life in man
Might yet have drunk them all.

Then, wherefore, wherefore are they made
All dyed with rainbow light,
All fashioned with supremest grace
Upspringing day and night;

Springing in valleys green and low,
And on the mountain high,
And in the silent wilderness,
Where no man passes by?

Our outward life requires them not,
Then wherefore had they birth?
To minister delight to man,
To beautify the earth.

To comfort man, to whisper hope
Whene'er his faith is dim;
For whoso careth for the flowers
Will much more care for him.

"*A Woman.*"

The Grifferae is a variety of the multiflora Rose, and is used as a stock for Noisette Roses, or any vigorous growing varieties.

MOTHERWELL FLORAL ASSOCIATION.

THE members of this progressive horticultural society are not contented with the usual routine of meetings and an annual flower show, but must needs finish up the season with an excursion to some place of interest. Their choice this year fell on Rothesay, the popular Clyde watering place and home of several florists well known in the horticultural world. On Saturday, the 15th ult., the members, to the number of nineteen, were met on landing at Rothesay pier, by Mr. Michael Cuthbertson. After a visit of inspection to the nurseries of Messrs. Dobbie & Co., and the Public Park Nurseries, the company drove to Mount Stuart, the princely seat of the Marquis of Bute. A walk through the grounds and garden and a view of the lordly mansion was greatly enjoyed.

On returning to Rothesay the company met in the Bute Hotel to do honour to Mr. Cuthbertson, of the Public Park Nursery. Mr. Angus, gardener to Lord Hamilton, of Dalzell, presented Mr. Cuthbertson with the medal (a handsome silver one), which he won for herbaceous flowers at their recent show and complimented him in winning not only first prize but also the special prize for the most meritorious exhibit in the show. Mr. Angus expressed the wish of the committee that Mr. Cuthbertson would again be an exhibitor next year, especially as they intended offering still greater inducement to leading growers to come and compete.

Mr. Cuthbertson thanked Mr. Angus for the very beautiful medal, which he said was in keeping with the other two he had had the honour of receiving from his society. He was glad that the new departure they had made in trying to popularise their show had met with such signal success. They were going on the same lines which had led to success at Shrewsbury and elsewhere and he expected that soon their show would be the greatest annual event of its kind in Lanarkshire. With such able and energetic workers as Mr. King, their secretary, Mr. Angus and the other members of committee, such a result was sure to follow. Mr. Cuthbertson said that by their kind words and still kinder actions they had placed him under a strong obligation to again exhibit at their show and he assured them it would be something very serious which would prevent him being there next year. (Applause.) He concluded by wishing the Motherwell Floral Association every success—a thing they well deserved.

The company afterwards returned by the Gourock steamer all thoroughly well pleased with their day's outing.

VIOLETS: CULTURAL HINTS.

WHEN the Violets are lifted in the autumn, a frame, or a warm sheltered border, should be prepared for their reception. The aspect should be south or south-west; for whilst it is quite possible for Violets to get too much sun in the summer, it is impossible to give them more than enough in the winter. If the soil be naturally stiff, it will be improved by the admixture of a little rotten stable manure and leaf soil, with soot in moderation. Plant the Violets firmly, allowing from 12 in. to 14 in. from plant to plant for the singles, and from 9 in. to 10 in. for the doubles. The distances will vary somewhat with the size of the clumps. Thoroughly water after planting, and keep them tolerably close, and shaded if necessary, for a few days only. As soon as the roots begin to move freely, the full sun and air will be extremely beneficial. Never keep the frames close, and when the lights are on they should be raised either at the back or the sides, and on fine dry days may be removed altogether. The excessive rains will injure frame Violets far more than frost, and the lights are necessary to keep the plants from becoming sodden during the dull days of winter. Stir up the soil occasionally, top-dress now and then with a mixture of soot and fine soil, which will tend to keep things sweet, and when compelled to water, let it be done on a mild morning. Remove all yellow and decaying leaves, and keep everything fresh and clean.

In the ordinary course of things, cuttings will have been rooted in the autumn, having been taken from the clumps before lifting. These will be in good order in April for planting out, but where this has been neglected, young plants should be purchased, as the old clumps are absolutely worthless. Plant these firmly in a cool position, and if fairly treated they will make good crowns for lifting again in the autumn. Cow dung is the best manure for Violets grown in light soils. Watering must not be neglected during the summer months. Runners should be removed, especially where fine blooms are indispensable; and the plants must be kept free from red spider and leaf diseases. For the red spider, syringe with a solution of soft soap, two ounces to a gallon of water, on the lower sides of the leaves. The best way to exterminate leaf diseases is to pick off and burn every leaf as soon as it is seen to be effected. If this be promptly done it is more than likely that the disease will quickly disappear.

The best single Violets are: La France, Princess of Wales, Luxonne, Victoria, Comtesse Edmund du Tertre, Kaiser Wilhelm II., Smith's Seedling, Amiral Avellan, and White Czar.

The best double Violets are: Mrs. J. J. Astor, Marie Louise, Comte de Brazza, Lady Hume Campbell, De Parme, Coolcronin, Cannell's Blue and White, Carter's Mazarine Blue, Blanche de Chevreuse, Belle de Chataney, and King of Violets.—*J. C. House, Westbury-on-Trym, Bristol.*

VEGETABLE CROPS AND FIRM SOIL.

I HAVE seen much of the rough and ready system of preparing soil by market gardeners followed by the best results, excellent crops (in the Brassica class of vegetables) being taken from soils which have had a minimum of cultivation. For example, Coleworts and autumn Cabbage were put into ground from which Onions had been cleared off; the plants inserted with a sharp iron pointed dibber or crowbar. Broccoli is rendered hardy and less likely to be destroyed by severe weather when put into solid, undug ground. It has in all cases where I have seen this system adopted been dwarf, of medium growth, and rendered hardy. Cauliflower for latest supply, say from October to December, does capitally in stiff land. Plenty of space and a fair supply of manure is best for summer Cauliflower. I have had, years ago, excellent winter Spinach from plants inserted in drills after Onions were cleared off. Early in September, this year, I have about the most promising late Cabbage on ground where Strawberries were cleared off; it was very firm ground, but growth is all I could desire. Turnips sown on land under the conditions indicated come in well for autumn and winter supplies; growth is moderate, and the bulbs sound and juicy. I have seen in market gardens excellent Strawberries grown on solid ground, unbroken when the plants were inserted, during spring and early summer; but for root and some other crops ground cannot be too loose. This season I have tried Onions on unbroken ground. The result, compared with seed sown on well dug ground and rendered firm by treading, is the bulbs are rather smaller and have ripened earlier. We have several friends who have adopted the firm ground system for years who would not be induced to act otherwise. They also economise labour.—*M. Temple, Carron, N.B.*

HARDY FRUIT GARDEN.

ROOT PRUNING.—This operation is one of the most important of any in the routine of fruit culture. Hundreds of years ago the cultivators understood as much as we do now about grafting, branch pruning, manuring, and planting. But they did not suspect that anything vital could be done by any other manipulation. Root pruning is comparatively a latter-day innovation. Root cramping is one way of harbouring and confining the energies of roots. It is virtually a system of root pruning. And yet no method is better adapted to cause trees to be fruitful and to remain so. In the quality and state of the roots lie all the secret of success or failure in fruit tree culture. The roots are to the tree what the stomach is to animals. If our stomachs are out of order, deranged, and upturned we are—we all know what. But this root pruning business has its intricacies. The present is the best time of any to go about the work. Young and vigorous trees which, if left alone, might result in grand samples of timber growth, can be checked and have their superabundant energies thrown back upon themselves to form stout wood bristling with fertile flower buds. It is wisest only to do a little pruning, say half, at the first start. The other half may be completed in a fortnight's time when the effects (if any) of the first half of the pruning have been tided over. Begin about 3 ft. or 4 ft. from the stem of the tree and take out a trench all around to a depth of 2 ft. When the extremities of the roots have been laid bare, prune them cleanly with a sharply oblique cut from the underside upwards. All fine fibrous roots should be spread out, only the strong-growing roots about the thickness of a pencil or thicker being in need of pruning. When filling in the soil have a quantity of charcoal, old Chrysanthemum soil, and perhaps some good maiden loam to mix with that which has been excavated. Make this firm when refilling. All stone fruits as Plums, Peaches, &c., should have a quantity of lime added to the soil.

STRAWBERRIES.—The Strawberry plantations ought to be cleaned and trimmed up for the season. Detach and lift all runners which may have been left between the rows and plant them in lines in some of the borders. Then stretch a line along the outsides of the old plant rows and cut the too-far spreading foliage close to the line by means of a spade. The spaces between the lines should be hoed and raked, to be slightly forked over at a later date. The young Strawberry plantations should be hoed over, the breaking of the surface in this way being beneficial. The old beds or plantations may be mulched where manure can be afforded for the purpose.

RASPBERRIES which have done bearing for the summer should be cut away and young suckers tied in in their place. New plantations may be made now from the young suckers, which can be lifted from old plants. We like to see the Raspberries mulched before the end of November, both to save them and to aid the roots, for they are gross feeders.

APRICOTS may be loosened from the wall after the leaves have fallen. In the meantime all one's time is held engaged in looking after the fruits. When they have been gathered the trees should be well cleaned by syringing. Other fruits should be gathered and carefully stored (as before advised) when they ripen.—*J. H. D.*

The Orchid Growers' Calendar.

SHADING.—We shall be washing off all the whiting that was put on at the ends of the houses, and at places where the blinds did not meet, this week. The roller blinds, however, we shall leave for a time intact, as in country districts such as ours the atmosphere is much clearer, and the sun as yet has a great deal of power. Again the position of the houses makes all the difference with those running north and south. The sun's rays strike the glass obliquely, and the occupants are not so liable to become scorched, but with the houses running east and west as ours do the sun shines straight on to the glass on the south side, necessitating the use of blinds at least a few hours during the middle of bright days even in October. Those similarly placed will therefore do well to bear this in mind, and use the blinds judiciously for the next week or two.

CLEANING DOWN.—Take advantage of dull wet days to thoroughly clean down the glass and stages inside, also free the pots from any green that may have accumulated during the summer months.

In addition to cleaning the receptacle, it is very necessary that the plants themselves be overhauled, sponging the leaves, &c., being careful not to damage the sheaths or flower spikes that are well up. A little soft soap in tepid water is all we use for sponging, always steering clear of dangerous insecticides for Orchids.

FIRE HEAT.—During the early autumn months it is not necessary to fire much, perhaps, but the nights are getting long, and the atmosphere becomes heavily laden with moisture, so that unless the hot water be allowed to circulate gently through the pipes everything feels clammy when you enter the houses in the morning. Of course, I am thinking now of the so-called cool houses. The plants having been recently potted and making great headway, must be encourged to make up their growths as early as is consistent with the nature of the plants.—*S. C.*

HINTS FOR AMATEURS.

Hippeastrums.—The Hippeastrum or, as it was lately called, Amaryllis, is grown by all who admire handsome and beautiful flowers. The bulbs are being selected for potting at the present time. They always do best in a moderately rich soil, one which contains some spent Mushroom-bed dung. When they have been potted they are placed on the stages of a cool greenhouse till root action is brisk. They must be attentively watered and cleaned when growth has fairly started. A slight amount of feeding is also a good thing after the pots have become filled with roots.

The Blue Water Lily, which botanically is called Nymphaea stellata, is one of the fairest plants cultivated in British gardens. Unfortunately for many amateur gardeners it is not quite hardy, although during the warm summer months it is amenable to culture in water tubs set out in the open. I have also seen it doing fairly well in a shallow tub whose water was slightly heated, the tub being within a frame. The sashes can be partly or entirely removed during the warmer weather, when the tubs are thus placed in frames. Perhaps after some years it may become so adapted in constitution that it will succeed entirely out of doors from spring till autumn. What a glorious sight it would be to see a sheet of vigorous plants out at the end of a long lake, each plant sending up half-a-dozen of its large blue stellate flowers! Mr. J. Hudson, of Gunnersbury House, dries off the tubers of this and other of his Water Lilies shortly after this season of the year, and stores them during winter; so that when so economical a means can be practiced, surely these grand aquatic plants will become more liberally grown.

Phloxes. — After the recent notes that have appeared in this journal very little is needed in this place. One thing which has not been sufficiently emphasised is the need for mulching the Phloxes during winter. Not only does this protect the crowns, hardy enough though they are, but it so enriches the soil that the plants start off strongly when the genial spring returns. When Phloxes have been long on one piece of ground they should be lifted and divided. For myself I prefer to divide and replant when the ground has been manured and deeply dug. Some correspondents, however, would have us propagate from cuttings and slips. I quite believe the best plants will result from well-treated cuttings, but then there's so much else to take cuttings from just now that the quickest plan is the best in this case.

Pentstemons.—The newer varieties or "strains," as the nurserymen call them, of Pentstemons are far superior to the strains of a few years ago, and which are largely to be seen in gardens yet. I think it is but fair to a nurseryman or other grower of plants, to take an interest in, and so far as possible encourage him to raise improved types of flowers. In the south here, the newer strains of florists' and other flowers are more eagerly watched and sought for than they are in the north, consequently the traders vie with each other in their efforts to have something new and improved before their customers. The same thing would take place everywhere if gardeners and growers showed the right spirit. There is too much repetition in the bulk of places. Why not have a change? It costs a little; but is the gain in interest and pleasure not worth the cost, to your gardens and yourselves? Then do away with the long, slender tubed Pentstemons and secure a strain of the best and most brilliant, wide-mouthed varieties, whose racemes deck the stems from the ground upwards to a couple of feet. The following are good varieties in this line:—President Carnot, Phryne, Ninon d'Enclos, Edina, deep rose; Domino, glowing scarlet; Hilda, crimson; John Forbes, violet-purple; Standard Bearer, rosy scarlet; George Bush, brilliant scarlet; Lilian, rosy lilac; Antigone, white, and Champs Elysses, white bordered with maroon.

Housing Chrysanthemums.—In all except dry and high lying, or southern places, it will not be safe to leave the plants out later than the present time. With the good weather which we are now having it is rather tempting to leave the Chrysanthemums out for just a little while longer. If the collection is a small one and can be taken under protection at short notice, and if the blooms are not wanted in any particular haste, it will be correct to leave them exposed. But it is laying oneself open to risks which need not be encountered, to leave valuable collections out of doors after September has gone. Lean-to fruit houses are exceedingly well fitted for Chrysanthemums. The staging of the plants of course will depend on the shape and style of the structure. With plants like Chrysanthemums the only decent method of arranging them is in the made-up bank fashion which one sees everywhere. The surveyor should be able to see down on the blooms, or, failing that, to look straight *at* them, and this latter view is obtained by raising the plants slopingly. Where pillars arise, or where corners require to be filled, the beautiful variety Margot, which is a well known, tall growing sort, should be trained uprightly. The clusters of blooms at the tops of the stems may be left hanging loose. Source d'Or, another brilliant variety, is also suitable for this special sort of arranging. Lady Selborne is yet another. If these three, the Creamy Lady Selborne, the orange Source d'Or, and the pink or white forms of Margot, are intermixed, a finer presentment cannot be conceived. Among the best of the dwarf growing favourites to be arranged around the edge may be mentioned Soeur Melaine, Précocité, Souvenir d'Un Petit Ami, Souv. de la Marie, La Vierge, O. J. Quintus, white O. J. Quintus, Vivid, some of the early flowering incurved Japs., which may have been taken at the first crown bud.

Mrs. Wingfield, a pink sort, Ryecroft Scarlet, and Ryecroft Glory, come within the category of dwarf bushy varieties. The popular Market White and Mytchett Glory are grown in gardens both north and south, and they, with Gloire du Rocher, and suchlike, fill an admirable place. I would also like to say a word in favour of two old favourite varieties of mine which it is feared are but little grown now. I refer to the yellow incurved George Glenny and Mr. Bunn, which is of a lighter shade. Both are beautiful sorts, and for decorative purposes they stand pre-eminent.

Amongst recently introduced Japanese varieties none excel R. Hooper Pearson, a glowing golden-yellow. H. J. Jones is a good, deep rich crimson novelty, and Mrs. W. Seward is also a very fair crimson Jap. Lady Anglesey is a yellow variety of merit, while Queen of the Exe is likely to become more known as a good white. Rivers H. Langton is doing well—it is a canary-yellow; and lastly, Eastman Bell and Mrs. J. Bryant are two splendid additions. The latter is pink, the former being like the well-known Edwin Molyneux.

Fritillaria or the Crown Imperial may be planted at this time. These handsome flowered bulbs succeed much better in a deep, sound loam than in any other quality of soil. They should be planted about 4 in. deep, and an open though sheltered spot should be selected.

Hardy Cyclamen which have been grown in pots are being exhibited by nurserymen at some of the Drill Hall shows. The idea seems so good that I bring it before readers of "Hints," and should like to know of their giving the pot culture of hardy Cyclamen a trial. If we can have a batch of these pretty, small flowered plants in bloom before the "persicum" varieties are advanced, then let us have them. By the way, this is the season for planting corms out of doors. The hardy species do exceedingly well beneath the shelter of trees where there is a sufficient supply of humus and soil. They are also much employed on rockeries. Hardy Cyclamens are one of the best classes of winter flowering hardy plants, yet their merits, if they are recognised certainly do not tempt growers to plant at all liberally. Cyclamen Coum, C. europaeum, C. neopolitanum, and C. hederaefolium are most generally grown. C. repandum is also one of the most deserving, and this species is certainly the sweetest scented.

Roses.—After having seen some magnificent exhibits of Tea, hybrid Tea, bedding and climbing Roses at the London exhibitions recently, the great value of these sections of Roses over all other sorts has been strongly emphasised upon many of us. They are in flower almost (some of them *quite*) as as early as the H.P.'s, and long after these are past for the year this section (which is designated as the decorative or garden section of the Rose, but which simply means the beautiful, free-flowering varieties which are not suitable for the exhibition boards)—the garden Roses, I say, are in flower long after the H.P.'s have passed. Why, at this time of year these Roses are fresher, more numerous, stronger, and more brilliant than at any other season! It would be very wise, then, to include as many of these as possible, even in preference to the larger and more vigorous hybrid perpetual Roses.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Sowing a Lawn.—*A. D. S.*: The present is a good time to prepare a lawn. Send for the "Treatise on Lawns," which we mentioned a week or two ago, price 2d. This will supply you with the fullest information.

Young Lauristinus in Pots.—*J. Thomson*: The young plants which you so much admired are propagated and grown on in nurseries, being once or twice shifted to ensure fibrous roots. They are then lifted about this season of the year and are potted up. For a time they may be left outside, but when colder weather comes remove them to a mild greenhouse. The recently-potted plants should not be placed in heat for forcing until after the new year. When the flowers expand they are beautifully white. Larger plants which have been in pots for some time can be forced earlier.

Covering Fernery walls with Selaginellas.—*A. Reid*: A common means employed with low sloping walls is to fix wire netting within 3 in. of the wall, packing between the said netting and the wall a suitable compost. Pieces of Selaginella are then dibbled into the soil through the meshes of the wire netting. High walls cannot successfully be treated for the bottom portion becomes too damp, and is also apt to crumble out. The following species could be tried:—Selaginella suberosa, S. concinna, S. stolonifera, S. serpens, S. Mettenii, S. spicata, and S. stenophylla alba.

Bowling Green.—*Gardener*: Bowling greens are made of varying sizes, according to the numbers likely to be playing. For a single set a course measuring 36 yds. by 12 yds. is quite large enough, and 10 yds. may be added to the width for every other set.

Asparagus Beds.—*H.*: Asparagus beds should be made in March and April, not at the present time.

Plant to Name.—*H. B.*: The leaf and flowers you send are those of Hoya carnosa, a plant which is a universal favourite because of its beautiful waxy flowers. It is subject to mealy bug, so that in your vinery every care should be exercised to keep it clean. It flowers abundantly when somewhat pot-bound, but from the appearance of the leaf from your plant a little more nourishment would act beneficially.

Small Strawberries.—*A. D.*: You should lift the layered plants from the bed and plant them without delay. Good rich land, well dug, and then firmed should be accorded.

Raspberries.—*A. D.*: The suckers which spring from around the stools of the old plants should be taken clean off by a spade. Raspberries like a heavy, rich land. During winter, when the weather is open, they may receive benefit from applications of liquid manure, the soil first being mulched.

Fruit-tree Borders.—*A. D.*: These have generally been made as wide as the walls are high. About 9 ft. is a good average height. They should be 4 ft. deep with a layer of drainage at the bottom. We prefer to have narrower and more confined borders, and rely on feeding to ensure fruitful trees bearing well-finished crops.

Old Chrysanthemums for Stock.—*L. F.*: Last year's cuttings which have been kept all the summer in the thumb pots, which they have never been shifted from, will come in useful for supplying cuttings in about six weeks. They will have rooted

through the pots into the ash beds. If you do not care to break the pots it will not be harmful to the plants to remove these roots, whence a shift into a larger pot should then be given. Cut off the top half of the plants, and keep the newly-potted plants at a medium condition for growth.

Thyme for Carpeting Banks.—*Arden*: Plant nice tufted plants in light rich soil in such a way that they will establish themselves and spread as you wish them.

Storing Potatos.—*P. Ray*: A foot and a half of straw, and over this some Spruce branches, then another foot or two feet of soil, is needed to protect the Potatos when "pitting them," or forming a "pie." Keep out bruised and diseased ones, and also the very small sets. These may be given to pigs.

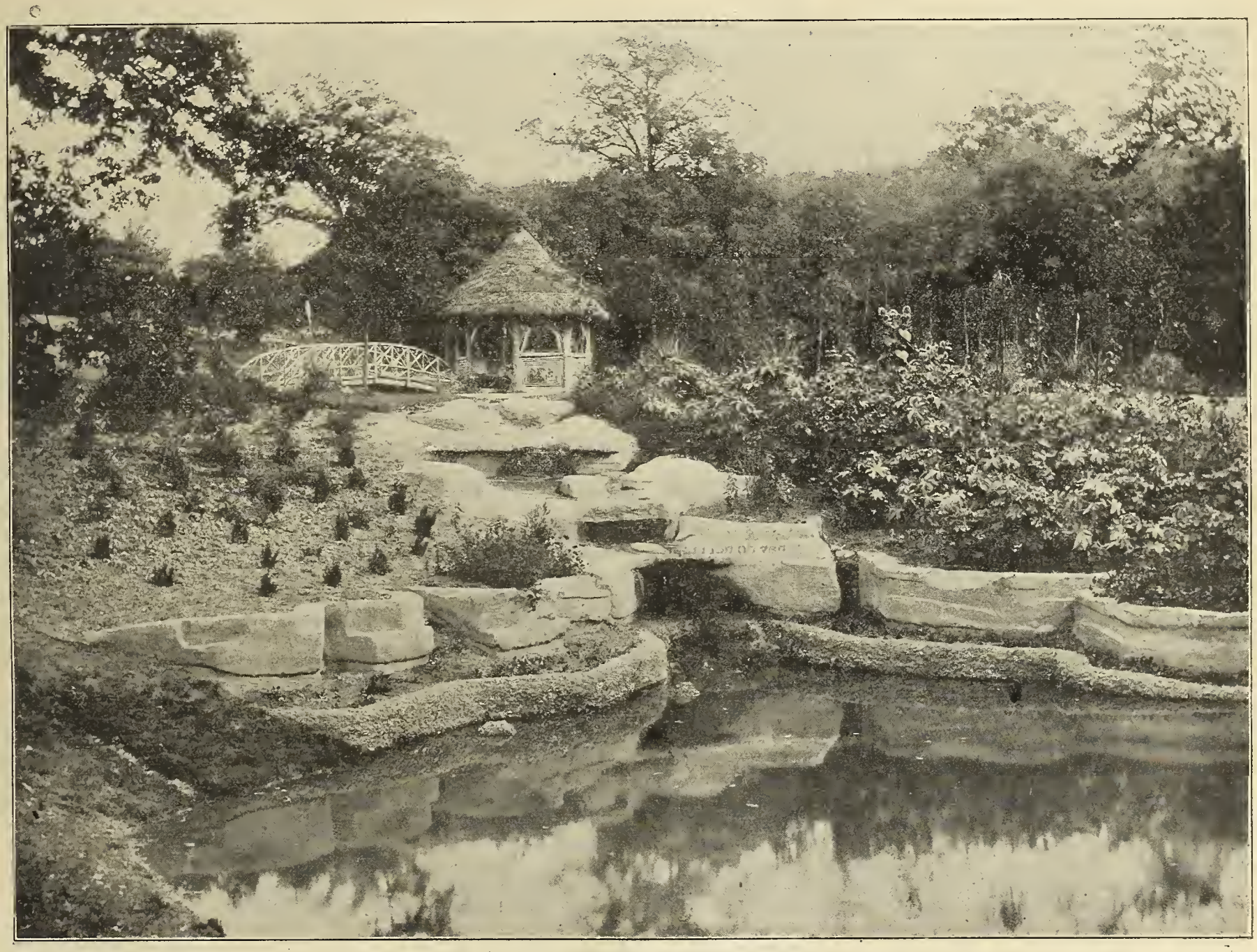
THE DELL GARDEN AT BUCKLEBURY PLACE.

Early in summer we made mention of this new feature of Bucklebury Place, Woolhampton, Berks, the residence of Arthur W. Sutton, Esq., but it was then in the rough state and very far from being finished. The Dell Garden occupies a natural dip in the land, sloping down on three sides from the high ground above, and then extending away to the valley below. It is, in fact, a corrle on a small scale, having been formed by the oozing out of water from all sides, forming springs that carried the soil with them to the valley below. When Mr. Sutton conceived the idea of turning this hollow into a garden, the water was utilised for the making of two ponds at different levels.

Thls work has been completed for some time; and the accompanying illustration, taken from a point below the lower one gives a full view of the rockwork and cascade between the two basins of water. The photograph was taken by Mr. A. Wright, the gardener, who was also responsible for the execution of the rocks, the boldest piece of work of this character, which we have ever seen undertaken by a gardener. The lower strata of rocks at the water edge are made to resemble conglomerate, which is overlaid by red sandstone. The upper strata over which the water runs resembles a yellow sandstone such as we often note in the green sand formation. At present the springs are rather low on account of the long spell of dry weather, but on the other hand the water may be too abundant in winter and spring. On the slcping bank to the right of the waterfall is a fine mass of Ricinus Gibsoni and other species, intermixed with Sunflower Lemon Queen. To the left are some young Conifers, chiefly Retinospora plumosa aurea, also double Gorse and Rock Roses in variety. When they have fully occupied the ground they will be highly effective. Sutton's Pansies have been planted by the lower ledges of the rocks, but Heather will presently occupy the position. The white Lilium speciosum Kraetzeri is very conspicuous in places; and at one corner of the lower pond is a fine bed of Montbretia crocosmiaeflora, with flowers of a rich orange-scarlet. The plants commenced flowering at the beginning of June, but many side spikes are still in full bloom. Iris laevigata (Kaempferi) has been planted at the edge of the water, and other aquatics may also be introduced as time goes on.

The illustration fails to show the upper sheet of water owing to the elevation of the site; but the eye catches the bridge over it to the summer house in the centre, the bridge and the house being the most conspicuous features of the garden, almost from any point. The heather-and-straw-thatched structure was built on the spot, a peninsula in the water. Several of the best hardy Bamboos, chiefly species of Phyllostachys have been planted on the margins of the peninsula, so that if they succeed, as we think they will, the summer house will presently be surrounded by a living greenery of the most graceful of hardy ornamental plants. The tall trees seen in the view are chiefly Oaks, while the fringe round the upper end of the garden consists chiefly of Hazels and Bullaces, most probably self-sown, as in the case of the Elders. The Hazels were probably planted.

Water Lilies are already established in the upper pond, including Nymphaea purpurata, N. marliacea albida, N. sulphurea grandiflora, N. robinsoniana and N. pygmaea helvola. Two aquatics rarely seen out of doors in this country have been floating on the water all the summer. One is Eichhornia speciosa, otherwise known as E. crassipes, which has not made much growth. E. azurea, on the



View in the Dell Garden at Bucklebury Place, Woolhampton, Berks

Loosening Apricot trees from walls during winter.—*Ellen*: This ls a practice which is dying out, yet lt has points in its favour. It allows one to thoroughly clean the wall and the shoots; it more effectually rests the trees, and the slightest trace of canker can be easily observed It is also thought to have a counter effect in stopping canker.

Azalea Training: Natural *versus* Formal Shapes.—It is a pity the public does not demand reform in the matter of contour in Azaleas. How exceedingly more lovely would the Indlan Azaleas be if grown naturally! Robert Craig, an authority and and large grower and seller in America, has for many years grown Azaleas in a natural, graceful shape, and has found them readily saleable in competltion with the flat-topped ones. It lies with our own gardeners and buyers to bring about the change.

other hand, has grown well and was flowering beautifully last week.

The middle area of the garden has been laid down in grass, which already forms a beautiful and close sward, although the ground was still bare on the occasion of our visit in early summer. In certain parts of this area large beds have been made and planted with different subjects. One of these is occupied with hardy Azaleas, having a broad margin of Senecio elegans fl. pl. in purple, lilac, crimson-purple and white varieties. These Ragworts are about 12 in. high and most floriferous. Yellow Helichrysums in the centre are notable for the size of the golden, orange and crimson heads. Japanese Maples, with red stems and red and bronze leaves, in some cases finely dissected, constitute the feature of another bed, with Gaillardias as a groundwork.

Around the sides of the garden are very wide borders of irregular outline, as determined by the walks which they margin, and the base of the steep banks behind them. In the spring time these borders glow with the bright colours of Hyacinths, Tulips, Narcissi, Scillas, Chionodoxa, &c. Lilies were the decided feature of one large border, the air being strongly tainted with the scent of Lillum auratum. The most striking and effective of all the Lilies, however, was the Tiger Lily (L. tigrinum), planted in clumps all over a large area, and which has flowered splendidly. Indeed, we have never seen it finer. The strong stems carried a large number of the bold and handsomely spotted orange flowers. One variety excelled the others in the rich markings and colour of its flowers. Bulbs, we understand, will be brought into even greater prominence in these beds and borders of ornamental shrubs next year. The shrubs are all of choice kinds, and planted sufficiently far apart to allow of the proper development of bulbs. Of course some of the latter are the sole occupants of certain beds and borders for the time being.

Very noticeable was a plantation of Helichrysums behind herbaceous plants. The crimson, orange, rose and white heads were of enormous size owing to the space accorded for their development. Particularly noticeable was a rich rose-coloured Petunia selected from amongst seedlings and perpetuated by cuttings. It was flowering profusely and very attractive. In the neighbourhood of the mansion, where the soil is naturally dry, this plant is a perfect success.

A massive bed of Cassinia fulvida (Diplopappus chrysophyllus) on the same level as the mansion has become thoroughly established. It is late to speak of the flower garden, but it was gay with Fuchsias, white and yellow Margnerites, Calceolarias and other subjects, Cineraria maritima being particularly noticeable, having formed striking masses of gray foliage on the gravelly soil, which is most decidedly to its liking.

HARDY VINCAS.

There are about ten species and varieties of this useful genus, most of which are very hardy and are commonly used in a variety of ways. The common one, V. minor, and its forms luxuriate under the shade of trees and bushes where scarcely anything else will exist. If they get a certain amount of light and the soil is suitable, they will take possession to the exclusion of everything else. Vinca minor may therefore be said to be one of the best plants, if not the best, for covering bare spots under trees. The variegated form is not such a rampant grower. It is a good plant as a ground-work for such plants as Cypripedium acaule and C. spectabile. V. herbacea has a very confused and weedy growth; it does splendidly in dry situations, and is sometimes used effectively as a basket plant. The finest variety for purposes of this nature, however, is a form of V. major called elegantissima; its long growths in baskets or vases have a very ornamental appearance, and even in a small state it is a good seller. The foliage is principally green in the centre, ivory-white on the margins. Another variety with the margins of the leaves green and lighter coloured in the centre is commonly grown. This produces more flowers than elegantissima, and has more of an upright habit. To have young plants in condition for spring the cuttings should be put in now. A little bottom heat will help in the rooting without weakening the young plants. Take the cuttings with two joints: take off the lower pair of leaves and insert them so that the remaining pair of leaves lie close to the sand. Put in thumb pots when rooted, and later into 3-in., using stiff loam without any other ingredient.

PERSIAN GARDENS.

The purple East is full of secrets, mysteries, and surprises. Not the least of the surprises of Persia, the land of the "King of Kings"—the Shah—are its gardens. These have been known to history and fame for centuries. Though much of the country is salt desert or gray featureless plains, with prickly, low-growing shrubs for vegetation, the gardens, where water can be had, are picturesque, quaint, and somewhat beautiful. So sharp is the contrast that you may stand with one foot in an arid wilderness, and the other in a flowery paradise. Long dark avenues are a particular feature of Persian gardens. Fountains in open courts, and beds of Roses, Briers, and other flowers furnish a scene of bright and varied colours and liveliness. Every tiny rill of water is fringed with Violets.

The Hanging Gardens of Babylon were made at the command of Cyrus, a prince of Babylon, for the sake of a Persian courtezan, and were supposed to be an imitation of the gardens in the Persian's country. The very word paradise is conceived to be originally Persian, and applied by the "botanical braves" of Persia. The Hebrew word for that disputed garden means nothing more than a field enclosed. Further, the word is not met with in Scripture before the time of Solomon.

Yet Sir John Chardin (1643—1713) writing his "Travels in Persia," says "that from the number and beauty of the flowers of Persia, one might easily imagine that the most beautiful gardens in the world were there also; but such," he says, "is not the case." He finds that as a general rule where the land is fertile, art is coarser and more unknown. "The gardens of the Persians consist commonly of a grand alley or straight avenue in the centre, planted with Plane trees which divide the garden into two parts. There is a kind of basin in the middle, proportionate to the garden and two other lesser ones on the two sides. The space between them is sown with a mixture of flowers in natural profusion, and planted with fruit trees and Roses; and this is the whole of the plan and execution." They do not employ terraces, labyrinths, parterres (as we know them), or such other ornaments as are found in British gardens. The Persians do not enjoy their gardens by close inspection and perambulations around them, as we do, but are content to sit in their courts, sip tea, chat and view out upon the grounds. They remain in these courts till it is time to leave again.—*A. E.*

AQUILEGIAS.

Among the diversified ranks of plants in flower in the borders which encircle the home, or form part of the features of the garden proper, the beautiful Columbines stand out in prepossessing loveliness and grace. To minds non-appreciative of aesthetic value, these plants, or the flowers of them, present themselves as curious things, scarcely anything more. Someone, however, in describing the Aquilegias struck a truer note when he said that they were as vigorous as a Lily and as graceful as a Fuchsia.

Aquilegias have their head-quarters in North America, though the genus is pretty freely distributed over the highlands of Europe and Asia. It is a true alpine plant and in its natural habitats growing above so many of the usual very dwarf alpines it looks like a Birch on a mountain hillside, contrasted with the lowly shrub growth which one usually finds accompanying these graceful trees.

It is regretable that they do not always live long in the gardens of the southern counties. Like the exile from home, they pine for their natural coolsome quarters, receiving which they florish wily nily. In Scotland, especially northwards, even the finest Aquilegias thrive like weeds. But during the last half dozen or more years Messrs. Cannell & Sons, of Swanley, have been working up what they term their "cock-spur" strain of Aquilegia. This seems to be a selection from the Golden Columbine and the orange-red and yellow species, that is, A. canadense. Besides these, however, the common A. vulgaris and its free flowering forms have been equally utilised. The result is seen in a strain of splendid habit and characters, with sprightly and graceful flowers having quite a variety of colours. A suitable soil for Aquilegias should consist of good friable loam and leaf soil, well drained. The dwarfer Columbines are often planted in rockeries, and the tall ones in the ordinary herbaceous borders. One phase of their culture which might be made more of is that of using them in pots. The system has long enough been known, and in instances here and there they have been so grown, but there seems no reason against making them useful for the very early summer conservatory display. Gardeners and florists have been able to manipulate other plants just as they liked, and why not Aquilegias? The well known species should all be included in gardens and a mixed collection of the best named varieties of the improved new types would certainly be a grand inclusion to the flowers of any garden. The Rocky Mountain Columbine, A. caerulea, is a perfect gem, though perhaps A. Stuartl finds equal favour.

Both flower at a comparatively early period, that is, about the middle of May. The alpine Columbine, A. alpina is a dwarf and pretty species suitable for the rockery. No finer yellow can be imagined than that provided by the old A. chrysantha or Golden Columbine. In the cool shaded drawing-room or parlour of our dwellings in summer a large vase of the flowers of this species without any other addition except perhaps a drooping frond or two of a Shield Fern, presents a picture of marvellous sweetness.

Other very fine old and known species are the Canadian Columbine, the Altaian Columbine, and the Californian species. Amateurs or gardeners might very well amuse themselves and win the gratitude of other flower lovers by crossing and selecting Aquilegias to obtain perhaps greater persistence, greater adaptability to circumstances, earlier period of flowering, &c. The habit and variety of colours is quite satisfactory. In conclusion it may interest some to refer to the fact that the Columbine belongs to the Ranunculus order, though the petals are spurred.—*L.*

FRUIT GROWING IN QUEENSLAND.

In these days when so many young men in this country are directing their attention to the study of fruit growing in this or other lands, anything instructive and encouraging about the subject of fruit production is welcomed.

To the *Irish Farming World* we are indebted for the following article:—"Fruit growing in Queensland is one of the pleasantest and most certain ways of ensuring a fair return for the capital and labour expended. Oranges, Bananas, Pineapples and Grapes are the fruits cultivated on a commercial scale, and in the northern districts of the colony Mangoes and other tropical fruits are grown in large quantities. Few countries can rival Queensland in fruit. More land is steadily being brought under Orange and Banana cultivation, for which many districts are admirably suited, and for which there will be an ever-increasing demand. A Banana plantation will give returns in twelve or eighteen months, and from £50 to £60 per acre a year. In 1897 two bunches of Bananas from Cairns were landed in London in perfect condition from the s.s. "Jumna." Four or five years from planting the trees must be given for an Orange crop, and they will prove a source of increasing income for many years afterwards. At Roma ninety trees averaged 100 dozen per tree. At Maryborough 3,440 Oranges have been taken from a single tree. At Charters Towers a grower has sixty fruit trees—Orange, Lemon, Citron and Mulberry. He sold 5,000 dozen Oranges in one season, at an average of 2s. per dozen. Forty trees can be planted to the acre. Strawberries grow well, and thrive in the neighbourhood of Brisbane, on the Darling Downs, at Roma Gymple, and elsewhere. One grower has two acres under Strawberries and Grapes, in alternate rows. The capability of Queensland to grow almost every description of fruit produced in temperate and tropical regions has long been proved. The yearly import of the United Kingdom of fresh and preserved fruits amounts to £70,000,000, and the discoveries of science are daily placing at the disposal of colonists the means of packing and preserving from decay for the length of the voyage fruits for the English markets. Preservation and sterilisation of

the surrounding atmosphere are two of the processes now being perfected, and in a short time, probably, Grapes and other perishable fruits from Queensland will be landed here, so as to compete on favourable terms with the fruits produced in any part of the globe. If intending settlers are fond of the retired life in the lonely islands that fringe the northern coasts of Queensland, no doubt the Government would make arrangements as to settlement. These islands have been planted with Cocoanut Palms, and the plantations will form a very useful addition to the natural resources of the colony."

PLANTS RECENTLY CERTIFICATED.

AWARDS made by the Royal Horticultural Society on September 25th.

Floral Committee.

NEPENTHES CHELSONI EXCELLENS.—The parents of this hybrid Pitcher Plant were N. rafflesiana (female) and N. Chelsoni. The plant is notable for the great size of its pitchers, which are wide and short, very much after the type of the original N. Chelsoni, but heavily blotched or splashed with crimson and chocolate-crimson on the upper two-thirds of their length. The wings are very broad and pale green, with a few blotches. (First-class Certificate.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

DAHLIA LORD ROBERTS (CACTUS).—The large blooms of this variety are semi-globular, with long and pointed creamy-white florets, making a very distinct bloom. (Award of Merit.) Mr. J. Stredwick, Silverhill Park, St. Leonards.

DAHLIA MRS. JOWETT (CACTUS). — The blooms are of large size, with much attenuated, and slender, rich orange florets. (Award of Merit.) Mr. J. Stredwick.

DAHLIA GENERAL FRENCH (CACTUS).—This has very large and deep blooms, consisting of numerous florets of a deeper orange than those of Mrs. Jowett. (Award of Merit.) Mr. J. Stredwick.

COLCHICUM SPECIOSUM ALBUM.—No apology is needed for advancing the merits of this pure white variety of the largest and best of the Colchicums. (First-class Certificate.) Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton.

STERNBERGIA COLCHICIFLORA is a native of South Europe, and has golden-yellow flowers of such a size that the wonder is it has not been widely cultivated in gardens for many years past. The segments of the flowers are elliptic and veiny, and the flowers almost as large as Colchicum speciosum. The leaves do not make their appearance till spring. It is the S. macrantha of *Boissier's Flora Orientalis*. (First-class Certificate.) Leopold de Rothschild, Esq.

ROSE MRS. B. R. CANT.—The flowers of this Tea Rose are of moderate size, and dark salmon-rose. The centre of young blooms is conical, becoming globose, and surrounded by a few spreading outer petals. They are slightly fragrant. (Award of Merit.) Mr. Benj. R. Cant, Colchester.

HELIANTHUS H. G. MOON.—The parents of this Sunflower were Helianthus laetiflorus and H. multiflorus. The leaves are ovate-lanceolate and scabrid, while the flowers are large (measuring 4 in. to 5 in. across the rays) with golden-yellow flat rays. For garden decoration and cut flower work it will be much appreciated. (Award of Merit.) Messrs. Barr & Sons, King Street, Covent Garden.

TAMARIX KASHGARICA.—The feathery twigs and branches of the species of Tamarisk make them handsome decorative shrubs, which do better on the sea coast than inland. The flowers are small, but in this instance they are produced in long, terminal, spike-like racemes that are more or less leafy, and being of a bright rosy-pink are highly ornamental. (Award of Merit.) F. W. Moore, Esq., Curator of the Botanic Gardens, Glasnevin.

DAHLIA SHAMROCK (SINGLE) is a large, round flower with broadly oval, overlapping rays of a maroon-crimson tipped with rose. (Award of Merit.) Messrs. J. Cheal & Sons, Crawley, Sussex.

DAHLIA VENUS (POMPON CACTUS).—The blooms of this variety are quite miniature in size, but pure white, with slender, incurved florets of the true Cactus type, and very pretty. (Award of Merit.) Messrs. J. Cheal & Sons.

DAHLIA PRINCE OF YELLOWS (CACTUS) is a bold and showy bright yellow variety, the blooms of which are well supported by long and stout stems. The blooms are also of good form for this class. (Award of Merit.) Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham.

DAHLIA KATHLEEN (CACTUS) is a handsome, bright scarlet variety, with large blooms, and very long, incurved florets. (Award of Merit.) F. W. Sharp, Esq., Waltham St. Lawrence, Twyford.

DAHLIA THALIA (POMPON) is a bright rosy-pink variety with a white centre, small and very neat. (Award of Merit.) Mr. M. V. Seale, Vine Nurseries, Sevenoaks.

DAHLIA DORIS (POMPON) is similar in every way to Thalia, except that the blooms are of a pale pink with white centre. (Award of Merit.) Mr. M. V. Seale.

DAHLIA GRACCHUS (SHOW VARIETY) is moderate in size, neat in form, and of a soft golden buff. (Award of Merit.) Mr. C. Turner, Slough.

Fruit and Vegetable Committee.

GRAPE PRINCE OF WALES.—This is a sport from Mrs. Pince, and promises to be more popular than that well known variety, because the broadly oval berries are very much larger than those of the parent, black, and covered with a fine bloom. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

The committee of the National Dahlia Society sat at the Drill Hall on the 25th ult., in company with the Royal Horticultural Society, and gave a First-class Certificate to each of the undermentioned Dahlias.

DAHLIA GRACCHUS (Turner), PRINCE OF YELLOWS (S. Mortimer), KATHLEEN (F. W. Sharp), VENUS (J. Cheal & Sons), and THALIA (M. V. Seale) are all described above.

DAHLIA DUCHESS is a show variety of fine form with depressed florets of a pale yellow, tinted with lilac-purple on the back of the florets. G. St. Pierre Harris, Esq., Orpington.

DAHLIA MAJOR HOBBS (CACTUS) is a large bloom with incurved, deep magenta-rose florets, tinted with carmine in the centre. Mr. G. Humphries, Chippenham.

DAHLIA FLORADORA (CACTUS) is maroon-crimson, with long, pointed, incurved florets of good form. Mr. G. Humphries.

DAHLIA JEALOUSY (CACTUS) is a semiglobular bloom with stiff, incurved, and often slightly twisted, clear yellow florets. Mr. J. Stredwick.

DAHLIA BESSIE MITCHELL (CACTUS) has large semiglobular heads, and long, incurved, often slightly twisted florets, of a light orange, tipped with salmon red. Mr. J. Stredwick.

DAHLIA LORD BRASSEY (CACTUS) has rich rosy-magenta or magenta-pink, and long, incurved florets. Mr. J. Stredwick.

DAHLIA CHEAL'S WHITE (CACTUS) is a handsome, creamy-white variety, with large blooms, and long, pointed, incurved florets. Messrs. J. Cheal & Sons.

DAHLIA BERNICE (CACTUS) is a large bloom, with incurved, pale orange-red florets, and short yellow ones in the centre. Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge.

DAHLIA VIOLET (POMPON) is a very small, neat and pretty bloom of compact form and white. Mr. West, Brentwood.

DAHLIA BADEN POWELL (CACTUS) is of good form for this class with long, slender, maroon-crimson florets. It was shown at the National Dahlia Society's exhibition at the Crystal Palace on the 7th ult., by Hobbies Ltd. (Mr. John Green), Dereham.

PROLONGING THE BLOOMING SEASON.

THOUGH one cannot expect to have outdoor plants in bloom for very much longer, they may still be enabled to furnish a few more flowers by having attention. One of the best ways of helping them is to remove decaying or dying blooms. Before a seed vessel or pod can swell cut it off. The stronger shoots from which flowers may yet be expected should be given every chance by removing superfluous and weakened young shoots from around them. As some of the plants succumb take them right away and clean the ground. The borders or beds should be hoed and raked. Here and there a stake or a tie should be given, all of which will go to make the general appearance neater, and certainly benefits the plants. Sweet Peas, Nemophilas, Larkspurs, Shirley Poppies, and a considerable list of other annuals which I saw mentioned in THE GARDENING WORLD at an earlier date are just showing through the soil. These must be cared for through the winter, and they will furnish an early spring display. Those who omitted to sow in August could do so now indoors, and box off or pot the seedlings, keeping them in a cool house till March, when the first favourable opportunity should then be taken to plant them outside.—*F. G.*

TASTY BEDS IN LONDON PARKS.

HYDE PARK.

This is the most central of the London parks. The bedding here is always choice, and each year finds new combinations tried. The bedding this season has been very choice and reflects the continued skill and good taste of Mr. Browne, the superintendent.

The effective use of simple harmonies or contrasts was evidenced in a small round bed filled with the crimson flowered Fushsia Marinka, below which was Viola Wm. Niel, rose, and an edging of the snow white Nycterina. A somewhat peculiar but interesting contrast was secured by using Heliotropium Roi de Noirs (King of Blacks) above Calceolaria Gaine's Yellow, and edged with a dwarf bronze-leaved Fuchsia.

One of the most graceful and beautiful small round beds we have seen this year was found in Hyde Park. It was furnished with the rose-mauve flowered Lantana delicatissima, which has a habit very similar to Streptosolen Jamesoni, and below the Lantana (which grows a few feet high), Oreocome Candollei was planted. The foliage of this plant is like that of Fennel, or a large leaved Carrot. The bed was tastefully edged with Alternanthera, and if any bed is worthy of imitation, this one is.

A large oblong bed which will make a fine show so long as frost keeps off, had the body filled with Heliotropium President Garfield, and an outer line of Chrysanthemum Mdme. Desgranges, edged with Mesembryanthemum cordifolium variegatum. Eucalyptus Globulus 8 ft. in height was placed throughout, to grow above the Heliotropes. Fine foliar effects were presented in a larger bed filled with Canna Ardien-Robinii with large purple leaves, above which the Eucalyptus again figured prominently. The edge was composed of the yellow-leaved Fuchsia Meteor.

One of the largest mixed beds contained huge specimens of Coleus Verschaffelti, Ivy-leaved Pelargoniums, Strobilanthes dyerianus, Fuchsia fulgens, F. Scarcity, Plumbago capensis, Coreopsis, Gladioli, Lilliums, China Asters, Helianthus at the back, Eucalyptus, and a broad edging of Nepeta Glechoma variegata.

Beds of Salpiglossis had a markedly fine appearance. When bright rich coloured varieties are chosen, Salpiglossis are nice bedding plants. A smart presentment was noted in which scarlet and crimson single tuberous Begonias were used below finely spreading plants of Grevillea robusta, edged with Fuchsia Meteor. Mdme. Crousse Pelargonium as a ground-work below Fuchsia Scarcity and edged with blue Lobelia, was more than pleasant to the eyes, it was splendid.

The carpet beds were again exceedingly pretty, but descriptions of them would only be confusing. Alternanthera amabilis covered the surface of a bed, above which Fuchsia gracilis had been set, and to tower higher still, Lantana delicatissima had been employed, the bed being brightly coloured, and light in form and growth. A round bed devoted to bushy plants of Cuphea platycentra about 3 ft. in height, and here and there interspersed with bright leaved plants of Acalypha musaica, the whole being edged with Alternanthera aurea, which was also dotted in places over the surface, furnished an exceedingly bright display. The large beds with Musas, Bambusas, Palms, Araucaris, Calocasia esculenta, &c., were as fine as ever. In conclusion we may just name one other arrangement. It was that of a round bed filled with Begonia semperflorens and small dwarf plants of Amaranthus bicolor over the surface, and Nierembergia gracilis with its white flowers reared high above the mass of Begonias. The edge was of Alternanthera amoena. Though these do not include all the finely arranged beds in Hyde Park, enough may have been described to furnish fresh ideas to those who may have an interest in summer bedding.

FLOWERING TREES AND SHRUBS.

LIGUSTRUM SINENSE GRANDIFLORUM.—This, the Chinese Privet, is one of the most free flowering trees in bloom at this time of year (July). It grows 10 ft. to 15 ft. or more high, has a bushy habit, bears shining oblong green leaves and spreading racemes of white scented flowers. They do not remain fresh for any length of time, but soon pass to a dingy brown colour, at which their sprightliness is gone. The flowers for a period of ten days, however, completely hide the foliage and are then very attractive. The shrub seems to do well on a well drained deep soil. It was introduced from China in 1858.

BERBERIS ARISTATA.—The habit and growth of this Himalayan Berberis is loose, yet strong. It is decidedly ornamental. It grows 10 ft. or 12 ft. high, the branchlets being armed at the nodes with spines. The leaves are shining green, elliptical, somewhat serrated, and abont 2½ ins. long. The shrub has been flowering for some time and still remains fresb, having drooping inflorescences of large sized bright canary flowers. After the flowers are shed, the crimson trusses of fruits swell up, and continue the beanty of tbe shrub. A deep, warm, moist soil gives large and vigorous plants. Where Berberises are favoured, B. aristata should not be omitted.

ACER TATARICUM.—Where this little Maple succeeds well, it forms a quaintly sweet and interesting specimen. In habit it is bushy and soon forms a rounded head, having thick showers of irregularly oval, serrate bright green leaves differing in size from that of a Plum leaf to others twice as large. But the greatest point of beauty is in the bright, reddish fruits (samarae) which sometimes hang in heavy trusses from the point of every young shoot. Many of the Acers are worth growing for their fruits alone, additional species or varieties being found in A. macrophyllum, a bushy lawn tree having drooping trusses which often contain from twenty to thirty large sized green-winged fruits; A. monspessulanum, a distinct little tree with an abundance of small pink clusters; A. Pseudo-Platanus vars.; A. insigne and others. The species and varieties I have mentioned should be grown in an open but sheltered spot if possible.

CORIARIA JAPONICA.—This is a Japanese shrub chiefly noticeable for its ornamental foliage, or rather stem, which throws out nearly sessile cordate-acuminate leaves alternately from the base upward. The whole stem is really one great pinnate leaf, having lateral branching leaves. In general appearance the shrub resembles a dwarf Stag's Horn Sumach. From the axils of all the older stems long racemes of bright brick-red rounded fruits, the size of Peas, appear, and it is these which give this subject its great value as a dwarf ornamental plant. It is native of Japan, and seems to do well on sandy soils in sheltered spots. It is worth the trying.

INDOGIFERA DECORA.—A dwarf slender growing little subject, suitable for a warm corner. It has conspicuous racemes of pure white Pea-shaped flowers, and bright green eaves somewhat like a False Acacia. It is only commended for sheltered places and warm soils.

SPARTIUM JUNCEUM.—The Spanisb Broom is fairly well known, being hardy everywhere, and one of the most brilliant of yellow-flowered leguminous plants. The plant is robust and succeeds in almost any situation. The flowers, whicb are of large size (like Genista) are borne at the apex of young Rush-like shoots. From the appearance of these shoots to those of the Rush, the name juncenm, from Juncus a Rush, is derived. It continues in full show for some weeks in midsummer.

COLLUTEAS.—The Bladder-Sennas are wonderful shrubs, quite hardy in favourable positions, and subjects which every gardener should know and plant. They are bushy in habit, having plenty of somewhat glaucous foliage, larger, but much like Coronilla glauca, a greenhouse plant. The flowers of C. cruenta are also identical with those of the greenhouse Chorizemas, orange-red in colour. C. arborescens has yellow flowers and large (very beautiful) bladders which are brownish red in colour, while in C. cruenta they are green. C. a. purpurea has flowers almost like C. cruenta. C. melanocalyx has a laxer habit of growth, and its foliage is more glaucous. The flowers are deep yellow. C. Istria is much like C. longialata and has the largest and most distinct flowers, their colour being deep brilliant yellow.—*Edina.*

CATALPA BIGNONIOIDES.

IT is to be regretted that so fine an ornamental lawn tree as Catalpa bignonioides is not perfectly adapted for every shire of the country. How it succeeds in the eastern parts of Scotland I cannot say. I do not remember having observed specimens either in Fifeshire or further north, nor even in Midlothian. Any reference by interested readers describing the hardiness and value of the tree in these more northern latitudes would be interesting to all who have a sympathy in trees. No doubt its flowering, like that of the false Acacias, is a rare occurrence. But a few hundreds of miles south, around the outer stretches of London, &c., and in various parts of the southern counties, Catalpa bignonioides blossoms freely on deep, friable soils. And what a handsome tree it is when at its best, laden with its Horse Chestnut-like inflorescences of flowers. These are borne erectly at the apex of the young shoots in huge and beautiful clusters, sloping like the Pine forests in unbroken succession from the outer spread of the lower branchlets, cone-like, up to the rounded top. Seen at a distance this Catalpa in many respects represents a medium-sized, white-flowered Horse Chestnut when in bloom. The flowers are the size and shape of a Mimulus, pure white, with a purple and yellow throat. This description is scarcely botanical, but it is suggestive of the characacter of this handsome flowering tree. In height Catalpa bignonioides attains only about 40 ft. Its home is on the banks of rivers in Florida, Georgia, and Carolina, in the southern parts of North America, from which country it was introduced in 1726—178 years ago. In cooler situations this tree is in flower till the middle of August, and perhaps later, but in the Thames Valley it is practically past by the end of July. Catalpa was originally the Indian name for a species of Bignonia, under which generic title Linnaeus classified the tree. After flowering a profusion of long "Bean pods" develop, hence the common name of Indian Bean. It is a smoke-resisting tree, and should commend itself to park superintendents. The foliage is cordate-acuminate, flat, and somewhat pubescent, with entire margin, three in a whorl, large and deciduous. The yellow-leaved variety of the above species is decidedly beautiful even when not in flower. Loudon states that seeds are brought from America for propagating this tree. Cuttings of the root are also employed, and a specimen of 20 ft. high can be raised in ten years under favourable circumstances. —*Harrison D.*

GARDENING MISCELLANY.

ALLIUM CARINATUM.

THIS is one of the smaller growing species of Allium, but, if small, it is yet most elegantly refined, and quite a gem if regarded for its beauty. It is to be seen on the rockery at Kew (or was a short time ago), where it has been flowering for months past. The individual flowers, of course, are small, and are clustered as in the other species of Allium, but the secondary flower stalks abruptly curve downward, giving the flower head a pretty "mop" like appearance. The flowers are mauve tinted. The main flower stalk is about 8 in. in height, and rather slender, the foliage forming more or less of a tuft. A pocket filled with good soil should be accorded it.

CARTHAMUS TINCTORIUS.

THOUGH competent authorities seem to regard this annual composite as of little ornamental value others quite as capable of expressing an opinion think the opposite. Certainly when tbe above species, which is 3½ ft. or so in height, is seen against quite a number of other perennial and annual plants in bloom coincidentally with itself, it shows up conspicuously in its flower heads of orange and scarlet. These are borne exactly in the same way as those of some of Centaureas, *e.g.* C. diluta or C. eriophora, which, however, are both yellow flowered. Sowings of Carthamus tinctorious the Safflower, should be made in April outdoors in groups. Or plants may be raised like half hardy annuals to be planted out when they have attained handling size. The plant is a native of the East Indies, though other species of the genus are variously distributed along tbe Mediterranean shores and parts of Africa. C. tinctorius is cultivated in Asia for the sake of its showy flowers which when powdered and mixed with talc form rouge.

TREE STUMPS AND HONEYSUCKLE.

THOSE who are planning additional ornamental features (even on a small scale) for their gardens would do well to include tbe golden-leaved Honeysuckle in a bed or knoll, having some tree stumps in the composition. Good-sized patches should be made, and if the stumps, that is tree roots, dug out just below the earth surface be barked, exposing the wood itself so much better will the harmony be. Plants of the Honeysuckle (Lonicera japonica reticulata aurea) should be planted between the stumps, and trained over and about them. In a warm porous soil where there is plenty of sun, the Honeysuckle becomes almost canary-yellow, and forms an exceedingly sweet object.

A FEW GOOD SPECIES OF BROMUS.

THE reason why collections of ornamental Grasses are not so freely grown in gardens lies no doubt in tbe fact that the fine things are not generally known. A few species of hardy Bromus may be mentioned in the hope that someone may turn attention to them. One of the best is B. brizaeformis which is equally as large and as fine as tbe Quaking Grass, Briza maxima. Bromus macrostachys is even larger though quite distinct, and is very ornamental. B. Kalmii forms graceful clumps of tall stemmed flowers with drooping heads. It turns brownish when it bas become ripened. B. ciliatus takes after the same style but it is slightly more slender. Both are worthy of trial. Then there are three sorts which differ little the one from the other, and any two of the three may be omitted. These include the common B. sterilis, which when cultivated grows robustly; B. tectorum and B. maximus. B. unioloides is more erect, though dwarf, but it can scarcely lay claim to a place among real ornamental species. The first four are the best. In another note a separate genus may be described.—*G.S.*

ANEMONE PULSATILLA.

As though the Pasque flower did not yield its tribute of beanty in its annual gift of blue spring flowers, it now forms interesting and beautiful heads of silken "mops," gray-brown in colour, on long stalks, very conspicuous and splendid for use along with flowers and foliage in vase arrangements This feature of Anemone Pulsatilla would alone give it merit for inclusion in all collections.

OSTROWSKIA MAGNIFICA.

IN respect to the name Ostrowskia we know nothing, but think it an ugly name for a truly magnificent flowering plant, one of the best additions made in recent years to our lists of hardy perennials, and not as widely known as it deserves to be. The flowers resemble in form some of the Campanulas, and are of immense size, about 6 in. across. A bed of this in full flower is a unique sight. The flowers vary in colour from pure white to dark purple, and are borne on stems 3 ft. or so in height. All lovers of this class of plants should secure this on account of its beauty and distinctness.—*W. B. G.* [The above plant has failed to become established in one or two instances, but it is worth any amount of trouble.—ED.]

SALPIGLOSSIS.

VARIOUS nursery firms have improved varieties and strains of the annual Salpiglossis. The distinct colours of some of the named sorts are more brilliant than almost any other annual or herbaceous perennial in the garden at this time of year. Messrs. H. Cannell & Sons, of Swanley, have a lovely brake flowering at the present time, and such varieties as Salpiglossis Grand Wizard, deep shining blue; S. Grand alba, S. G. lutea, S. G. atrosanguinea, and S. G. coccinea represent the fundamental range of colours which one may work upon for newer sorts, with many colours, but which I would certainly advise anyone to grow separately. Salpiglossis from an early spring sowing are delightful bedding plants. Tastefully arranged in moderate-sized wide-mouthed vases, these lovely flowers are of great merit.

THE IRONWOOD TREE.

FROM interesting notes in various journals at the

present time, one gains some knowledge of the usefulness of the Ironwood tree. The moist localities of Burmah, Bombay and Madras, furnish the best samples. It grows an enormous height, and reaches maturity at ages from 80 to 100 years, according to circumstances and environment. The wood is hard, resinous and dark-coloured, and is highly appreciated in localities where it is to be had in fair abundance. It is much stronger than other woods of exceptional strength, and is so hard that a rifle shot at 20 yds. distant will scarcely cause any penetration into it. It has various uses, as for scaffolding, railway sleepers, telegraph posts, house posts and bridge piles. It also has supplied paving blocks to England. The discovery of tannin in the properties of the wood, has imparted new interest to it. The opinion is that the new product will prove a valuable tanning material, the colour of which is fair, and is a satisfactory agent.

ORCHIDS IN FLOWER AT KEW.

Amongst the Orchids flowering in the houses at Kew in the last week of August, we noted the following:—Oncidium Schlimii, O. incurvum, O. foerstermannianum, O. ramosum, and O. carthaginense, Cattleya labiata gaskelliana alba, C. bicolor, C. Eros, C. labiata Warscewiczii, C. guttata Leopoldii, and C. velutina, Miltonia candida, M. festiva, E. pathoglottis plicata, Micholitzia, Epidendrum subpurum, Stenoglottis longifolia, Cynorchis Loddigesii, Bulbophyllum grandiflorum, Vanda Roxburghii, Catasetum Naso, Spathoglottis Fortunei, Laella pumila dayana, Dendrobium Phalaenopsis, and Phalaenopsis Brassavola grandiflora. These are the chief species on view.

SOCIETIES.

HARROW AND ROXETH ALLOTMENT.—*September 25th.*

The great feature of the Harrow and Roxeth Allotment Society's show is the vegetables which have been growing in quantity and quality since the society commenced. The Mission House, where the shows used to be held, got too small to accommodate the exhibits, so that the society had perforce to seek more roomy quarters elsewhere, and no better could be found than the Roxeth Parish Room at Northolt Road.

There were some grand collections of vegetables, and though the exhibitors were less numerous than on some former occasions, that was accounted for by the fact that some of the holders had left the district, and their place had not yet been filled by new comers. The quantity of vegetables staged on the other hand had greatly increased. A few honorary exhibits were present, the most important, perhaps, being that shown by F. E. Marshall, Esq., the president of the society (gardener, Mr. D. Page), who staged thirty-four dishes of vegetables in nineteen varieties. Carrots and Cauliflowers were particularly noticeable, as were some dishes of Apples and Pears.

Mr. James Smith, the energetic secretary of the society, also had a non-competitive exhibit, as on several, previous occasions, thus contributing to the interest and success of the show. His magnificent collection of vegetables was all grown on the allotment ground, so that he practically put himself on a level with the other holders, showing what could be done by cultural skill, and thus giving an example that could hardly fail to excite honest emulation. He had forty-three dishes of vegetables in twenty-five varieties, which should in itself be an incentive to professional gardeners, who are seldom called upon to furnish half that number of varieties, even at some of the most important shows in the country. His vegetables were of a high standard of merit, Ailsa Craig and Up-to-Date Onions being very noteworthy.

The most of the other exhibits were grown by the allotment holders themselves, either on their holdings or in their gardens attached to their cottages. That the example set by the secretary was not thrown away, was shown by the high quality of the six competitive collections set up, and which the judges, Messrs. D. Cooper and Charles Edwards described as exceptionally fine.

The leading honour was secured by Mr. G. Smith for produce which was grown on the Harrow allotment, and, needless to say, his exhibit was very fine. Red Cabbages, Parsnips, Potatos, and Carrots were features of several other exhibits. In a class for weight of produce, nine Potatos weighed 10 lb. 9 oz. One of the allotment holders, Mr. Stiles, exhibited a gourd weighing 66 lb. Some of the competitive examples were not much smaller.

In the absence of Mrs. Andrewes, the wife of the Rev. J. F. Andrewes, the prizes were distributed in the hall during the evening by Mrs. Marshall, the president's wife. The Rev. J. F. Andrewes congratulated the president, the committee, members, and the hon. secretary on the success of the show. He had seen several of their shows and was of opinion that the present show of vegetables was a record. He also dwelt at considerable length upon the wholesome nature of fruit and vegetables as food, and that they were great antidotes to alcoholic drink. He hoped that as the years went by the president and executive would be able to tell a tale of steady growth of the society as great as it had been in the past; and that the men and women of Harrow and Roxeth would reap the advantages of the presence of such an institution and its fruits in their midst.

The prizes for the collection of vegetables were given by E. W. Howson, Esq., and J. T. Horley, Esq., and, as already stated, the leading award was taken by Mr. G. Smith, who was followed by Messrs. G. Warren, A. Rance, A. Ridgway, and J. Clatworthy, respectively.

Leading prizes were also taken by the following allotment holders:—Mr. A. Franklin, for Potatos; Mr. G. Warren, for Onions; Mr. A. Rance, for Potatos; Mr. G. Smith, for Brussels Sprouts; Mr. R. Knight, for Cauliflowers; Mr. W. G. Tompkins, for Red Cabbages; Mr. Cross, for the largest Marrow; Mr. G. Smith, for the largest Gourd, as well as for two Marrows for table use; and Mr. A. Rance, for Leeks. Special prizes were offered by Mr. F. E. Marshall for the best kept and cropped Harrow allotment, and the leading award was secured by Mr. G. Ball; while Mr. A. Rance took the leading prize for a similar object at Roxeth, the prizes being by the same donor. Mr. G. Ball had the best dish of white Potatos in the show; while Mr. G. Smith had the best coloured Potatos.

A large number of prizes were offered for competition by Harrow allotment holders only; and similar advantages were held out to Roxeth allotment holders, so that by this means the prizes were fairly equally distributed. The prizes first mentioned above were open for competition between members of the society belonging to either district. In either case prizes were offered for collections of vegetables, and competition was well maintained.

ROYAL HORTICULTURAL.—*September 27th, 28th, and 29th.*

(Concluded from the Supplement last week.)

Following our pretty full report of the first five divisions of the great fruit show which was held by the R. H. S. at the Crystal Palace on the above dates, we here detail division VI. This division provides classes for single dishes of fruits, beginning at Class LXXV. with dessert Apples. Pears succeed at Class CXL., the schedule ending at Class CLXX. The prizes in most of the following classes are small.

Dessert Apples; Class LXXV.; Adam's Pearmain: First, Roger Leigh, Esq. (gardener, Mr. G. Woodward), Barham Court, Maidstone; second, H. H. Williams, Esq. (gardener, Mr. Cornelius), Truro. Allen's Everlasting: R. Leigh, Esq., again first; no second. Allington Pippin: L. H. Page, Esq. (gardener, Mr. J. S. Perkiss), Bobbington Court, Sittingbourne, first; and second, Capt. Carstairs (gardener, Mr. C. Ross), Welford Park, Newbury. Blenheim Orange: A. W. S. Wright, Esq. (gardener, Mr. W. Davis), Quarry House, Newent, Glos., was first; and C. J. Starlup, Esq. (gardener, Mr. T. Neale), West Farleigh, Maidstone, second, out of eighteen competitors. Braddick's Nonpareil: Surg.-Gen. Chas. Planch (gardener, Mr. J. Treadwell), Lyden Croft, Edenbridge, Kent, beat Roger Leigh, Esq. Brownlee's Russet: First, T. L. Boyd, Esq.; and second, R. Leigh, Esq. Claygate Pearmain: R. Leigh, Esq., here led, beating G. W. Bird, Esq. (gardener, Mr. H. Redden), Manor House, West Wickham, Kent. Cockle's Pippin: Mr. A. J. Carter, Billingshurst, Sussex, was first; and for Cox's Orange Pippin, of which there were twenty dishes, R. Leigh, Esq., won first; J. Colman, Esq. (gardener, Mr. W. P. Bound), Gatton Hall, Reigate, coming second. For D'Arcy Spice (syn. Baddow Pippin), H. H. Williams, Esq., received the second award, the first prize being withheld. J. R. Brougham, Esq. (gardener, Mr. W. Jones), Carshalton, stood first for Duke of Devonshire. For Egremont Russet, Mr. R. M. Whiting, Credenhill, Hereford, won first. Fearn's Pippin brought forth thirteen dishes, first prize falling to G. H. Dean, Esq., of Sittingbourne. For Gascoigne's Scarlet there were twelve fine dishes, G. H. Dean, Esq., again leading; and Mr. C. Clinch, Denaway, Sittingbourne, being second. Golden Reinette was best shown by J. B. Brougham, Esq.; and Gravenstein by Col. Horace Walpole, Heckfield Place, Winchfield. James Grieve Apple was won by Capt. Carstair's dish. For King of the Pippins fifteen dishes were entered, the best being shown by Mrs. Walter Scott, of Weybridge. Some good samples were included here. Surg.-Gen. Chas. Planch won for a dish of King of Tomkin's Country. Lord Burghley was well shown by Col. H. Walpole, who beat Sir M. W. Collet, Bart., of Sevenoaks. For Mannington's Pearmain, R. Leigh., Esq., again came to the front; and for Margil he also led first. American Mother brought first prize to Mdme. Stewart, Roehampton, S.W. There were twenty-two dishes of Ribston Pippin, most of them very superior. The first prize fell to G. H. Dean, Esq., and second prize to Lord Poltimore (gardener, Mr. T. H. Slade), Poltimore Park, Exeter. F. M. Lonergan, Esq., Cressingham Park, Reading, won for Rosemary Russet; and for Ross Nonpareil, the Marquis of Camden (gardener, Mr. G. H. Sage), Bayham Abbey, Lamberhurst, Kent, stood first. Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton, W., received first award for Scarlet Nonpareil. For Sturmur Pippin, J. Claud Daubeny, Esq., Killiow, Truro, Cornwall, had the best dish. R. Leigh, Esq., led for Washington. Worcester Pearmain brought out twenty dishes of the brightest and best fruits in the show. A. W. G. Wright, Esq., here won first; the second prize falling to G. H. Dean, Esq., of Sittingbourne. R. Leigh, Esq., beat F. W. Buxton, Esq., of Sawbridgeworth, for "any other variety," the varieties respectively being Mabbot's Pearmain and Reinette du Canada.

Cooking Apples.—For a dish of Alfriston, R. Leigh, Esq., came first; he also held this position for Beauty of Kent, Belle de Pontoise, Bismarck, Emperor Alexander, Golden Spire, Grenadier, Lord Suffield, Peasgood's Nonsuch, Stirling Castle, Stone's (syn. Loddington Seedling), The Queen, Tower of Glamis, Twenty Ounce, Waltham Abbey Seedling, and for "any other variety" not schedulled, here showing Belle Dubois. Together with these firsts he had the following second prizes:—For single dishes of Sandringham, Royal Jubilee, Lord Derby, Bramley's Seedling, and Golden Noble, so it will be seen that Roger Leigh, Esq., and his gardener, Mr. Geo. Woodward, have reason to feel satisfied. The other principal prize winners in this division include W. R. M. Whiting, Esq., of Credenhill, Hereford, who led for Bramley's Seedling, Hormead Pearmain, and Pott's Seedling.

Lord Poltimore had the best dish of Cellini Pippin; C. W. Bird, Esq. (gardener, Mr. H. Redden), Manor House, West Wickham, Kent, coming second. G. H. Dean, Esq., of Sittingbourne, was first for Cox's Pomona, he beating Col. Horace Walpole. G. H. Dean, Esq., came second for Emperor Alexander. Sir M. W. Collet, Bart., staged a splendid dish of Golden Noble, while Capt. Carstairs had the finest dish of Lane's Prince Albert. Mr. F. W. Thomas, Wannock, Polegate, led for Newton Wonder. G. H. Dean, Esq., was also awarded first prize for a handsome dish of Warner's King. A. W. G. Wright, Esq., coming second. This class contained eighteen entries.

Dessert Pears.—The entries in most of the following classes were limited to about half a dozen dishes, mostly less. The class for a dish of Beurré Superfin brought out some finely developed fruits. Mr. F. W. Thomas, Wannock, Polegate, was here awarded first with lovely fruits; G. H. Dean, Esq., was second. Hon. P. C. Glyn (gardener, Mr. J. Friend), Rooksnest, Godstone, was first for Beurré Bosc; and Lord Suffield, of Gunton Park, led for Beurré Diel. R. Leigh, Esq., led for Conference: and O. Smith, Esq, (gardener, Mr. C.

Harris), Hammerwook, East Grinstead, for Comte de Lamy. R. Lelgh, Esq., heat Col. A. Houblon (gardener, Mr. W. Harrison), Hallingbury Place, Bishop's Stortford, for a dish of Doyenné du Comice, each tahling fine samples.

J. W. Dighy, Esq., M.P., Sherhroke Castle, Dorset, led for Durondeau, R. Leigh, Esq., here taking second place. There were eleven handsome entries.

The latter led for Josephine de Malines. Louise Bonne of Jersey was shown to the extent of nineteen dishes, most of them exceedingly fine. Lord Poltlmore here received first award, and A. Pears, Esq. (gardener, Mr. W. Farr), Spring Grove House, Isleworth, succeeded as a good second. F. W. Buxton, Esq., heat R. Lelgh, Esq., for Pear Marie Benoist. Marie Louise was best as shown by Lord Suffolk, there heing twelve dishes. R. Lelgh, Esq., won with beautiful samples of Marguerite Marillat, and F. W. Thomas, Esq., second. The Earl of Ashburnham was first for Pitmaston Duchess. There were seventeen Dishes. G. H. Hadfield, Esq., of Moraston House, Ross, won for Souv. de Congres. Lord Suffield won for Thompson's; Lord Poltimore for Triomphe de Vienne; and H. Padwick, Esq., Manor House, Horsham, for Winter Nelis, of which there were ten dishes.

Roger Leigh, Esq., wound up his list at Class CLXX. by winning first for "any other variety" with beautiful fruits of Mdme. Treyve; Earl Stanhope came second with Magnate, there heing twenty-seven entries staged.

MISCELLANEOUS EXHIBITS.

Messrs. J. Laing & Sons, Forest Hill, S.E, had altogether four groups and a collectlon of fruit in the show. The collection of herbaceous plants we overlooked in the hurry of going to press on the first day of the show. They had many varieties of Mlchaelmas Daisies, Golden Rods, Perennial Sunflowers, Gaillardias, Coreopsis, &c. Very fine also were their pompon and Cactus Dahlias, the latter including fine blooms of Radiance, Charles Woodbridge, Emperor, Countess of Lonsdale, Mrs. Carter Page, Mrs. J. J. Crowe, Progenitor, Loyalty, Loadstone, Mrs. Houlder, and Lovely Eynsfort.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other tobic coming within the sphere of gardening proper.* The articles In question should not exceed 250 words, and should he marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. A. Hemsley for his article on "Begonia Moonlight," p. 70.

QUESTIONS AND ANSWERS.

***. Will our friends who send us news apers be so goop as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Treatment for White Egg Plants.—*H. I.*: Sow the seeds in March in a temperature of 65° or somewhere ahout that. As soon as the plants have made a couple of rough leaves they may he put into thumb pots and shifted on again as the pots hecome filled with roots into larger ones. Those of 5 in. to 6 in should be large enough for the final shift. When the plants are in hloom the atmosphere of the house should he kept dry and airy hy means of top ventilation. To insure the dissemination of the pollen yon mlght fertilise the flowers by means of a camel hair brush. When the fruits hegin to swell you may feed the plants with weak liquid manure. Syringe the plants twice a day to keep them clean. Stove treatment is what they require, though they may he grown In a greenhouse after the fruits are well set and swelling.

Garden Infested with Green Fly.—*D. W. D.*: We should think your garden is very much sheltered hy trees or houses, or hoth, and thls state of matters very much favours the rapid increase of green fly. Shelter from high gales of wind is very heneficial, but the Roses should be planted some distance from houses or trees if you can possihly manage it. In winter you mlght try an expedient that is sometimes adopted with fruit trees. Early on some frosty morning you might syringe the Roses with a strong solution of soft soap and water. Thls will soon hecome a sheet of ice, enclosing the twigs and hranches, when the operation may be repeated. When the thaw comes the ice is said to fall away, bringing with lt the eggs of red spider, green fly, and other plant enemies, and leaving the Roses pretty clean. In the spring time, when the parent green flies of colonies settle upon the plants they can more effectually he dealt with than when they have increased and become thoroughly estahlished. Syrlnge the bushes with the juice of one pound of tobacco steeped for some time in hot water. Add a lump of soft soap to make the mixture adhere to the plants and green fly, and when it is cool thoroughly syringe the Roses with it. The operation will have to be repeated several tlmes perhaps till the flowers are almost expanded, to kill aphides that come from a distance.

Culture of Tuberoses.—*H. I.*: When you receive the roots or tuhers have them potted up singly in 48 or 32-size pots, according to the strength or slze of the tuber. Very few crocks will he sufficient. Use light sandy loam with some well decayed cow manure, to which sufficient sand has heen added to make the whole porous and open. Stand the pots on the hench of a stove or propagating pit, or if you can plunge them in cocoanut fibre where they will get bottom heat so much the hetter. Water carefully till roots are well developed in the pots, after which you may use weak liquid manure twlce a week. Besides keeping them well supplied with moisture at the root the stems and foliage may he syringed like other stove plants to help growth and keep the plants clean. As the plants reach the flowering stage the foliage may he kept drier and the atmosphere cooler. As they come into bloom they may be transferred to the conservatory or greenhouse.

Book on Practical Forestry. — *Wm. Power & Co.*: The most recent hook on the subject as far as we know is "Practical Forestry," by A. D. Webster, and puhlished by Messrs. Rider & Co, 14, Bartholomew Close, London, E.C. The second edition is priced at 5s. We cannot say whether it gives "prohable expense and work capable of being done per day," hut it gives details of various things in connection with practical forestry, and is otherwise, we believe, a useful and good hook for the money.

Removal of Trees and Fruit Bushes.—*J. L. P.*: If the trees and bushes had been nursery stock, liahle to he lifted and sold at any time, you would have heen perfectly within your rlghts to do so. In the case of permanently planted trees, that is, for the production of fruit, it alters the reading of the law. Wlthout an agreement to the contrary with your landlord, we helieve that the trees would become his on the expiry of a certain time, or in case you should leave the place. We think it a pity you did not make an agreement with hlm about the trees and hushes hefore you planted them, as they should by this time be in good hearing, and therefore valuahle property. Considering that you had only an annual lease, as indicated hy your simply paying the rental, it would have been worth your while to have come to some agreement or arrangement with the proprietor hefore planting permanent and valuable trees that were in the ordinary course of things bound to hecome hls at any time. If the trees are numerous it might be worth your while to consult a solicitor before attempting to remove them. We fear you cannot claim compensation in the ahsence of an agreement for permission in the first place to plant the trees.

Names of Fruit.—*T. F.*: Plums, 1 and 2, decayed; 3, Kirke's; Apples, 4, not known; 5, Ecklinville Seedling; 6, Lord Derby; 7, Landsberger Reinette; 8, Lord Grosvenor; Pear, 9, William's Bon Chrétien.

Names of Plants.—*J. R.*: 1, Aster Amellus; 2, Aster Novi-Belgii; 3, Aster Novi-Belgii densus; 4, Aster Novi-Belgii laevigatus; 5, Solidago canadensis; 6, Eryngium giganteum; 7, Chrysanthemum uliginosum.—*A.C.*: 1, Pyrus Aria; 2, Pyrus plnnatifida; 3, Symphoricarpus racemosus; 4, Pyrus Aucuparia fructu luteo.—*A. M.*: 1, Cassia occidentalis; 2, Cuphea ignea; 3, Anemone japonica elegans; 4, Gasteria verrucosa.—*C. B. G.*: 1, Scrophularia Scorodonia; 2, Menyanthes trifoliata; 3, Galium verum; 4, Chrysanthemum maximum (an escape or planted).—*R. M.*: 1, Carex brunnea variegata; 2, Fittonia argyroneura; 3, Eulalia japonica variegata, 4, Pellionia daveauana; 5, Pistia Stratiotes.—*D. C.*: 1, Echeveria secunda glauca; 2, Kleinia repens; 3, Pachyphyton bracteosum, 4, Sedum rupestre; 5, Sempervivum canariense; 6, Sempervivum tortuosum variegatum; 7, Sedum sarmentaceum carneum.—*A. J. B.*: 1, Gaultheria Shallon; 2, Pernettya mucronata var.

Communications Received.—D. M.—C. B. G.—J. C., F., Chard.—C. Etherington, next week.—A. G.—M. H.—T. B.—R. and C.—W. J. C.—W. R.—M. C.—J. W.—P. N.—D. C.—J. Peed & Son.

TRADE CATALOGUES RECEIVED.

GEORGE BUNYARD & Co., Royal Nurseries, Maidstone.—Catalogue of Fruit Trees; also George Bunyard & Co.'s Noveltles.

THEODORE TURNER, Begonia Nurseries, Great Sutton, Chester.—Catalogue of Bulbs, Roses, &c.

WM. WATSON & SONS, Clontarf Nurseries, Dublin.—Carnations.

THOMAS S. WARE, LTD., Hale Farm Nurseries, Feltham, Middlesex.—Ware's Catalogue of Bulbs and Plants for Autumn Planting—Hyacinths, Tulips Narcissus, &c.

ED. WEBB & SONS, Wordsley, Stourbridge and London.—Webbs' Catalogue of Selected Seed Corn.

JOSEPH MOCK, Trier a. d. Mosel, Germany.—Prlce List of Trees, Roses, &c.

PINEHURST NURSERIES (Otto Katzenstein, Manager), Pinehurst, Moore County, North Carolina.—Wholesale Trade List of North Carolina Woody and Herbaceous Plants, &c.; also How to Make Tree Seeds Grow.

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SHOW FIXTURES FOR 1900.

OCTOBER.

9.—National Chrysanthemum Society (3 days).

NOVEMBER.

6.—National Chrysanthemum Society (3 days).

7.—Sevenoaks and West Kent Chrysanthemum Society (2 days).

DECEMBER.

4.—National Chrysanthemum Society (3 days).

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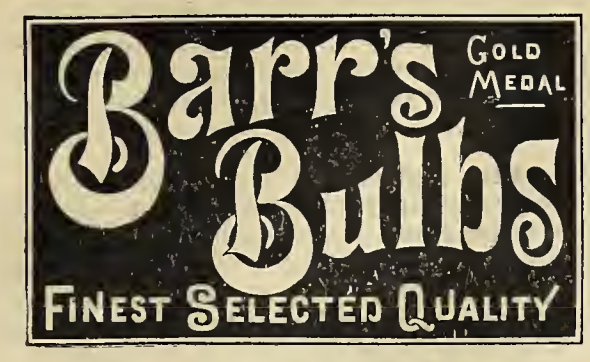

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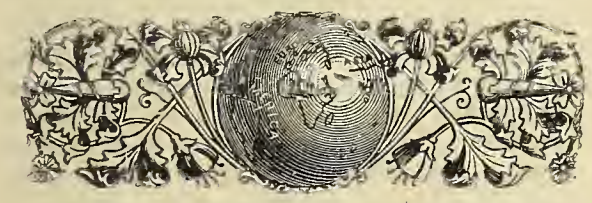

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, OCTOBER 13th, 1900.

"THE ENGLISH FLOWER GARDEN AND HOME GROUNDS."*—The eighth edition of this book is a handsome volume that runs to 892 pages, inclusive of a good index. The printing is clear and the smooth paper lacks that glossiness which we occasionally see, but dislike on account of the flickering play of light that is offensive to the eye every time a leaf is turned, or even when lying unevenly so that light and shadow are thrown in different directions. The title of "English Flower Garden" is somewhat misleading, although any erroneous impression that may arise on this score is corrected in the subtitle. Most of the examples of flower gardens given are English, but Welsh, Scotch, and Irish gardens are represented. The author, as usual, is very severe on the "stony grandeur" of certain gardens, and comes down very heavily upon the Crystal Palace, which he describes as a "poor ambition to outdo another ugly extravagance." Happily that kind of gardening, or of laying out gardens, receives but scant attention at the hands of modern landscape gardeners, and walls are only built where they become a necessity. The idea of many styles of gardening is scouted as a delusion, as well as the makers of them, who may go to Mexico or China for their patterns. One style is the "strait-laced, mechanical, with much wall and stone, with water-squirts, plaster-work, and absurd sculpture; the other natural." Tersely, the two are the geometrical and the natural styles of gardening. The latter is peculiarly British, that is, finds its best expression in this country, though there are several very elaborate and well known gardens that follow more or less faithfully some exotic copy. To the introduction of some of our foreign kings we, no doubt, owe the greater portion of the formal gardens amongst us. We like to see variety in any one garden, as well as differently formed gardens at different places, so as to conform to the natural formation of the ground and its environments. The natural style of gardening gives full play to the cultured judgment of observant landscape gardeners; and all they have to do is to visit and critically examine the proposed site for a new garden, and merely adorn Nature on her own lines of formation. This cannot be done if the operator arrives upon the ground with a pre-arranged plan.

In the second chapter of the book the author says that the one aim of his book is to uproot the idea that "a flower garden must always be of set pattern placed on one side of the house." While speaking of formal gardens and elaborate stonework, the lines of Bacon inevitably come to mind, "that when Ages grow to Civility and Elegancie, Men come to Build Stately sooner than to Garden Finely; As if Gardening were the Greater Perfection." The pictures of ancient Egypt now appear to us as highly conventional compared with the pictures of the modern artist; and in like manner the stone encumbered and stone built gardens appear out of place and keeping with modern taste and education; but in either case we think of them as a case of evolution of the human mind. Men of culture now learn to copy Nature, and to follow out the completion of pictures already in the rough outline. Only by so doing can we have natural gardens of native birth, and in keeping with their surroundings. The author describes the lawn as "the heart of the true English garden," and no doubt that is true where the country is flat, and a truely perennial carpet of verdure is natural to it, as may be said of almost any part of the British Isles, as compared with South European gardens where the verdure dies and has to be renewed annually from seed. There are parts of this country, however, and homesteads where a stretch of lawn in the vicinity of the house would be impossible. Then we have to fall back upon sloped or terraced gardens, in accordance with the steepness of the declivity; but such gardens are perfectly in keeping with the natural order of things, and may be clothed with appropriate vegetation that need not offend either the eye or the taste. An example of this is quoted in the case of Drummond Castle, Perthshire, where the house, which stands on a rock, is surrounded on one side by Ferns, Ivy and wild flowers; while the ground on the south side of the house drops down steeply, and the terraces have to be supported by retaining walls in order to make gardening possible. A splendid opportunity is here embraced of utilising climbers in considerable variety; and the author who compares the terraces with those of Italian gardens, acknowledges their superiority in the splendid growth of vegetation, and the beauty and brightness of the flowers, even at the end of summer. The shelter of the terrace walls, the mansion behind, the southern slope, the moisture and the coolness of this part of the island all conduce to the floriferousness of the plants and the longevity of the blossoms, in a manner that is totally foreign to gardens on the shores of the Mediterranean, except in the spring time, before the moisture has had time to dry up and the power of the sun become strong enough to hasten the maturity and decay of the flowers. Tropaeolum speciosum has come to be looked upon as essentially a Scotch flower, and here it thrives to perfection, as it does, perhaps, in hundreds of gardens in the same and other counties, from the palace of the peer to the hut of the shepherd far up the lonely valleys, lone and sequestred. Purple Clematis, scented-leaved Pelargoniums, Tropaeolum majus, and broad borders of Myosotis palustris are other plants thoroughly at home on these terraces. In a description of Penshurst Place, Kent, occurs a rather fanciful and poetical expression of a common occurrence that might be quoted here, namely, "the way too often now is to let the turf run hard and straight into the walls, and the winds of heaven strike the house untempered by the breath of a violet." Needless to say, however, the massing system of summer bedding, carpet bedding, designs that repeat others, and beds that ape one

*THE ENGLISH FLOWER GARDEN AND HOME GROUNDS.—Design and Arrangement shown by existing examples of Gardens in Great Britain and Ireland, followed by a description of the Plants, Shrubs and Trees for the Open-air Garden and their Culture, by W. Robinson, Author of "The Wild Garden," Illustrated with many Engravings on Wood. Eighth Edition. Price 15s. London, John Murray, Albemarle Street, 1900.

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another are all ruthlessly condemned in this work.

A remarkable case of extremes occurred in one and the same garden, and serves to illustrate once more how different are the tastes of men, and how a garden may be made or spoiled by a change of ownership. The better fate prevailed in this instance, however. At one time the great terrace garden of Shrubland Park was laid out in intricate scrolls, and beds filled with the stereotyped class of plants, all kept strictly within the confined space allotted them, at vast expense in time and labour. Not a twig of any creeper was allowed to conceal the primitive bareness of the stonework; and every creeping spray of Ivy was at once removed. Stones of different colours were frequently employed to give the desired effect. The whole garden was practically devoid of flowers. In the hands of the new owner, the Hon. James Saumarez, the geometrical designs and their bizarre occupants at once disappeared, Tea and other Roses, Lavender, border Carnations, Monthly Roses, and other subjects whose flowers could be cut, took complete possession of the place; and coloured carpets practically gave place to masses of blossom which could be cut or otherwise utilised in accordance with popular modern usage.

Besides the chapter on ordinary flower gardens, beds and borders, others are devoted to special features of gardening, such as hardy bulbous and tuberous flowers, annuals and biennials, flowering trees and shrubs, climbers, alpine, rock and wall-gardens, the wild garden, spring gardens, Carnations, Lilies, Iris, Rose garden, summer bedding, plants in tubs, &c. Water gardens, bog gardens, Fern gardens, fragrance, clipping evergreen, and other trees, lawns and playgrounds, &c., are all taken in hand and dealt with in the style and method peculiar to the author. The chapter on fragrance should be read by all who possess or have the keeping of a garden, so that they may follow out its precepts in planting more and more of the things which to the cheerful colour of their flowers add the charm and the mystery of fragrance, which contribute so much to the enjoyment of mostly all classes of the community. The Carnation is described as yielding, perhaps, the most grateful fragrance of all flowers; but this might have been modified by saying some Carnations, and the same might be said of Roses. Tea Roses, among the abortions of this century, are said to be a real gain, the loveliest flowers ever raised by man. To those who have not yet read the book, the above notes taken at random may give some conception of its many and varied ideas of British gardening.

Golden Berried Mountain Ash.—A tree of the yellow berried Pyrus Aucuparia fructu luteo has been conspicuous at Murrayfield, Midlothian, since the berries began to colour about the middle of August. It is surprising that this distinct and handsomely berried tree is not more common in the country. The variety is really very old.

Woolton Gardeners' Mutual Improvement Society.—A meeting of the above was held on the 4th inst. at the Mechanics' Institute, the Rev. J. C. Hirst presiding over a good attendance of members and friends. Mr. R. G. Waterman gave an outline of his recent visit to Paris, with some account of its chief buildings, the exhibition, and the prominent features of horticulture, with some account of the competitive exhibitions of fruit and flowers. The Rev. T. F. Nicholas gave some interesting particulars of the history and habits of the inhabitants of the "Gay City." A cordial vote of thanks was tendered to the lecturer and to the Rev. J. C. Hirst for presiding.

Fuchsias are superb as plants for conservatory rafters and pillars, or as basket and standard pot plants. They lose much of the effectiveness when formally trained as bush specimens.

Weather in London.—Some of the finest days of all the year have passed in the seven we have just lived through. The weather has been remarkably warm, bright and inspiriting and looks like continuing so. For many reasons we all are thankful for this.

Fire at Welbeck Abbey.—The Oxford wing of Welbeck Abbey, Nottinghamshire, the seat of the Duke of Portland, was the scene of a destructive fire in the early morning of the 5th inst. Twenty rooms were gutted before the fire could be subdued, although the pictures and priceless works of art were saved by the diligence and prompt action of the tenants of the Duke, living in the immediate vicinity of the Abbey. The three children of the Duke and Duchess were sleeping in the burning portion of the Abbey, but their safety was effected by the housekeeper's presence of mind and prompt action. Enormous sums of money were spent on the Abbey above and below ground by the fifth Duke, who died in 1879. The gardens are also very elaborately laid out, and a good deal was spent upon them quite recently.

Reading and District Gardeners' Mutual Improvement Association.—The programme of meetings to be held during the next three months is as follows:—"Annuals," on October 8th, by Mr. G. Stanton, Park Place, Henley-on-Thames; "Fruit Trees in Pots," October 22nd, by Mr. J. Hudson, V.M.H., Gunnersbury House; November 5th, "Ferns, Their Culture and Classification," by Mr. C. P. Cretcbley, The Honeys, Twyford; November 19th, "Wall Fruit Trees," by Mr. T. Turton, The Castle Gardens, Sherborne. On December 3rd, a number of subjects are set for impromptu discussion, and this is a capital idea, worthy to be copied by other societies. Mr. J. Gibson, the renowned vegetable grower, of Danesfield, Marlow, lectures on "Vegetable Culture," December 17th. The meetings are held at the Club Room, Old Abbey Restaurant, King's Road, Reading, on Monday evenings at 7.30. The meetings of November 5th (Guy Fawkes Day) and December 3rd will be held at the Abbey Cafe. Members are invited to bring specimen plants, &c., to the meetings. The hon. secretary is Mr. H. G. Cox, Fernlea, Junction Road, Reading.

Information for Emigrants. — The Emigrants' Information Office, 31, Broadway, Westminster, S.W., has issued the October circulars from which we cull a few particulars for the information of those who may be intending to emigrate. The season for emigration to Canada is now over, except for female servants, who are always in large demand, and for persons with capital. In New South Wales, in the country districts, there is plenty of farm labour of a kind, but there is a considerable demand for skilled hands. Farmers, however, do not, as a rule, offer permanent employment, but only during the busy seasons. Domestic servants continue to be in steady demand. In Victoria, general female servants, able to do cooking, washing, and housework, are in good demand throughout the colony; and cooks, housemaids, nurses, &c., in the towns. There are excellent openings for farmers, dairy farmers, and fruit growers, if they have a little capital and some experience of the country. In Queensland the demand for farm labourers and domestic servants continues, and the colony is now granting considerable assistance in the way of free, assisted, and nominated passages to this class of labour. In agricultural parts of Western Australia, as at Albany, Toodyay, Geraldton, and Dongarra, the supply of all kinds of labour, except female servants, is equal to or in excess of the demand; but in the York and Beverley districts farm and unskilled labour has been scarce. Free farms are given to settlers. In different parts of New Zealand the various trades and industries have all been very busy, and openings for labour plentiful. Persons are warned against going to South Africa in search of work so long as the war lasts. They will not be allowed to proceed up country. There are large numbers of persons there at the present time, who are out of employment.

Manure.—Fresh duck droppings on an average contain 1 per cent. of nitrogen, and 1½ per cent. phosphoric acid. This is, therefore, a very valuable manure.

Rosa mollis.—This beautiful native Rose has been a perfect picture for many weeks past in different parts of Scotland, but probably nowhere finer than in the Highlands. It is closely allied to R. pomifera, a single Rose often grown in gardens for the sake of its large and showy fruits. R. mollis has slightly smaller top-shaped or nearly globular fruits of a rich orange-scarlet, which ripen much earlier than those of the Dog Rose, besides being much larger and more effective. Although the fruits are smaller than those of R. rugosa, concerning which so much is said and written, they are more abundantly produced and sufficiently showy to deserve planting in every shrubbery.

Rosa sinica Anemone.—Although originally introduced from China in 1759, this Rose has evidently been greatly neglected in recent years at least. The flowers of the typical form of the plant are white, but those of the new variety, R. s. Anemone, are of a rich rose colour, and of splendid proportions. Some flowers of it shown at the Drill Hall some time ago by Mr. Joseph Fitt, gardener to F. W. Campion, Esq., Trumpets Hill, Reigate, were of the enormous dimensions of 5 in. across, and of rich, warm rose colour. We should say it is one of, if not the largest single Rose in cultivation, at least when grown as Mr. Fitt had it. The leaves consist of three leaflets only, but they are leathery, shining and dark green, reminding us more of the leaves of the Portugal Laurel than a Rose. The plant is rather rambling in habit, but for that reason is well adapted for wall culture or for training to pillars. In good soil and with a little attention this new variety should soon become a general favourite in every garden where single Roses are appreciated and cultivated.

A Moth-Catching Plant.—The mysterious and uncanny plant on this occasion is not an Orchid, Pitcher Plant, nor the fabulous man-catching tree, but our old friend, Araujia albens, better known as Physianthus albens, and frequently grown in greenhouses and conservatories for the sake of its beautiful and useful white flowers. Col. Halford Thompson, of Eastcliff, Teignmouth, sends us a specimen which has caught and held a moth a complete prisoner. The moth is the Silver Y Moth (Plusia Gamma), which is the most active agent in fertilising the Violas and Pansies in gardens. The Araujia belongs to the order Asclepiadeae, the structure of whose flowers is very peculiar. The two pollinia have each a reddish amber tail or caudicle attached to a black gland, or similar process to that in an Odontoglossum, but of a different structure. There is a deep slit along one side of it, and when the Silver Y Moth was probing the flower for nectar this split gland was so placed that the proboscis or tongue of the moth had to pass through it to get to the bottom of the flower. The disturbance of this gland in some way caused it to contract so that the tongue of the moth was held as in a vice. The only way it could have got liberty was to pull out the gland with its two attached pollinia, or break off and leave the tip of its tongue or prohoscis in the flower. The moth was able to do neither. It lived for two or more days after it reached us. Examination showed that the tongue of the moth had gone right through the slit of the gland, at the lower side of which the tip of the tongue was coiled up in a spiral knot. In its final death struggles the moth coiled the lower end of its tongue round a lobe of the corolla, either for the sake of leverage or to break the tongue, but all to no purpose. Its head was also rubbed quite bald, and other parts of the body were partly damaged, though the wings remained in fairly good order, with their armorial bearings or crest, a silver coloured Y, or the Greek letter gamma, from which the moth takes its name. In its native country the Physianthus evidently requires a stronger insect than the Silver Y Moth to remove the pollinia and carry them to some other flower so as to effect fertilisation, for that is evidently the purpose intended by the strange, and in this case mischievous or fatal contrivance. Col. Halford Thompson tells us that bees do not often get caught. Their tongue is much shorter than that of the Silver Y Moth, a distinct advantage in this case.

Mr. Andrew Stephen, for the last twelve months gardener to Col. Auchterlonie, The Guind, Arbroath, has been appointed gardener to Mrs. Gray. Mr. Stephen enters on his duties on the 28th November next.

Mr. Alexander Duncan, for the past three years gardener to Mrs. Gray, of Carse Gray, Forfar, has been appointed head gardener to Mrs. Grimond, Carbet Castle, Broughty Ferry. He enters on his new duties on the 12th November next.

Famine in Greece.—Further advice from Southern Greece and the Ionian Islands confirm the reports recently received in this country by the Greek Consul-General and others to the effect that the Currant crop is almost entirely destroyed by the blight Peronospora. Instead of the yield being 160,000 tons, it will not exceed 38,000 tons. Against this, consumers in the United Kingdom require for use on Christmas Day alone 17,500 tons, whilst between now and Yuletide, we want some 35,000 tons in addition. Since the arrival of the first steamer, the prices of Currants have gone up very high. The Vostizza grades are fetching from 75s. to 80s. and even 110s. per cwt. Ordinarily, they fetch from 22s. to 35s. per cwt. The outlook is gloomy, as there is reason to fear that Currants will be hard to procure, even at famine prices. The cultivators and labourers in Greece are ruined, and subscriptions are already being asked for, and some well known firms have given considerable sums.

Plants Certificated by the Royal Horticultural Society.—The list of fruits, vegetables, plants, flowers, Ferns, and Orchids, which have received Certificates from the Royal Horticultural Society during the period extending from 1859 to 1899, has been brought up to the latter date and published. The list, as might have been expected, is a lengthy one, running to 210 pages. For the most part it serves as a mere record of what has been done, and in this it no doubt serves its purpose. Every exhibitor of new plants should make a point of securing a copy of the list, so as to prevent the staging of old plants for certificates, which may already have received such an award. By so doing the exhibitor would save himself some disappointment and the committee a great deal of wasted time; for subjects coming up for certificate a second time are of fairly frequent occurrence. In looking over the list one wonders whether all the plants that have received the coveted award from the R.H.S. are still in existence, even in the case of long-lived plants. In the case of florists' flowers one can always take it for granted that many of them get superseded by others of greater merit as the years roll by. Others again may have been lost through neglect or accident. A few may still be cherished in private establishments, and cherished by those who appreciate them. The fact remains, however, that many of the plants and flowers never become popular in the ordinary acceptance of the term, but become gradually forgotten. This, after all, is no doubt the fate of many plants, because there is such a thing as fashion in the plant world as in everything else. Some there are, no doubt, whose merits are not recognised at first sight; but if they fail to get the desired award at first, someone is sure to bring them up again when their merits have been proved by longer experience and cultural treatment. Some of the longer lists of certificated plants include Chrysanthemums, Aspidiums, Aspleniums, Begonias, Carnations, Hippeastrums, Gladioli, Paeonies, Pelargoniums, Rhododendrons, Roses, Scolopendrium, Cattleyas, Cypripediums, Dendrobiums, Laelias, Laelio-cattleyas, Odontoglossums, Masdevallias, &c. The information about Orchids is systematised in five columns, the parentage of hybrids being given, exhibitors' names, dates, class of award, &c.

ARUM LILY PLANTING.

We very often see Arum Lilies knocked out of their pots after they have flowered in the spring and then planted out into a spare piece of ground, which I know is the practice in many places. I find that if they are left in their pots and kept rather dry, and then shaken out and potted about the first week in June into a compost of two parts fibrous loam, one of decayed manure, a little soot and bonemeal, and some sharp sand, if watered with care, they start into growth and flower much earlier and more profusely than those that were planted out, because they get good soil and no check in growth like the others that have to be lifted, and, which is often the case, rammed into pots which are far too small. They must receive a check, and we know it takes some time to recover. I have tried both ways, and I see it now by my neighbour which is the best way. When they are well advanced in growth give them an occasional watering with manure and soot water. I am sorry to see that the Godfrey Calla is not more grown in this district. Surely it is an improvement for its gracefulness in foliage and purity in the flower? It does not throw up suckers with me very freely, but it can be purchased from Mr. Godfrey, Exmouth, Devon.—*W. H. B.*

GATHERING AND STORING FRUIT.

Once more the season is at hand when the gardener's time and attention are chiefly occupied in gathering and housing his different varieties of fruits. I need hardly mention the enormous quantities of fruit this season, and with some it is indeed "The harvest is great but the labourers are few." The gathering of the different kinds needs a little forethought, especially so on the part of an amateur who might think he could take them as they come. Whether Apples or Pears, one variety may look quite ready to come off, when such is not the case. You might ask how can I tell? The plan to test a fruit whether ready or not, as I was taught as a lad in my earlier days, was to lift the fruit with the hand upwards. If ready it will leave the spur quite easily and can be taken to its place in the fruit room. A word as to the laying of the fruit on the rack. I find a little soft hay is best laid down before placing the fruit on. If room can be spared a single layer is best for the overlooking which is needed at times to remove those gone, a bit wrong as we say. If the fruit room is not at all capable of being well ventilated, the fruit is best laid thinly, and no hay underneath it, as a close atmosphere causes dampness to settle on the fruit.—*S. J., Frithesden.*

"ROSE CUTTINGS."

We can never have too many Roses, and the present is the best time to increase the stock of specially good varieties. It is the minority not the majority of gardeners who have the power of ordering a new stock from a nursery whenever they wish, so must try the next best plan by putting in cuttings themselves. The operation of putting in a few dozen cuttings of our best sorts is so simple, and the result is so certain, that it is worth all the trouble. My method is to make a hole in a sheltered corner 20 in. deep and 2½ ft. square. I put some old turf broken into pieces, 2 in. sq., in the bottom, then fill up with a mixture of two parts sand, two parts loam, and one part leaf-mould put through a ¼ in. riddle. I make it pretty firm, and finish with a ½ in. of sand on the top. Take good strong shoots off with heels, and if possible from 1 ft. to 16 in. long, and dibble them in with a long stick a little thicker than the cuttings, 4 in. apart, leaving only three or four buds above the soil. Give them a soaking of water, and during the time of severe frost cover over with a few bushy spruce branches. At least 80 per cent. will root. It is better not to disturb them until the following autumn, when they should be shifted with care.—*John C. Dick, The Gardens, Champfleurie, Linlithgow.*

BEGONIA GLOIRE DE SCEAUX.

A word in reference to that fine winter-flowering Begonia Gloire de Sceaux, as I think it ought to have a more prominent place in our gardens, and its culture more spoken of in our journals. I find it a great boon for winter decorations in the conservatory after "Mums" have left, until the bulb family comes in, besides its usefulness on banquet tables, as it is too bold and clumpy for small tables. Its culture is simple. After flowering we put them into a cool house and withhold water. They will soon go to rest for a period; and when growth recommences we shake them out, and any that are too large are divided, and all potted in clean, well drained pots according to their size, in a compost of fibrous loam, two parts; leaf soil, one part: mortar rubble, half part; with sharp sand to keep the whole in a porous condition. I place them in a temperature of about 60°, never allowing it above 70°, with slight shading during strong sunshine. A damping over on bright days benefits them greatly, and a moist atmosphere. They can be easily struck from cuttings taken when about 2 in. long, inserted in sandy soil, and committed to the propagating case. A slight aid in artificial manures when the pots are full of roots about concludes their requirements.—*James Reid, Viceregal Gardens, Phoenix Park, Dublin.*

Kitchen Garden Calendar.

Broccoli.—As this is one of our most important spring vegetables, it is essential that every care should be taken to ensure the plants passing safely through the winter, for during severe weather unless some precaution be taken to prevent the stems from being seriously injured, many of the plants will fail to produce any hearts in spring. On cold, stiff land, and in low-lying situations, Broccoli suffer far more than on high ground fully exposed. This is easily accounted for, seeing that on the latter growth is matured as it is made, while in the former, on account of excess of moisture in the atmosphere, this is not so. Frost, too, is usually more severe in low grounds than on more elevated places. In gardens, the soil is in far better heart than in fields where large breadths of these are often grown for market, and when the autumn rains descend growth becomes stimulated. It is, therefore, desirable to give it a check, and this may be done in the following manner:—If the rows run from east to west, take out a trench on the north side of the first row, then with the spade from the south side carefully lift each plant and lean it to the north. Having completed the first row, take out another trench and place the soil over the stems of those that have been laid down. The second row should be treated in like manner, and so on until the whole of the plot has been completed. There are two advantages to be gained by layering Broccoli in this manner; the first checks over-luxuriant growth, while the other leaves far less stem to be exposed to the weather, and the foliage, instead of falling away from the stems when the frost comes, lays flat and protects the hearts. We have often observed after a very severe winter, many of the Broccoli destroyed, whereas by adopting this simple plan they might have been saved. Early Broccoli and late Cauliflower are now turning in. I can never remember the latter being so cheap, plenty being offered in the markets at sixpence per dozen. It is quite evident they cannot be grown for the money, to say nothing of labour in marketing. This, however, has nothing to do with private growers, whose aim should be to supply their employer's table with the best and have a continual succession through the winter and spring. Any that are now turning in should have the leaves brought together and tied round with a bit of raffia; this is far better than binding them over the hearts as in this latter they are liable to be blown off by rough winds, and so leave the hearts exposed just at the time they ought to be covered. Any that are ready for use may be pulled up and stored away in a cool place. They will keep fresh for a few days if not required for immediate use.

Storing Roots will now require attention. Carrots and Beetroot ought to be the first to receive attention. Choose a fine day for lifting, then the soil will fall off and leave the roots clean. They should be taken and stocked at once in a cool shed, where they can be protected from frost. The cooler such roots are kept the better, as they do not then start into growth. If no shed or cellar be available, they may be put in clumps the same as Potatos. In this latter case, it will be necessary to cover with litter in case of severe frost. Enough, too, should be kept in reserve for present use, as it is not advisable to open such clamps and so expose the roots to the air, for by so doing many are liable to get spoiled.

Salsify and Scorzonera may be stored in like manner, reserving none but the best-formed, well-developed roots. In the case of Turnips, Parsnips and Celeriac, these are best left in the ground and lifted as they are required. The latter, however, must be protected in case of severe frost. This is best done by taking up every other row for present use and drawing the soil over those remaining from between the rows so as to form ridges, and afterwards cover the same with litter to exclude the frost.—*F. W. J.*

HINTS FOR AMATEURS.

Seasonable Rose Notes.—Roses in pots for the cool greenhouse should now be repotted, or at least top dressed. The roots in the first place should be examined, and if they are healthy and abundant the plants may be repotted. Thorough good drainage should be accorded, for with the waterings which the Roses require during the period of active growth it is necessary to provide efficient drainage. Top dressing alone will be advisable where the pots are but meagrely filled with roots. Moderately firm potting (using a rammer, of course) is practised, and besides clean pots of a suitable size and ample drainage, the next thing is to supply a good compost. Having turned the plant carefully out of the pot remove what soil is loose from the top and sides, even to giving the ball a good shaking. A ball in the proper condition ought to be firm enough to hold together, for it is only the unpermeated outer soil that requires to be removed. A suitable compost for pot Roses consists of two parts good yellow or brown loam with a fair amount of fibre in it, one part leaf soil, and one part of spent Mushroom bed manure, to which may be added a 5-in. potful of bone meal to every bushel of soil. According to the quality (be it light or heavy) of the loam will the need for much or little of sand be regulated. When the plants have been potted into their new pots they may be put on the greenhouse stages, and each morning, and perhaps afternoon as well, they should be syringed until such time as the plants are deemed to have become re-established. Young stock, which may be had from the nurseryman in 5-in. pots, may be treated as advised above, and if grown on they will furnish a fair supply of blooms early in the new year. Old Roses in pots which have been flowering from the early part of the spring onward through the summer should be rested by being placed in a cold frame with dry leaves as packing around the pots. If these are left there until February and are then taken to the potting shed to be pruned and either potted or top dressed, thereafter to be gently forced, they will yield Roses for Easter. Cuttings of hardy Roses should be put in now. Bush or standard Roses, or, indeed, Roses of any sort which are growing in the open air, should be pruned back or "headed back," as we might say, so as to save the plants from undue swaying or breaking by the winds and snows of winter. This is rather important. Real good stout wood which is likely to provide a quantity of flowers should not be too heartily pruned, nor yet should too much be left. Rose shoots are generally pliant enough to bend or sway without break or bruise, but the leverage and the swaying loosens the "collar" of the plants, and also slackens the roots. It may be profitable in so far that it tends to produce fibrous roots, but no one likes to have their Roses loosened and root pruned in that way. Roses on walls with shoots left unpruned are very frequently pulled or borne down from the wall by a sudden heavy snowfall or even rain with wind.

Open-air Tomatos.—Throughout the country there are acres of plants scattered about in rows and odd corners which badly require ten days' powerful sunshine to ripen off their existing crops. Anything which will keep the plants dry at the roots, or comparatively dry, will tend also to hasten the ripening of the fruits. Probably some overhead shelter might be arranged for the benefit of some of the plants. Rain water, if water is really required, should be used in preference to "hard" water. Stimulants should not be used now. Those fruits which are too small to swell-up and ripen may be successfully pickled. All lateral growths should be closely pinched off and where leaves overlie the fruits these should be drawn aside or pruned off.

Late Vegetable Marrows.—It often happens that many very fine fruits fail after this time of the year from inclement weather. A goodly percentage of these might be finished off for use by using a rough framework of protection. Any form of protection, consistent with exposure during the warm part of the day, will be helpful. Those who can afford frames with sashes, should use these.

Deutzias.—Large specimen plants are far more frequently found about gardens than shapely pieces of smaller size in pots of about 5 in. to 7 in. in diameter. But Deutzias are always serviceable and large plants can be kept in first-rate condition with little trouble. I have known plants to have flowered in the same 18-in. pots for a period of seven years without having had a change. During the growing season such plants can absorb a large amount of nourishment given in the form of liquid manure.

Natural liquid manure though acting more slowly at the same time produces firmer wood growth. Manures which act too fast if they are assimilated must result in an abundance of growth which generally is lax. Deutzias are successfully forced, and old stools which have been subjected to the process before, are perhaps more responsive than younger and even more vigorous plants. Frequently specimen plants are far too thick. The wood which forms year after year should be thinned out, and this is just one of the cultural items not always put into practice. At the present time when the plants are being brought indoors from their open-air quarters they must be subjected to as little coddling or growth exciting conditions as possible. If there is a likelihood of the plants having received or being open to a check, either from having roots severed or from other cause, take the precautions to attend well to them in the watering and keep them in a cool and shaded position. I believe that many cases of bud-dropping or other peculiar ailments of Deutzias could be traced to heedlessness at one or other of these "shifting" occasions. The Deutzia likes a moist, genial atmosphere to expand its flowers in, but anything like hard forcing will have no success. Young plants which have been growing freely all summer may now be in need of potting. Knock a plant or two out of their pots and examine the state of the roots, and pot accordingly. A liberal shift should be given if potting is decided on. Perfect drainage is required; a good rich compost and firm potting are other necessaries.

The Mushroom-house.—Some beds are already spawned; many others are yet to prepare. The Mushroom-house should now, at latest, be cleaned and got into order. About ten weeks elapse between the times of spawning a bed and gathering the earliest Mushrooms so that those who are anxious to keep up a supply will have to calculate according to their circumstances. It takes some time to collect a sufficient quantity of the proper material. The finer portion of the stable manure should be shaken out from the bin and after heating, a further shaking, selection will have to take place until the required quantity of nice, short, mediumly moist dung has been worked up.

Kniphofias.—At this season when so many of these richly glorious flowers are in gardens and various exhibitions a note on their culture may be welcome. They are not deemed tender subjects by any means, yet it is well, especially on the heavier qualities of soil, to give them the slight protection at least of rough mould around the crowns during winter. Many of the suckers will be permanently planted in the next few weeks and for at least the first year it will be well to do all in your power to get the plants well established. Though thriving well in a variety of situations, in rockeries, in beds, borders or in clumps in the wild garden, Kniphofias or Tritomas, as they are otherwise own, seem to appreciate a well-drained rather sou oam. If the soil is heavy the usual expedients s uld be put in force to remedy it, so that the most suitable condition may be prepared. Suckers from the older plants root freely if taken now and inserted in pure sand or sandy soil. When they have become established for a year or two, a top dressing should be given to them.

Hyacinths and other Bulbs that have been potted for some time should be looked to every four days from now, to observe the progress of growth. When the shoots have pushed up through the soil the protective material, be it ashes or fibre, may then be removed. The plants should be taken to a shaded greenhouse (or they may be placed beneath the open stages for a day or two) till they have become acquainted with the exposed conditions. Very little water will be required until the flower spikes begin to show it. It is now that feeding is generally practised and is beneficial. Nearly all spring bulbs undergo the same treatment after being removed from their early quarters. To grow Hyacinths in glasses good bulbs should be sought out and placed upon the mouths of the glasses. The latter are filled with water, which, however, must not touch the base of the bulb, else the bulb will decay. The glasses must be kept in a cool, dark room until roots have commenced to grow. After a number of healthy roots have started it will be best to enure the bulbs to daylight. A shelf by the window suits the Hyacinths during growth. The foliage should be kept clean, and if gas can be avoided in the room, the plants will be healthier from its absence. Coiled wire supports for the flower spikes should be got hold of in good time. Neat stakes for the purpose can be bought at bulb stores or at a nurseryman's shop.

Autumn-Sown Sweet Peas.—Sweet Peas are decidedly popular, and it may be that some of those who have not tried the autumn sowing of Sweet Peas previously may have wished to do so as a start this year. They are hardy nearly everywhere, and are able to struggle along until the balmier days of spring when their retarded energies force them to strong and robust development. Sowings which were made a month ago may soon be staked, not because they so much require support as the shelter which close stakes gives to them. Draw up the earth to the necks of the plants along each side, before staking. Close, thick-set stakes, such as Spruce would afford, should not be employed, for though protective so far as frost and winds go, they would also exclude the light and smother the Sweet Peas.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Propagating Raspberries.—*L. F. W.*: The Raspberry may be propagated either from seeds, cuttings or suckers. The latter is nearly always adopted. Only when new varieties are desired are seeds employed. Autumn-sown seeds will germinate in the spring, and in two years will have produced fruit-yielding plants. But from the suckers, which come up in the form of strong shoots around the stools of the old plants, specimens already prepared for next year's fruiting are obtained at once. These may be taken and planted now as advised in last week's fruit garden calendar.

Nymphaeas for Planting.—*J. H.*: Those most usually planted and which are the best include Nymphaea marliacea albida, N. m. rosea, N. m. carnea, N. m. ignea, N. m. chromatella, N. gloriosa, N. ellisiana, N. ordorata, N. sulphurea grandiflora, N. sanguinea, N. Leydekeri rosea, &c. Nymphaeas should not be planted now until March or April.

Dahlias Frosted.—*L. M.*: Dahlias are amongst the first plants to succumb to frost. You must just cut them down to within a foot from the soil. Then lift the tubers to clean them, and when they are dry, hang them up in a cool, dry shed for the winter. A steaming shed, such as a wash-house, which we have seen used, is of no good.

Pruning Plum Trees.—*J. Harrison*: So long as the shoots are freely set apart, say about 9 ins. either way, you will only require to shorten back the stout, leading shoots. If this had been done some time ago—in August—you would have had some of the strength which has been expended in useless extra growth saved for the thickening and firming of that part of the shoot which remained. Mulch the trees in winter. A stout wooden post, about 2½ ins. in diameter, should be inserted close to the stem, so that the latter may be kept straight and supported.

Laying Out a Cottage Plot.—*J. S.*: We always like to see as much nice green grass (neatly kept) and pretty shrubs about small front gardens as can be tastefully and wisely allowed. Such places are not at all adapted for imitation rockeries and miniature flower gardens. Certainly, a few tasty beds are very advantageous, but always let them be in proportion to the space and in harmony with the architecture of the house and surroundings. Squares and angles harmonise with the turreted, Grecian and Roman styles of buildings; round or oblong beds are suitable where the houses have round pillars, curved balconies and so on. What they should be filled with should also be as much studied as the kind and

colour of paper which one should use for this or that dwelling-room. Perennial plants are generally disposed around in the borders and a change of floral or plant decoration can be afforded by means of the beds. Have plenty of neat green lawn, clothe the walls with golden-leaved Ivy, Ampelopsis, Jasmines, Roses, &c., and the following dwarf and neat shrubs can be planted :—Retinospora squarrosa, R. pisifera and R. p. aurea, R. plumosa, Cupressus lawsoniana aurea, C. nutkaensis, C. Craigei, Thuiopsis dolobrata, Juniperus chinensis and varieties, and other varieties, drooping or erect growing, of the above, may be chosen. Other evergreen and some deciduous flowering shrubs should also be selected.

Greenhouse Pillar Plant.—*J. Freeman*: You will find few things to beat Abutilon Golden Fleece. It likes plenty of root room and a rich but firm compost. This is one of the sweetest and best climbing plants we could recommend in your case. Streptosolen Jamesoni is also very handsome, but not always so easy to cultivate. Fuchsias, Jasminum grandiflorum, Tibouchina macrantha, Maurandya scandens, and other such plants might also be suitable.

Lifting Heliotropes.—*L. F.*: You may think yourself lucky in having escaped losing the Heliotropes by frost. Pot up as advised some weeks back.

Potato Lifting.—*F. Crumpall*: No; Potatos cannot be left out without risk of injury. If they could, why all the care in providing heavy protective covering? But, Salsify, Parsnips and Carrots, &c., could be left; but when a spell of frosty weather is imminent it is usual to lift and store a batch. Apples suffer from frost, but we have not yet had sufficient to hurt the crop.

Grass Edging.—*Andrew Melrose*: We think you could not do better than lay and fix a plane edging board (4 ins. deep by 1 in. broad) all along the margin of the lawns. It is simple. You insert stout pegs in the line of the lawn edge, and to these you nail the edging board we mention. The turf is then brought flush up to the board, which prevents either crumbling away or breaking down. The surface of the lawn is level with the surface of the board, which may be painted green on the exposed side.

TAYMOUTH CASTLE.

The heat of an August sun had nearly attained its zenith when on the 21st of that month we took our seats on the top of a four-in-hand coach *en route* to Kenmore. Aberfeldy, where we embarked upon our journey, is a cosy little town built in a valley, and protected on all sides by high hills. Being noted as a health resort, consequently the ubiquitous villa predominates, comprising the major portion, the remaining portion being chiefly occupied by that expensive desideratum which largely subsists on the summer visitor, viz., the shopkeeper. Approximate to the town are the famous "Birks," immortalised by Burns in his—

"Now simmer blinks on flowery braes,
And o'er the crystal streamlet plays;
Come, let us spend the lightsome days
In the birks of Aberfeldy.
Bonnie lassie, will ye go, etc., etc.,
To the birks of Aberfeldy."

But we would warn the stranger to be wary, for although he may easily find the "bonnie lassie" to go, he will have a difficulty in finding many Birch trees, which are rendered conspicuous by their scarceness. The drive to Kenmore, a distance of six miles, is, on a warm day, one to be enjoyed, both sides of the road being largely planted with Oak trees, which form a screen from the penetrating rays of the sun. It is delightfully cool and shady, whilst here and there the uniformity is broken by copses of Hazel (Corylus Avellana), bearing numerous clusters of Filberts, overhead of which glimpses of the fertile Appin valley are gained. Near to our destination we crossed by an old-fashioned bridge, the Aldivalloch Burn, commemorated by the old song—

"Roy's wife of Aldivalloch,
Wat ye how she cheated me
As I gae'd o'er the braes of Balloch."

The scene now was one of rugged grandeur; in the distance lofty Ben Lawers towered unto the heavens, its peak penetrating the clouds, whilst its base was kissed by the rippling water of Loch Tay, which lay like a sleeping monster at its foot. On the left is the densely wooded slope of Drummond Hill, whilst looming on the horizon Schiehallion's Peak commands our admiration. Whilst lost in thought and admiration our soliloquising was rudely and abruptly terminated by our modern jehu, who promptly brought the vehicle to a halt, and ejaculated that "Taymouth Castle was in view."

After gazing for a few moments at this princely pile, the family seat of the Marquise of Breadalbane of which more anon—we resumed our journey, arriving at Kenmore in a short space of time. This so-called "model village," consisting of the customary church and hotel, with a reading room and about a score of cottages thrown into the bargain, lay basking in the noonday sun; whilst the little flower gardens fronting each cottage were gay with the omnipresent scarlet Geranium, golden Calceolaria, and white Marguerite. The trellised walls and arched gateways clothed with masses of Canary Creeper, Tropaeolum canariensis, and Tropaeolum speciosum lent to the rural aspect what might almost be termed a garish appearance.

Crossing the bridge, where the infant River Tay takes leave of its parent, we arrived at the gardener's house. The gardener, Mr. Wright, whom we surprised at his noonday meal, speedily demolished his repast, and with his usual courtesy conducted us over those extensive gardens which he has the pleasure of superintending. The gardens, which are beautifully kept, lie close to the loch. Due to this proximity we draw the inference that they are liable to be subject to spring frosts, but this default is compensated for by their perfect immunity from cold northern and eastern winds, owing to those aspects

Taymouth Castle, Perthshire.

being heavily wooded. Entering by a side gate, but still outside the garden wall, two wide borders of Roses were revealed to view, where excellent varieties such as General Jacqueminot, Duke of Edinburgh, Victor Verdler, Ulrich Brunner, Dupuy amain, Mdme. Gabriel Luizet, La France, and dozens of other varieties, all in excellent health, were blooming profusely in spite of late adverse weather. Behind one of these borders was what might almost be termed a hedge of Sweet Peas. At the time of planting these were planted in clumps at a distance of 4 ft. apart, but so rampant has growth been that when viewed from a distance the general outline was that of an unbroken mass. The best varieties, too many to enumerate, were largely represented, but multifarious as were the colours, harmony in colouration prevailed.

Entering the glass structures by a small stove, a large variety of plants, chiefly grown for house and table decoration, were noted. A nice batch of Cyperus alternifolius, also another Cyperus, which at the time we took for C. laxus, but have since altered our opinion, were largely represented, both being great favourites here as decorative subjects. A collection of Orchids, chiefly Cypripediums, occupied a front stage, the remainder of the house being chiefly filled with exotic Ferns and small Palms. Tomatos, entirely free from disease, which is a laudable acquisition in these days of microbes and bacteria, were in first-class bearing order. These were planted in long, narrow boxes arranged tier behind tier on a sloping stage, corresponding to the angle of the house, a lean-to. The plants were thus close to the glass, receiving the full benefit of light and air, which resulted in the production of stout, short-jointed wood. Cucumbers and Melons occupied another house. The Melons, which were represented by green and scarlet fleshed varieties, were grown on the cordon system. Noteworthy was that scarlet fleshed variety, Baron Hamilton.

Next, invading the precincts of a span-roofed plant house, our attention was immediately on entering attracted by a few large and extremely showy baskets suspended from the roof. The centres of these baskets were rendered gay by old plants of that excellent scarlet zonal Pelargonium H. Jacoby, whilst pendant from and planted alternately around the edge were Golden Fleece Fuchsia and Campanula isophylla alba, a combination which for floriferousness and contrast was commendable. The centre stage was chiefly occupied by fine plants of Orchid flowered Cannas and Begonias. Amongst the Begonias were noticed some nice plants of a spotted flowered variety. This new acquisition in tuberous Begonias, which is of "the made in Germany" order, is a distinct break from the normal form of colouration, which in all likelihood is the progenitor of a new strain. The centre bed of a large stove contained a few plants of Musa Cavendishii, ripening large clusters of fruit. The edges of this bed were surrounded by a variety of fine foliage plants, amongst which were Caladiums, Vinva St. Ana Berry and Reine de Denmark, deserving special comment; here also a fine specimen of Sanseviera zelanica was also observed. Neatly trained and covering the entire roof were two plants of Stephanotis floribunda, from which we understand three dozen trusses of flowers had been cut daily, and at the time of our visit many dozens could have been cut. Another plant house contained a large batch of young plants of Begonia Gloire de Sceaux, whose ample bronzy foliage made them objects of admiration. B. weltonensis in full flower was also largely represented; whilst that universal favourite Gloire de Lorraine was only sparingly cultivated. The Palm house, a massive structure, was, to facilitate painting operations, standing empty; but observable was a fine plant of Aristolochia elegans in full flower, climbing up a trellis on the back wall. In passing, we may add that as a greenhouse climber this subject has of late years become very prominent. Its deficiency of that effluvia, charactertistic of many of the genus, combined with the beauty of its unique yet lovely spotted flowers which are profusely produced, is without further encomium sufficient for its establishment in public favour. That it is easy to flower may be gathered from the fact that the plant in question, which was grown from seed, was only two years old. Amongst other subjects of repute was a collection of exceedingly small though aged specimens of Retinosporas, Acers, &c., which had been imported from Japan. Sweet and charming was an 8-in. pan, 2 in. in depth, planted with a collection of small Acers, lending to the arrangement the appearance of a forest in miniature. Orchids, of which there are a fair quantity grown, were largely represented by Cattleya gigas, all in excellent condition. In like condition was a large collection of Coelogyne cristata. Specially noticeable was a large plant of Dendrobium fimbriatum oculatum, which for the last three years has annually produced, from thirty-six upwards, new growths, many of which measured 3 ft. in length.

The vineries, which are seven in number, are all large, accommodative and well ventilated structures; as need be, where a successional supply of fruit all the year round has to be maintained as is here required. The early vinery, a house of Black Hamburgh, from which the first bunches were cut about the middle of May, was ripening nice short-jointed wood. A house of Muscat of Alexandria, which bore a good crop of nicely finished fruit, was entirely occupied by one plant. Five years ago this house, which for some years previously had been exhibiting signs of failing vitality, became so deteriorated, both in quantity and quality of fruit, as to necessitate its complete renewal. But Mr. Wright, with a true gardener's aversion to—practically speaking—an empty house, decided that instead of employing such drastic measures as a complete renewal of plants and borders as had been contemplated, decided to uproot all, with the exception of one plant—with two rods—which occupied the centre of the house. These canes were laid horizontally, one each way, from which a number of young rods were selected and trained at right angles from them. The impetus given by this extension of head room stimulated the roots into action, with the result that in two years the young rods were capable of carrying and, what is more, finishing a fair crop of fruit.

The other houses contained a supply of highly coloured fruit. Special mention may be made of Gros Colman, which for size of berries would be difficult to beat; but large berries, it may be added, are a marked feature of the produce here. Black Lady Downes, which maintains the supply until the middle of April, was largely planted. The Peach houses, which are three in number, are planted with a collection of serviceable varieties. Hale's early Peach and Early River's Nectarine supply the first fruits early in June. Of varieties in bearing Royal George, Princess of Wales, and Stirling Castle Peaches were most noticeable; whilst Balagowan and Humbolt Nectarines were ripening a heavy crop.

Behind the north wall we stumbled across a charming cool retreat in the form of a glass-roofed, lean-to grotto. In the interior was a bank built against the back wall slanting from a narrow path at the front to within a foot of the summit. The uniformity was broken at intervals by slight recesses in the bank, and by the introducing of conspicuous forms of Ferns, such as Lomaria gibba and Woodwardia radicans, which were elevated above a groundwork of Adiantums and Rex Begonias. Sheltering underneath the ample foliage of the Begonias, as though fearing to display their refined beauty, were some nice plants of Trichomanes radicans; whilst Adiantum Capillus-Veneris flourished in every available nook and crevice. The frame yard contained its usual quota of Cinerarias, Primula sinensis with all the usual forms necessary for a spring display. Here our attention was directed to a special strain of Primula obconica in pots and planted out in frames. On two former occasions we have had the pleasure of beholding them in flower, once in the Royal Botanic Gardens, Edinburgh, to which a few plants had been presented, and again at the spring exhibition of the Royal Caledonian Horticultural Society, where they easily secured a first place. A few vases of their flowers were at the same time on exhibition, where, in our own hearing, they received the flattering attribution from a casual observer, that "they were fine Sieboldiis." If such improvement can be realised by adopting the plan of selection, we add emphatically, "Let it flourish!"

In front of a range of vineries was a showy border boldly planted with autumn flowering Chrysanthemums, Galtonias, Gladioli, Calceolarias, Salvias, &c., with a background of Humea elegans and species of Arundinarias. Carnations, in many varieties, filled some large borders in front of the plant houses. Very conspicuous was a mass of Duchess of Fife; whilst equally good were examples of Salamander and Germania. On each side of a centre walk, dividing the kitchen garden into two equal halves, and which extends from the principal plant house to a handsome arched gateway at the foot of the garden, were too lovely ribbon borders. These were rendered gay with lines of bronze and silver-leaved zonal Pelargoniums, Ageratum, Perilla, Dactylis glomerata var., and Iresine, with an edging of blue Lobelia, which appeared very effective in front of a line of that silver-leaved Pelargonium, Dandy. On emerging through the gate at the south end of the garden a series of circular beds, extending the length of the garden wall, appeared in view. These beds were cut out in a well kept lawn which lay between a broad walk bounding Loch Tay and the garden wall. Amongst the beds, which were all harmoniously and judiciously planted, commendable was one planted with dot plants of Agave americana, arising from a groundwork of Tropaeolum Vesuvins. Despite the adverse and squally weather lately experienced, the beds of Begonias were one mass of finely favoured flowers. Beds of Carnations, carpeted with Violas, were likewise very imposing.

Our time being limited we were forced to take our departure without the pleasure of viewing the vegetables or herbaceous borders, but it would be unpardonable on our part were we to omit remarking on the new form of Thalictrum, which, as far as the general public is concerned, originated here, having been raised from seed imported from Japan. Thalictrum Chelidonii is a herbaceous species, with ternately divided leaves, which are pale green on their upper surface, their under side being glaucous, and bearing violet-coloured, panicled flowers. At a recent meeting of the R.H.S. a plant of this species was shown and discussed, whilst it may be added that three plants have been presented to the Royal Gardens, Kew. What between the raising of new and the improving of old species, combined with the multifarious duties connected with his position, our host, of whom we now took farewell, has his hands and brains fully occupied.

The castle grounds being, by the kind permission of the proprietor, open to the public we could not deny ourselves the pleasure of a short sojourn therein. Gaining admittance by the main entrance, an imposing, Ivy-clad masonry structure, situated at the foot of the village by a broad carriage sweep, we speedily arrived at the castle. The view from the castle is that of wide and extensive parks, interspersed by handsome trees. Here the gentle fallow deer roam at will. In the distance was observed a park wherein at no very distant date the lordly bison of the American prairie used to sport, its place being now taken by the more gentle and perhaps more beautiful Highland cattle.

With a feeling akin to envy, and with many a backward and askance look we took our departure, sad that we could remain no longer amidst those charming scenes, but glad, ay! even thankful, that we had the pleasure of beholding them.

The mansion was built in the sixteenth century in the year 1580 by Sir Colin Campbell, in a fine alluvial vale, on the southern bank of Loch Tay, and was known in that period as Balloch. In 1842 it was visited by Her Majesty the Queen and Prince Consort while on their first tour through Scotland. Preparatory to this visit the new wing on the left (see illustration, p.105) was erected, giving Taymouth Castle, as it now stands, an imposing appearance. —*D. M.*

BERBERIS DARWINII.

The Barberries have among them some very beautiful and striking plants. If asked which among them was first favourite with me I should have a difficulty in answering the question. I have from its introduction been a great admirer of Berberis Darwinii as a flowering shrub, and still consider it in this respect second to none, but it is more particularly as a berry bearing plant I wish to draw attention to it. Certainly it is at its best as such when there are flowers of all kinds around in the greatest profusion, and possibly for that reason the great beauty of this as a berry bearing plant is to some extent overlooked. Were it at its best during the duller months of the year hundreds of it would be planted where there are only a few. I have seen splendid specimens lately literally laden with purple berries, carrying a beautiful bloom on them, a bloom that many Grape growers would feign see on their Black Hamburghs. I cannot but think that

there is something in either soil or situation which has to do with the fruit bearing of this glorious shrub, because to find it laden with berries as I have done this season is quite a revelation as to the extreme beauty of B. Darwinii as a berry bearing plant.—*W. B. G.*

MORNINGFIELD NURSERY, ABERDEEN.

The visitor to the Granite City will find much to interest him at the Morningfield Nursery of Messrs. James Cocker & Sons, Aberdeen, even in the month of September. Many things even at that late period are still in full bloom, including Roses in the height of their second display and Dahlias just coming into their best form. A large number of the herbaceous plants are still at their best. The seed and cut flower offices are at 130, Union Street, Aberdeen, and from thence one can proceed by the frequent cars almost to the principal nursery, at Morningfield. At no distant date the visitor will have to go even further afield to the new nursery, for that at Morningfield has been cut in two by a new street; and it is only a question of time when the site will be fully built upon, for the city is growing very fast in this direction. In the meantime the various pieces of land are well stocked with plants.

Florists' Flowers.

The past season in Scotland was very late and the Dahlias in the first week of September had not reached their best. Every effort is being made to keep the Cactus Dahlias up-to-date by adding the new and best of the varieties as they come out. Well known and first-class sorts are Mrs. W. Noble, Night, Primrose Dame, Radiance, Ruby, Starfish, Stella, Laverstock Beauty, Britannia, Cycle and Progenitor, descriptions of which are unnecessary, as they are amongst the pick of any collection of first-class merit. Peculiar in its way is Tillie, pink, shaded red in the centre; Uncle Tom is dark, blackish-maroon; J. E. Frewer, bright scarlet; Innovation, white, with red edges; and Mrs. J. J. Crowe is a lovely, clear yellow. Loyalty has just been added to the list of new sorts and has long, incurved, orange florets. Progenitor is peculiar in having its long, carmine florets split at the tips. A large yellow flower is Amber, beautifully tinted with that colour. The above are the "pink" and pick of the collection and all first-class of their kind.

Pompon Dahlias are also well cared for here and grown in considerable quantity. A selection of the collection would include Distinction, deep purple red; Demon, maroon-crimson; Ceres, primrose; Crimson Gem, deep, crimson-red; Captain, maroon-crimson; Bacchus, a lovely bright scarlet; Annie Holton, red, tipped white; Achilles, soft rose; and Ariel, buff-yellow or terra-cotta.

Border Carnations have greatly increased in popular favour, and are well represented here. Duchess of Fife is so well known as to require no commendation. The same may be said of Uriah Pike, Mrs. Muir, Mrs. Reynolds Hole, the fragrant Cantab and the scarlet Oriflamme. Other choice things are Duchess of York, delicate pink; Sweetheart, striped rose on lemon; Crombie's Pink, which does not split the calyx; Mrs. Cochrane, salmon-pink and not a burster; Mrs. S. Kerr, striped scarlet on yellow; Primrose League, finely striped crimson on yellow; Mrs. Eric Hambro, one of the best whites; Ketton Rose, large and rose; and Geo. Cruickshank, scarlet flake.

A collection of the florists' Carnations proper and Picotees is also grown. A. Curzon is a scarlet bizarre; Mrs. F. Whitbourn, rose and crimson bizarre; and Sarah Payne, rose and purple bizarre. Ivanhoe and Mr. T. Lord are two of the best scarlet flakes; while Brunette is a lovely heavy crimson edged Picotte; and Acme a crimson wire edged sort.

Early Chrysanthemums are grown in considerable quantity in the borders, and furnish a great quantity of flowers for cutting from the end of August till the end of November, the later ones being sheltered by canvas at night and during stormy weather. That early Chrysanthemums should prove so easy to flower in the far north should be a great boon to gardeners in private establishments. One of the earliest is J.B.Dunvoir, rosy-purple; others are M. L. Pere, crimson and orange tip; Craigmillar, golden-yellow, of good size, and dwarf in habit; Gustave Grunnerwald, rosy-purple; and Louis Lemaire, a bronzy sport from it, with bronzy-crimson and orange flowers. There are other sports from the same variety. Marie Masse may also be added to the early ones, including its sports. Crimson Marie Masse is bronze rather than crimson. The pure white Mytchett White is one of the best. Mons. Dupuis, an orange variety, is also first-class. Mdme. Carmeaux has long, white florets, tipped with pink. Edith Syratt is deep purple; while Baronne Brailles is of a soft silvery lilac. There is a bronze sport from it. Ralph Curtis is a white Marie Masse.

Princess of Wales and other Violets had commenced to flower even in this northern latitude. A collection of named Gladioli is a feature of another border in summer and autumn. One of the finest in September was Madam P. Palmer, with white throat and broad carmine margins. Rossini is a bright scarlet with a red and white blotch.

Phloxes are also favourites at Morningfield, and are grown in large quantities. A. Laing is rose with a carmine eye; B. Comte, dark purple; Caron d'Ache, salmon-rose; Coccinea, fiery-scarlet; Comedia, white, shaded lilac-blue; Embarassment, large salmon-red; and F. Kinghorn, salmon-pink. The Poppy-red or scarlet flowers of Coquelicot are much appreciated throughout the land. The salmon-pink flowers of Hugh H. Smiley are produced in large, pyramidal panicles. Iris is still one of the best of the blue-purple Phloxes. Although not new the white flowers of James Cocker, with a deep carmine eye, are still much appreciated. The flowers of Mrs. Aberdein are of a rich dark carmine and highly attractive. Two charming pure white varieties are Panama and Snowflake, the latter growing only 3½ ft. high.

The purple Heather or Ling, Heaths, &c., of the Scotch hills are grown in many fine varieties, which thrive and bloom admirably in the humic or black soil in a natural hollow or depression in the nursery. There are several lovely pure white varieties very much in request in the city during the shooting season, being mostly used as buttonholes. There are two in particular which should be grown in every garden, the one being Calluna vulgaris villosa, with hoary, woolly leaves, and long racemes of white flowers; and the other, C. v. Hammondi, with bright green foliage and long racemes of white flowers. C. v. Searlei is a tall growing, late, white, variety. C. v. minor alba is only 3 in. to 4 in. high with white flowers. C. v. Alportii is a handsome, crimson variety, with long racemes. Erica vagans alba is the white Cornish Heath. St. Daheoc's Heath is represented by Menziesia polifolia, M. p. alba, white; and M. p. bicolor, partly red and partly white. By the Heaths is a collection of Hypericums, including such choice, shrubby sorts as H. calycinum, H. patulum, H. Androsaemum, H. arborescens, and H. moserianum, with red anthers.

Herbaceous Plants.

For many years past Messrs. Cocker & Sons have had a splendid collection of all the best herbaceous plants. The late Mr. James Cocker never missed adding anything good to his collection, when he noted it in the gardens he used to visit at a time when the bedding craze was ousting the fine old herbaceous plants from gardens everywhere. Additions still continue to be made by his sons now in charge. Very fine was a bed of Galtonia candicans in full bloom last September, and which had been out all the winter. Very fine were four long beds of Scabiosa Caucasica and S. c. amoena. Rudbeckia speciosa (Newmani), and Tigridias were just coming into bloom. Lilies were particularly fine, and included Lilium tigrinum, L. t. flore pleno, L. t. Fortunei, taller, later, and finely spotted; L. longiflorum giganteum, 18 in. high; and Gladiolus Colvillei The Bride, of which a large plot was grown. Other and early flowering Gladioli included G. ramosus, G. nanus, G. ne Plus Ultra (the best), G. cardinalis, G. ardens, and G. delicatissimus, all very lovely in their way. By leaving the corms in the ground the plants flower more and more freely every year. A good collection of Daffodils is being gathered together and planted here. Chrysanthemum grandiflorum has spreading rays; while those of C. Mrs. Head droop gracefully, and form heads 3 in. to 5 in. across.

Montbretias do splendidly here, but grow so fast that they require to be lifted and divided every second year. The finest of all, perhaps, is Imperialis, but yet rather scarce. Others well worth growing are M. rosea, rose, with three yellow blotches; M. Phare, deep orange and yellow centre; M. Rayon d'Or, large golden yellow, with wavy crimson centre; M. Etoile de Feu, brilliant scarlet; M. Tigridie, yellow with crimson markings in the throat; M. Pottsii grandiflora, crimson externally and yellow internally; M. crocosmiaeflora, orange with yellow centre; M. c. aurea, yellow; M. pyramidalis, golden, changing to salmon-orange; and M. Pluie d'Or, golden. All of the above flower with remarkable profusion and are perfectly hardy.

Twelve species of Eryngium are grown, including many fine ones such as E. hybridum, with compound, deep blue heads; E. alpinum, one of the earliest and best; E. planum, with a profusion of small, bright blue heads; E. giganteum, E. vulgare, E. amethystinum, with small deep blue heads, and long narrow bracts; E. oliverianum, and E. o. caeruleum, with the upper third of the stems of a deep indigo blue, as well as the heads and bracts. The latter is particularly handsome and ought to be in every collection.

Alstroemerias grow and flower profusely, including A. pulchella, and its varieties, A. aurantiaca and others. About 100,000 Spanish Irises are grown and flower about the end of June and the beginning of July when they present a fine appearance. Eremurus robustus, E. spectabilis and E. caucasicus flowered well at the beginning of summer, and the last named was maturing a fine crop of seed. Incarvillea Delavayi did well in the open and I. Olgae likewise. Eucomis punctata was only in bud. Agapanthus umbellatus and A. u. albus flowered in the open without protection. About 2,000 to 3,000 plants of Heuchera sanguinea grandiflora is reckoned the biggest stock in the country. The Sunflower, Helianthus rigidus Daniel Dewar, bears two or three rows of twisted ray florets. Amongst hardy Fuchsias we noted F. Riccartoni, F. exoniensis and F. conica, the latter of pyramidal habit of growth. Campanula grandiflora carried flowers of fine size. Seedling Delphiniums were flowering in quantity as were seedling Trollius, the beds of which included many of Orange Globe, and some distinct looking things which had not flowered.

A rare and singular looking subject is that named Plagius grandiflorus, which has a large golden disc like a Tam o' Shanter bonnet, but no rays. Modern botanists name it Chrysanthemum grandiflorum, which comes from the Canary Islands. A tall subject is Scabiosa gigantea, otherwise Cephalaria tatarica, with creamy yellow flowers. The large, scabrous leaves of Gunnera manicata make it a handsome subject for the margin of ornamental water. Never before have we seen so much of Anemone sulphurea all grown together. The downy gray leaves, scarlet flowers, and purple calyx of Lobelia Tupa make it a distinct and desirable herbaceous plant. Anemone japonica, A. j. alba, and A. j. Whirlwind are all well represented. The Panther Flower, Pardanthus chinensis, is hardy here and flowers profusely. The Globe Thistles are represented by Echinops Ritro, E. ruthenica, E. sphaerocephala, and E. s. major or E. s. exaltatum. A fine collection of Michaelmas Daisies shows that a large number of them can be flowered with great satisfaction even as far north as Aberdeen. Erodium Manescavii does well. Arnebia echioides is grown in quantity, and evidently likes the greater moisture here than it gets in the south. The large red fruits of Podophyllum Emodi resemble those of a Passion flower, yet it is a dwarf herbaceous subject. A collection of Geums is grown, including G. coccineum flore pleno, G. miniatum, and G. Eweni, the latter being of a paler orange than G. miniatum, but handsome.

The Gentians are well represented and succeed admirably, including G. lutea, G. acaulis, G. septemfida, G. asclepiadea, G. a. alba, &c. The new Arabis albida flore pleno was flowering freely for the second time. Libertia formosa maintains its foliage in a healthy and green condition, while its flowers are produced in spring. The orange flower heads of Erigeron aurantiacum are handsome. Many Sunflowers are grown, including Helianthus rigidus, H. r. semiplenus, with several rows of florets, and various others. A collection of Sweet Peas, to the number of seventy varieties, is grown, but the Messrs. Cocker think that all the best colours might be included in twenty varieties, and for market purposes in six.

FORCING RHUBARB AND SEAKALE.

As a rule these two products can be forced together. I think it is the most economical and expeditious method of forcing these vegetables, to set aside a heated cellar or shed for their sole occupancy. It may be well enough to cover Seakale crowns with tall forcing cans as they grow in the open air brakes, and enswathe these cans all around and over their tops with warm stable dung, where there is abundance of fresh manure at hand. If this can be had, and is not otherwise required, and if cans (or boxes) are in one's possession, then this method of forcing gives good results, and need not be renounced. But I hold to the benefit derived from having a heated shed. Mr. Wm. Carmichael, who contributes to these pages, practised a capital plan when he managed the Prince of Wales' gardens at Sandringham. He used to throw up ridges over the Seakale lines, and filled-in the stable litter between these ridges, so that the heat acted on the roots.

Where a shed is at command, and heated with pipes, the prepared Seakale crowns may be placed in straight lines, at distances of 4 in. apart, and 9 in. between the rows, among leaf mould alone, or a light mixture of leaf mould and soil. If a pipe is run below the bed (which must be kept moist), there will be plenty of heat. The Rhubarb crowns may shortly be lifted and placed, just as they are, into the forcing beds. After forcing, gradually harden them off, and replant again where they were lifted from. A mild heat alone is necessary, and light as a rule is not wished for in a forcing shed.—*P. K. R.*

TASTY BEDS IN LONDON PARKS.

Battersea Park.

Our notes recently described some of the features to be found in the large Victoria Park, away in East London. The park under whose name we are now writing lies some miles distant, in the south-west of London. Being more sheltered than Victoria Park the Battersea grounds have long enjoyed a reputation for the refined sub-tropical character of the bedding. Mr. F. J. Coppin is superintendent.

Some exceedingly handsome stove Palms, embracing quite a number of genera, are found in the open grounds during summer. Plantains and Bananas crown the eminences, making them higher still. Monsteras, with their huge, punctated leaves embrace the trunks of the trees; here and there the upright, succulent leaves of Sansevlera javanica rise; and the quaking, pendent, bright green and clean cut leaves of the finer species of Bamboos quietly wave in the warm summer air. In what we would call good seasons Battersea Park is exceedingly beautiful, and unmistakably brightens the evenings of many thousands of men, women, and children who visit it when their various occupations are done for the day.

From purely a bedding gardener's point of view Battersea Park does not furnish many new features. We think more variety is yearly required. A handsome bed of enormous Cannas beneath young single stemmed Ailantus trees, and edged with Cineraria maritima is a remarkably beautiful composition which might be patterned elsewhere.

Beds of Hibiscus sinensis, having Fuchsia Meteor and Coleus of varieties throughout, edged with a buff-flowered annual, proved attractive.

Some of the beds which occupy the north side of the sub-tropical garden are usually filled with a class of stuff not often found out of doors. These include Asplenium bulbiferum, Asplenium Nidus, Scirpus (Isolepis) gracilis, Selaginella kraussiana, Tradescantia tricolor, Coleuses, Dracaenas, Chlorophytum elatum variegatum, Herniaria glabra, and Alternantheras.

Beds of the Coral tree are very successful, the plants seeming to grow with more than ordinary robustness. Nicotiana gigantea around the margin of the shrubbery with its enormous leaves and clusters of reddish flowers formed a stately background to Abutilon Thomsoni, in front of which the ever popular zonal Pelargonium Henry Jacoby was placed. Foliage effects seemed chiefly to have been attempted. A large bed filled with Abutilon Thomsoni above a dwarf species of Amaranthus, and edged with Lobelias and Alternantheras showed up to much advantage.

In a different part of the same border in which the giant Tobacco plants were noted, exceedingly tall specimen Hemps were arranged. These were nearly 10 ft. high. In front was a bright line of the scarlet Pelargonium Vesuvius! In some of the other large-sized beds Daturas were doing well. Iresines, Zea Mays, Ivy-leaved Pelargoniums, Plumbago capensis, Eucalyptus, Abutilons, Lobelias, and Salvias, &c., were intermixedly placed for effect. Beds of Dahlias, Sunflowers, Delphiniums, Coleus, and Gazanias were attractive. The succulent beds furnished variety, and the small carpet beds were neatly kept, and had been skilfully executed. Throughout the park other bright beds and borders are liberally disposed.

SOCIETIES.

ROYAL HORTICULTURAL.—*October 9th.*

The leading features of the meeting on Tuesday last were large groups or collections of Michaelmas Daisies, Bouvardias, Salvia splendens grandiflora, hybrid Tea Roses, Chrysanthemums, autumn tinted and coloured foliage; and some interesting collections of fruit and vegetables.

Orchid Committee.

The Right Hon. J. Chamberlain, M.P. (gardener, Mr. Smith), Highbury, Birmingham, exhibited a small collection of Orchids, including Cattleya bowringiana, C. b. velutina Highbury var., C. Mantinii superba, C. M. nobilior, Laeliocattleya Duke of York, Cattleya Minucla, and Dendrobium Phalaenopsis schroderianum.

Messrs. J. Veitch & Sons, Ltd., Chelsea, staged the hybrid Cattleya Chloe. The Right Hon. Walter Rothschild, M.P. (gardener, Mr. Hill), Tring Park, Tring, exhibited Cattleya Maroni Tring Park var., having rich old gold sepals and petals. F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, exhibited Gongora nigrita. Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, put Cattleya labiata The Purltan on the table. W. E. Brymer, Esq., M.P. (gardener, Mr. John Powell), Islington Gardens, Puddlestown, Dorchester, exhibited a Laeliocattleya.

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking, staged a very interesting little group of rare or uncommon Orchids. Very pretty were Cirrhopetalum guttulatum, Maxillaria striata, Angraecum citratum, Habenaria carnea, Epidendrum sceptrum, Masdevallia ajax superba, Vanda sanderiana Burford var. The last named has its upper segments beautifully marbled with pink. H. Little, Esq. (gardener, Mr. Howard), Baronshalt, Twickenham, staged Cattleya dowiana aurea superba, with grand flowers, as well as some flowers of C. bowringiana.

Captain Holford (gardener, Mr. Chapman), Westonbirt, Tetbury, Gloucester, exhibited cut flowers of Dendrobium Phalaenopsis schroderianum and some Cattleyas.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, exhibited Cattleya Loddigesii gigantea, C. Maronii, C. bowringiana Low's var., Laelia pumila Bush Hill var., and Laeliocattleya Aurora.

Floral Committee.

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, exhibited a very extensive collection of Bouvardias in well grown specimens in 48-size pots. The varieties included such useful kinds as Bridesmaid, Candidissima, Pride of Brooklyn, Elegans, Vreelandii, Bridal Wreath, Hogarth flore pleno, Alba odorata, Humboldtii grandiflora, President Cleveland, Paniculata, Dazzler, Purity, Delicata, Flavescens, Maiden's Blush, Jasminoides, Reine des Roses, and Mrs. R. Green, the white, pink, scarlet, yellow, and other hues being judiciously blended. (Silver Banksian Medal.)

Leopold de Rothschild, Esq. (gardener, Mr. Jas. Hudson, V.M.H.), Gunnersbury House, Acton, set up an extensive exhibit of Salvia splendens grandiflora and S. s. nana on the floor of the hall, the plants being notable for their profusion of bloom. Three large conical bushes and some smaller ones of scented-leaved Pelargoniums were stood amongst the Salvias, and Eurya latifolia variegata and other plants were stood round the margins of this boldly undulated group. The first named Salvia is by far the finer, and seems to carry its flowers better than S. s. nana. (Silver Gilt Banksian Medal.)

Messrs. Wm. Paul & Son, Waltham Cross, exhibited a group of hybrid Tea Roses in boxes and baskets. Several of them were notable for the rich salmon-rose or salmon-red hue of their flowers, including Morning Glow, Corallina, and some seedlings. (Bronze Flora Medal.)

Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, staged a showy group of Chrysanthemums, chiefly early flowering and market varieties for cut flower purposes. They also staged some large flowering kinds, including Mrs. Fripp, a yellow sport from C. B. Haywood, Jane Molyneux, Mrs. Coombes, Rayonnante, and several unnamed seedlings. A bold and showy yellow for cutting was Miss Ruth Williams, while Victor Mew was a good white cut from the open ground. The Orange Marie Masse is new. (Silver Banksian Medal.)

Capt. Holford, Westonbirt, Tetbury (gardener, Mr. Chapman), exhibited a large collection of autumn tinted foliage, including richly coloured branches of Carya tomentosa, Carya glabra, Acer Ginnala, A. saccharinum, A. ampelopsifolium, Euonymus alatus, Quercus americana rubra, Parrotia persica, Cornus alba, Viburnum Opulus, Spiraea prunifolia, many species of Crataegus, &c. He also had berried plants of various kinds, including Physalis Franchetii. (Silver Gilt Flora Medal.)

From Mr. John Russell, Richmond, came a collection of hardy Ligustrums, suitable for immediate planting. The ornamental value of berried Privets was well shown. The best varieties here were L. lucidum aureum, L. Quintoni, L. japonicum coriaceum, L. j. tricolor, L. ovalifolium aureum. (Silver Banksian Medal.)

Messrs. J. Hill & Son, Barrowfield Nursery, Lower Edmonton, had a large and effective group of Ficus radicans variegata and Ferns. Adiantum farleyense, &c., were very well grown. (Silver Banksian Medal.)

Mr. James Williams, College Park Nursery, Lewisham, S.E., showed such a group as he had at the Royal Aquarium the same day.

Messrs. W. W. Johnson & Son, Ltd., Boston, showed Sweet Peas in variety.

Mr. Edwin Beckett, gardener to Lord Aldenham, Aldenham House, Elstree, showed a collection of cut perennial Asters. Some of these were new, and three, at least, obtained Awards of Merit.

Messrs. James Veitch & Sons, Ltd., Chelsea, also staged a perennial Aster collection, with which was interspersed a number of Tritomas. Physalis Franchetii was shown in good style. Chrysocoma Linosyris was set around the edge. Aster ericoides, A. horizontalis, A. N. A. Mr. W. J. Raynor, A. Tom Sawyer, A. N. B. floribundus, and such others were conspicuously meritorious. (Silver Flora Medal.)

Mr. William Taylor, Osborn Nursery, Hampton, Middlesex, obtained a Silver Banksian Medal for a collection of cut Roses, including H.P.'s, and the decorative varieties Reve d'Or, Laurette Messimy, Mdme. Hoste, W. A. Richardson. Cramoise superieure, and others.

Messrs. Barr & Sons, King Street, Covent Garden, were exceedingly strong in Asters, Gladioli, Kniphofias, Chrysanthemums, Zauchneria mexicana, Montbretias, &c. The beautiful Aster N. A. Mr. F. J. Raynor, sent out by the Messrs. Barr two years ago, was here splendidly shown. Senecio pulcher, Polygonum amplexicaule oxyphyllum, and other distinct hardy plants were in marked prominence. (Silver Gilt Banksian Medal.)

Messrs. T. S. Ware, Ltd., Hale Farm Nursery, Feltham London, here showed Dahlias, Gladioli, perennial Asters, Liliums, and other hardy flowers. Salvia splendens, Delphiniums, Belladonna, and various Nerines were well shown. (Silver Banksian Medal.)

Fruit and Vegetable Committee.

C. Bayer Esq. (gardener, Mr. W. Taylor), Tewkesbury Lodge, Forest Hill, S.E., had a marvellously fine collection of fruit, including one of the largest assortments of Pears we have seen exhibited this season. His Grapes and Apples were likewise of merit. (Silver Gilt Knightian Medal.)

Messrs. Cannell & Sons, Swanley, had a collection of ornamental Gourds, which prove how decorative these are where the garden is sheltered and suitable to their growth. They also showed Cannell's Defiance Cabbage (F.C.C.); and a grand collection of Apples and Pears, comprising Peasgood Nonsuch, Lord Roberts, Wadhurst Pippin, Warner's King, The Queen, Bismarck, Hoary Morning, Cox's Orange, Tom Putt, Emperor Alexander, and others. Their vegetable display was very fine. (Silver Knightian Medal).

W. Else Drax, Esq. (gardener, Mr. J. Bond),

Olantigh Towers, Wye, Kent, bad a magnificent collection of vegetables. Parsnips, Tomatos, Brussels Sprouts, Onions, and splendid Cauliflowers, were all fine. (Silver Knightian Medal.)

Lord Wantage, V.C., K.C.B. (gardener, Mr. W. Fyfe), Lockinge Park, Wantage, showed a magnificent assortment of fruits, including Cherries, Apples, Melons, Plums, Pears, and Peaches. They were all highly coloured, and the arrangement was certainly *par excellence*. (Gold Medal.)

J. Warren, Esq. (gardener, Mr. A. Offer), Handcross Park, Crawley, set up too dishes of Apples and Pears, all of which were meritorious. Cellini, Emperor Alexander, Yorkshire Beauty, and Queen Caroline were each represented by very fine dishes. The Pears Marguerite Marillat, Beurre Bachelier, Brockworth Park, &c., were high class. (Silver Gilt Knightian Medal).

NATIONAL CHRYSANTHEMUM.—*October 9th, 10th and 11th.*

The early autumn exhibition of the National Chrysanthemum Society as a general show was a decided success, but from a purely specialist's point of view it cannot be said that Chrysanthemums played up strongly. The season seems to be backward for them. But while the exhibition of the "Autumn Queen" was limited, the strength, grace and quality of the blooms in the large competitive classes were very satisfactory indeed for this, the first display. Dahlias and Cannas, vegetables and hardy flowers were liberally staged. Fruits also were beautifully shown by Messrs. J. Laing & Sons.

Competitive Exhibits.—Cut Flowers.

For twenty-four blooms, Japanese, not less than eighteen varieties, Mr. James Agate, Brockhampton Nurseries, Havant, led with Florence Molyneux, Baden Powell, Mrs. F. Pockett, Miss E. Pilkington, Oceana, Sir H. Kitchener, Mrs. H. Popham, Mr. J. Briant, Mrs. Kesley, Miss A. Byron, Jane Molyneux and others. Mr. N. Davis, Framfield, came second; and third, Mr. R. Jones, gardener to C. A. Smith-Ryland, Esq., Barford Hill, Warwick. Mr. Jones won first for the twelve Japanese, distinct, being followed by Mr. J. Agate and Mr. N. Davis. The latter, however, led for the six ditto, with splendid samples of Soleil d'Octobre, Miss A. Byron, Pres. Nonm, Mrs. Coombes, Mdme. Von Andre and Mrs. Cursham. Mr. Agate, second; and third, Mr. T. J. Taylor, gardener to F. E. Liebrecb, Esq., Logs Hill, Chislehurst.

Mr. J. Brookes, Totteridge Park, Totteridge, was first for six bunches of early flowering Chrysanthemums, three varieties. Mr. E. H. Chitty, Cholmely Lodge, Highgate, second. For twelve bunches of the same, Mr. E. Ryman, South Park, Reigate, led off, followed by Mr. E. F. Such.

For a handbasket of Chrysanthemums, Miss C. B. Cole, The Vineyard, Feltham, stood first; Mr. E. Ryman, South Park, Reigate, followed second; and Mr. D. B. Crane, 4, Woodview Terrace, Archway Road, Highgate, third. For a vase of Chrysanthemums, Mr. L. Turk, Southwood House, Highgate, won first bononrs. Miss C. B. Cole beat Mrs. W. Green, Jun., Harold Wood, Essex, in the class for a decorated dinner table. Lady Inta (gardener, Mr. W. Horne), Park Hill, Streatham Common, beat E. Fry, Esq. (gardener, Mr. E. Dove), Bickley Hall, Bickley, in the entry for a group of Chrysanthemums arranged for effect.

Miscellaneous Exhibits.

Messrs. H. Cannell & Sons, Swanley, Kent, again put up a magnificent group of their strongly flowered and very superior Cannas. The newer sorts of high merit included Aurora, Solfaterre, Mdme. Pichon, Meteor, Cuba, Duchess of Marlboro', Expl. Campbell and Florence Pauwels. (Silver Gilt Medal.)

Mr. John Williams, College Park Nursery, Lewisham, S.E., set up a group of the following three early flowering Chrysanthemums in pots:—Lady Fitzwygram, Primrose Queen and Mrs. James Williams, a pretty yellow sport from the first-named. The group was bright and creditable. (Large Silver Medal.)

Mr. J. H. Witty, Nunhead Cemetery, was also an exhibitor of the early flowering bush, pompon and decorative varieties. His tight little group included Piercy's Seedling, White Lady, Rose Wells, La Petite Marie, Lady Fitzwygram, &c. (Large Silver Medal.)

From Mr. H. Deverill, of Banbury, came a splendid group of hardy cut flowers. Some of these were shown as fresh and beautiful as they were at a much earlier date. Coreopsis grandiflora, Anemone japonica, Aster Amellus Riverslea, A. F. W. Burbidge, Gaillardias, Montbretias, Delphiniums, Sunflowers, Chrysanthemums, &c., &c., were finely staged. (Large Silver Medal.)

Messrs. A.W. Young & Co., Stevenage, Herts, also showed hardy cut flowers, the group principally comprising Tuberoses (from the open air), good, strong and fresh, Scabiosa caucasica, Physalis Franchetii, Gladioli, Phloxes, &c. They also showed a small assortment of young cactaceous plants. (Large Silver Medal.)

Messrs. J. Laing & Sons, Forest Hill, S.E., had a number of fine groups and collections. We mentioned their grand display of fruits. The fruits here were large and well coloured, being displayed to the very best advantage, too. The Pitmaston Duchess Pears, and the following Apples:—Gascoyne's Scarlet, Lord Suffield, Emperor Alexander, Hoary Morning, Bramley's Seedling, Cellini Pippin, Cox's Orange, Worcester Pearmain and Alfriston were tip-top. The table was brightened by berried sprays of Crataegus Pyracantha and graced with fine foliage and flowering plants. The firm also set up groups of Streptocarpi (their multiflora strain in all shades), and seedling tuberous Begonias from the open ground, both groups receiving deserved appreciation. They also had Squashes, &c. (Gold Medal.)

Mr. S. Mortimer, Rowledge, Farnham, Surrey, staged one of the finest collections of cut Dahlia blooms which he has shown this year. Among his Cactus varieties the claret-crimson Progenitor with flattened and frilled petals is very interesting. Beatrice still holds good. Maurice Walsh was showy. Zephyr, Mrs. Carter Page, Mrs. J. J. Crowe, and the almost black Uncle Tom were all admirable. (Silver Gilt Medal.)

Messrs. Thomas S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, had quite a valuable collection of cut Begonia blooms, single and double, from the open ground. In verity, these blooms were wonderful. The tones of colours were more brilliant than at any preceding date, and the blooms were large and strong. The single varieties were also well represented. (Silver Gilt Medal.)

Mr. R. C. Palling, Monkham's Nursery, Woodford, made a remarkably fine display of Japanese Chrysanthemums in pots, an exhibit at once extensive and meritorious in quality and arrangement. Foliage plants and Ferns were used to good effect. Soleil d'Octobre, and Mrs. J. Lewis were two of the best yellows and whites respectively. Mrs. A.H.Hall, a bronzy incurved Jap., and others were worthy of particular notice. (Silver Gilt Medal.)

Mr. J. Williams, 4A, Oxford Road, Ealing, London, W., had a stand of his table decorations which are so useful and appropriate for the table. (Bronze Medal.)

Messrs. Dobbie & Co., Rothesay, N.B., came forward with vases of cut hardy early flowering Chrysanthemums. Of these the dark crimson Fred Pele was fine; Viscomtesse d'Avene, Bronze Blushing Bride, Flora, Crimson Marie Masse, Mrs. Gifford, Golden Fleece, Crimson Queen, Louise Lemaire, and others, were charming. Their display was on a liberal scale. (Large Silver Medal.)

Messrs. S. Spooner & Sons, Hounslow Nurseries, Middlesex, also made a large and fine display with Apples. The Washington Apple and the varieties Lord Suffield, Barchard's Seedling, Cox's Pomona, &c., &c., were as fine and good as could be desired. The assortment filled a table 6 ft. to 8 ft. broad by about 30 ft. long. (Gold Medal.)

Messrs. Lawes, 59, Mark Lane, London, showed their garden manure samples.

Mr. Eric F. Such, the Royal Berkshire Nursery, Maidenhead, had a smart and bright display of cut blooms of the early-flowering decorative Chrysanthemums. Mdme. F. D. Carriel, Mdme. E. Lefort, Mdme. E. Morel, Piercy's Seedling, Early Blush, Blushing Bride, &c., were all included. The colours were very distinct. (Large Silver Medal.)

Mr. W. J. Godfrey, Exmouth Nursery, Exmouth, had a marvellously fine display of Chrysanthemums, some in pots and others in a cut state. His incurved Japs. Edith Pilkington, yellow; Mrs. A. H. Hall, also yellow; Annie Prevost and Reginald Godfrey, a bronze-red variety, were also good. Mr. Godfrey's seedling named Ettie Mitchell, which was lately certificated, was here shown in considerable force. The colour is a bright golden-yellow suffused with bronze. (Gold Medal)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., arranged a mixed group of flowering and foliage plants. His Chrysanthemums were represented by a small central group of Japanese varieties in pots. Throughout the display there were some well-grown samples of winter-flowering Begonias, including the Moonlight, now becoming so popular. He also set up a neat side group of early-flowering varieties, cut and shown in vases. He also showed perennial Asters. (Gold Medal.)

Messrs. Hodgkins & Co., 5, Beaufort Avenue, West Didsbury, Manchester, showed an assortment of skeleton leaves mounted in frames, &c.

The Devon Chrysanthemum Co., Teignmouth showed cut Japs. and trusses of zonal Pelargoniums. (Bronze Medal.)

Mr. J. Hawes, 4, Glaskin Road, Lea Bridge Road, Clapton, N.E., showed his improved watering can.

Special Vegetable Prizes.—In conjunction with this show Mr. Henry Deverill's annual exhibition of pedigree Onions and other vegetables was held. This section embraced 12 Classes. In Class A., for six specimens of Banbury Tankard Onions, Mr. H. Folkes, gardener to C. E. Strachan, Esq., Gaddesden Place, Hemel Hempstead, led off. Mr. T. Bowerman, Hackwood Park, Basingstoke, came second, and third, Mr. T. Wilkins, Inwood Gardens, Henstridge. The first and second sets were of very high merit. Mr. E. Beckett, of Aldenham House, had to take second place to Mr. H. Folkes in the class for six of the Aristocrat Onion. There was absolutely nothing to draw between the sets. The third prize went to Mr. T. Masterton, Weston House Gardens, Shipston-on-Stour.

For six Ailsa Craig, Mr. Folkes again held the lead, being followed by Mr. R. Lye, Sydmonton Court, Newbury. For twelve of the same variety, Mr. T. Bowerman beat Mr. E. Beckett; Mr. N. Kneller, Malshanger Gardens, Basingstoke, being awarded third.

A non-competitive collection of Ne Plus Ultra Onions was staged by Mr. H. Folkes, the assortment comprising seventy-seven specimens, most of them large, sound and well-formed.

For a collection of eight kinds of vegetables, the award went to Mr. E. Beckett, of Aldenham, who staged a magnificent lot. No finer Cauliflowers (Veitch's Autumn Giant) have been seen at any of the London exhibitions this year. Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Newbury, was a strong second, he showing Brussels Sprouts. Mr. T. Wilkins, of Inwood Gardens, followed third. Mr. E. Beckett was the best exhibitor of Aylesbury Red Celery, followed by Mr. W. Pope and Mr. Folkes. The latter came second to Mr. Beckett for six Exonian Leeks. Mr. James Hall, Croxcombe, Wells, Somerset, led first for twelve Scarlet Intermediate Carrots, followed by Mr. W. Pope and Mr. T. Masterton, in this order. Carrots, like the Onions, were first-rate. Mr. Beckett won for twelve Hollow-crowned Parsnips; and for Beet, Mr. R. Lye led. In the large Cottagers' Class for twelve pedigree Onions, Mr. T. A. Beckett, Bower Farm, Havering Park, Romford, led the way; Mr. S. Taylor, Bloxham, Banbury, was second, and Mr. W. Wintle third.

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. George Potts, Streatham, S.W., for his article on "Hoya carnosa as a Wall Plant," p. 86.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

[*Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.*]

Gooseberries and Caterpillars.—*D. W. D.*: Regarding your enquiry as to what you could do in winter or spring to lessen the caterpillar pest in summer, we may say that you should follow the plan that used to be pursued by many good old gardeners who could not fully explain the why and the wherefore. When they were digging the Gooseberry breaks they lifted several inches of soil from above the roots of the bushes and had it buried more or less deeply in the middle of the space between the lines where they could dig deeply without fear of hurting the roots. The caterpillars of the Gooseberry Moth lay up in the soil and amongst leaves below the bushes in autumn and recommence feeding in spring when the leaves expand. The caterpillars of the late brood of the Gooseberry and Currant Sawfly crawl down into the soil and make a cocoon of a gummy substance in which they live in the caterpillar state till spring. This latter insect is more destructive, because more numerous than the former. By burying the soil deeply as advised the caterpillars of both insects will be nnable to get to the surface in spring. A few may escape because you cannot make sure of burying them all. The roots of the Gooseberries and Red Currants may be covered with soil taken from the middle of the rows when making holes to bury the soil taken from above the roots of the bushes.

Pears Scabbed and Cracked.—*C. Etherington*: The specimens sent were very badly affected with a skin disease cansed by a fungus named Cladosporium dendriticum var. pyrinum. We are not surprised that the fruits of the same trees should be attacked in the same way year after year, as that is in the nature of things. The spores of the fungus commence the mischief as the trees begin to grow in spring. You should syringe the trees with the Bordeaux Mixture several times in the early part of the summer at least. Give the first spraying soon after the fall of the flowers, so as to moisten every leaf and fruit of the trees that suffer. About ten days or a fortnight afterwards you should repeat the operation. This kills the fungus or such parts of it with which the fungicide comes in contact, and prevents it from spreading from the leaves to the young frnits. Bordeaux Mixture is made by dissolving the crystals of 6 lbs. of sulphate of copper in water, and 4 lbs. of unslaked lime also in water; then mix the two together and add water to make fifty gallons in all. The sulphate of copper and the lime when mixed should be put in a bag suspended from the mouth of a barrel. Pour the water into this bag, and all the dissolved material will be washed down into the barrel, while the solid residue will be retained. This is necessary to prevent the nozzle of the spray from being choked up.

Sowing Peas in November for Early Use.—*Enquirer* would like to know if any of the readers of THE GARDENING WORLD, in South Wales, have succeeded in raising a fairly good crop of early Peas from a November sowing. He would be pleased for any advice or information on the subject. In other parts of England the sowing of Peas in November has been discontinued by most people, as more satisfactory, certain and successful resnlts are obtained by sowing Peas under glass early in the year and planting them out where they are intended to fruit, when the weather becomes favourable in spring.

Dwarf Michaelmas Daisies for Pot Culture.—*D. C.*: There is no necessity for dwarf varieties thongh there are several dwarf forms which you might employ. Some of these are Aster Amellus, A. dracunculoides, A. acris, A. Novi-Belgii densus, A. N.-B. laevigatus and some others. You can make all of them fairly dwarf by taking cuttings of the young shoots in April, May or June, striking them like Chrysanthemums and growing them on in small pots. Give a few shifts, finally putting them into 48-size pots, in which they will make dwarf bushy plants and flower well, if yon attend to them with water.

Hyacinths and Tulips to bloom together.—*Enquirer*: When planted about the same time, Hyacinths have a tendency to flower and fade about ten days in advance of the Tulips. You might, however, try to alter the conditions by planting the Tulips when the bedding stuff has been lifted in November, or say about the beginning of that month. The Hyacinths might be kept in a dry, cool place till the middle of December, which would have a tendency to retard their flowering period. We do not think it would be well to keep them out of the soil any longer as the bulbs begin to deteriorate, and the flowers would be the poorer for it. There is a danger, however, that a genial spring would bring the Hyacinths into bloom much about their nsual time. Anyway, you might try the experiment. We think your best plan would be to put the Hyacinths in several rows along the front, and the Tulips in a similar mass along the back. The lines may be 9 in. apart. To give variety and pleasing effect, yellow Daffodils may be planted thinly and at equal distances apart, but between the others. They do not take up much space when single bulbs are planted, but when dangling their heads amongst Tulips and Hyacinths of a different colour, the effect is distinct and pleasing.

Hyacinths, Tulips and Narcissus for Palm Sunday.—*Enquirer*: You should pot the bulbs some time during this month, and not later than the end of it, as the bulbs require some time to form good roots before winter. You cannot expect them to flower well, especially in pots, if the root system is not well developed before the flower scapes begin to push up. Narcissi are not so particular, perhaps, as Hyacinths and Tulips, but even they are liable to suffer injury if kept too long out of the soil. When grown in pots you can shift them about into cool, airy and shady places in the houses if likely to come along too early. Neither of them should require forcing if the weather is at all favourable for growth; but if we have a warm, early spring, they may be liable to bloom too early for you if kept in a house with plenty of direct sunshine. If you have no house with a cool northern aspect, the next best plan would be to stand them near the front lights and keep the latter open all day, at the same time shading the house from direct sunshine. If the spring is cold you can easily keep the plants a little warmer so as to push them a bit. Your object should be to make them to come along slowly, as they will be the more sturdy and durable for it.

Indian Azaleas to Flower by Palm Sunday.—*Enquirer*: Azaleas are like Camellias in this respect, that you must not force them hard or all the buds will drop without opening. It is now time to house them, if that is not already accomplished, in order to keep the buds safe from frost. Keep them in a cool, airy greenhouse till about the middle of January or some time between then and the beginning of February. You can then maintain a night temperature of 40°, but not higher for a week or two. Then you can gradually raise the temperature to 50° at night. If, in the course of six weeks or so, they do not appear to have made much progress, you can raise the temperature to 55°, but you must on no account exceed that or the buds will drop. If, on the other hand, they are coming on too fast, you can gradually lower the night temperature, and even shade the house, if the sun at any time gets too hot, unduly raising the temperature of the house. You can thus regulate their time of blooming by pushing or retarding them as the case may be.

Names of Plants.—*W. P. Scott*: 1, Impatiens Roylei, a pale variety; 2, Cardamine hirsuta; 3, Sagina procumbens; 4, Blechnum Spicant.—*J.D.B.*: 1, Nepeta Glechoma variegata; 2, Chlorophytum elatum variegatum; 3, Miscanthus japonicus zebrinus (generally known in gardens as Eulalia japonica zebrina); 4, a species of Panicum, but material insufficient to determine; 5, Bambusa Fortunei variegata.—*Hortus, Edinburgh*: As far as the specimen sent would enable us to determine it is a seedling of the Elder or Bourtree (Sambucus nigra) grown in heat or under other unnatural conditions, as the leaves were thin, limp, and soon withered up. The seeds may have come in the soil employed.—*T. S.*: 1, Berberis vulgaris; 2, Ligustrum vulgare; 3, Aster Novi-Belgii var.; 4, Colutea arborescens; 5, Genista tinctoria elata.—*G. C.*: 1, Impatiens Roylei; 2, Achillea filipendulina; 3, Chrysanthemum uliginosnm; 4, Aster diffusus horizontalis.—*R. M.*: 1, Clematis Vitalba; 2, Melissa officinalis variegata; 3, Mentha rotundifolia variegata (Melissa is the true Balm.)—*A. D. R.*: 1, Begonia incarnata atropurpurea; 2, Begonia Rex var.; 3, Pellionia pulchra; 4, Nepeta Glechoma variegata; 5, Othonna crassipes; 6, Miscanthus japonicus variegatus, generally known in gardens as Eulalia japonica variegata.—*A. C.*: Stachys lanata; 2, Veronica incana.

Communications Received.—A. Chalmers.—R. Dean.—Toogood & Sons.—James Smith.—E. W. Hilgard.—G. Bailey.—Adam Burnett (next week).—A. T.—H. W.—A. D. N.—E. S.—W. D.—A. W.—A. J. B.—R. M.

TRADE CATALOGUES RECEIVED.

F. C. HEINEMANN, Erfurt, Germany.—Special Trade Offer of Novelties and Specialities; also Novelties for 1901.

GRIEVE & SONS, Redbraes Nurseries, Broughton Road, Edinburgh.—Catalogue of Border Carnations, Pinks, Violas, Roses, Pansies, Fruit Trees, &c.

HARLAN P. KELSEY, Tremont Building, Boston, Mass, U.S.A.—Kelsey's Hardy American Plants and Carolina Mountain Flowers (wholesale).

B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, N.—Catalogue of Frnit Trees, Vines, Roses, Clematis, Hardy Trees, Shrubs, Conifers, and Herbaceous Plants.

DICKSONS, LIMITED, The Nurseries, Chester.—Forest Trees, Ornamental Trees, Evergreens, &c.

Clove Carnations.—*Amateur*: The old Clove Carnation is propagated by layers in the same way as other border Carnations. The Clove is so hardy and so naturalised in our gardens that yon may even layer at this advanced period and have a fair measure of success. The operation must not be delayed beyond the present time. And if your stock is limited we would advise you to lift one or two plants from the border with a large amount of root soil and place them in a frame in which is sandy loam. If they are layered there and are treated as though hardy, except that the lights may be placed over them when the weather is severe, they will do well. The young plants may afterwards be planted in frames for the winter, and can be placed out in the beds in March or April. If rabbits are likely to trouble them surround the beds with wire netting.

Rubus phoenicolasius.—*J.T.*: The Japanese Wineberry is offered by nearly all of the fruit nurserymen, and no doubt your nearest nurseryman could supply you. The birds are partial to the beautiful red berries of this Rubus, so that if you want to try the fruits for jam making you must plant your specimens in a position where a net can be thrown over them. Unfortunately the berries have little flavonr, but the plants are very decorative.

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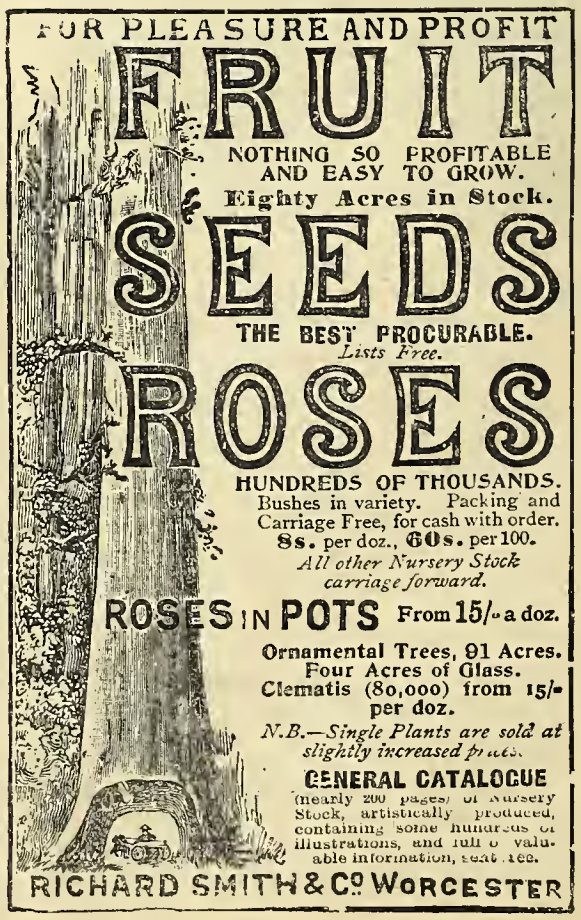

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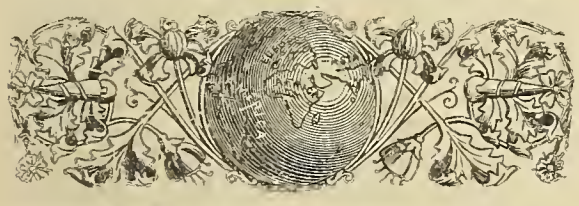


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, OCTOBER 20th, 1900.

A SPECIALIST AND HIS FERNS, AT ACTON. —Those who are only acquainted with the British Ferns as they existed and were known in the days of the late Mr. Thomas Moore, can have little conception of them as they exist at the present day. The number of species may be said to remain the same but the varieties and their apparently illimitable variability of form have gone beyond the fondest dreams of the imagination. The other day between the daylight and the "mirk" we called upon Charles Thomas Druery, Esq., Stanwixbank, 11, Shaa Road, Acton, Middlesex, concerning whose Ferns we have heard a great deal, and some of which we remember seeing at the Fern Conference held at Chiswick some years ago. His unique collection is almost entirely confined to special forms of the British species, many of which are the loveliest forms of their kind in existence. They consist of wild finds, or have sprung from the wildings under cultivation. On the present occasion we can only confine our remarks to a few of the groups, particularly those which are now in their best condition, or are evergreen, though we cannot refrain from alluding to some of the Lady Ferns which are amongst the finest in existence.

The common Polypody is now at its best, whether in its native habitats or under cultivation, so that reference to it is very appropriate; but for the present we need refer only to specially fine forms. Starting with Polypodium vulgare, we may say that two of the primary developments upon it are P. v. longipinnatum and P. v. cristatum. The former has pinnae about two or three times as long as those of the type and was found by Mr. Druery at Killarney. The latter is simply crested. Between these and P. v. cambricum there is a wide gulf; but some five forms of it, we noted here, constitute a very natural group. Mr. Druery regards all of them as plumose forms of the Polypody, inasmuch as all of them have undergone a great amount of vegetative development, that is, they are much divided, greatly amplified and absolutely barren, so that no sporelings can be raised from them. Before going further we may correct an erroneous impression that has got widely circulated, namely, that the Welsh Polypody, so called, is peculiar to Wales, the fact being that it has been also found in several places far distant, and the best types of it originated in the Lake District. The ample, leafy, twice divided fronds of P. v. cambricum are not yet mature, some being only half-grown, or less, as they only commence to grow in June when summer is upon us. P. v. Prestoni was found in the chink of a rock near Carnforth by Mr. Preston, and is a more plumose form of P. v. cambricum, being in fact the densest and most leafy or plumose of the whole section. P. v. Barrowii is the most robust of the section; and while it is less densely imbricate than P. v. Prestoni it is in every way of bolder habit or form. P. v. plumosum Hadwin has much blunter segments than P. v. cambricum, less foliose and narrower fronds. P. v. cambricum Oakleyae differs from the type in having distinctly narrower pinnae and pinnules. While all these five forms might be taken for P. v. cambricum by a casual observer they are really distinct in the eyes of the Fern lover who has patience to form a close acquaintance with them. This applies in a similar way to every other class of plants liable to vary in details of structure or form.

Quite different from the above are the original P. v. cristatum, an improved form of it, unnamed, and P. v. grandiceps Mrs. Fox. The last is a remarkable form inasmuch as it continues to grow dichotomously from the apex of the pinnae and pinnules until all are much divided. P. v. grandiceps Forster is more foliose than the previous one, and the midribs of the pinnae are red when seen by transmitted light. P. v. glomeratum Mullins is very variable, scarcely two of the fronds being alike. P. v. bifido-multifidum has bifid pinnae, and a multifid apex. Very handsome is P. v. pulcherrimum, having long and much divided fronds which go a long way in the direction of P. v. cambricum, but have not the same papery texture, and are freely fertile. All parts of the frond of P. v. semilacerum undulatum are much undulated or crisped. Undoubtedly the finest of all the forms of the common Polypody is that named P. v. elegantissimum, which was found by three collectors travelling together, each of whom gave it a different name so that in course of time it leaked into other collections under all the three names. The other two are P. v. Whitei and P. v. cornubiense. There is another triad in connection with this splendid Cornish find, namely, three forms of frond on the same plant, (1) the normal form or type; (2) an intermediate and much divided, very beautiful form; and (3) the absolutely best or *ne plus ultra* form of frond, while all three forms may appear as parts of one and the same frond. This last is finely divided to begin with; then it develops a long tongue at the tips of the principal segments. On the under surface the normal sporangia are usually very few, the rest being replaced by small green papillae amongst which nestle a few bulbils which develop presently into little plants. To see this fine form makes one cease to wonder at the enthusiasm of the pteridologist, and the affectionate care he bestows upon his pets. Nor was this all. One of the fraternity conceived the idea of effecting a cross between P. v. elegantissimum and P. v. bifido-multifidum, and the cross having been obtained shows both parents, in exactly four forms of frond upon one and the same plant. THE GARDENING WORLD gave an illustration of some fronds of this plant in connection with the Conference on Hybridisation held at Chiswick last year. The apical pinna of each frond of P. v. macrostachya grows out into a long tail. P. v. ramosum Hillman has two to four laminae on the same footstalk and is singular enough in its way. Altogether Mr. Druery grows about three dozen forms of P. vulgare.

The only exotic we noted in the living state was Asplenium Hemionitis cristatum, which Mr. Druery picked up last June in the Azores during the first half hour of a ramble. There seems no end to the possible variations of Scolopendrium vulgare, the Hart's-tongue. S. v. crispum fimbriatum Stansfieldi is a fimbriated, heavily crested and aposporous form of great beauty, as it continues to grow at the margins and apex forming very deep and sharp fringes. Mr. Druery has discovered apospory in four distinct species of Fern, this being one of them. Another very much lacerated, fimbriated and crisped form is S.v.crispum Drummondae,originally found by Miss Drummond. S. v. Kelway's densum is the most outrageous thing in this line we noted. The plant keeps on developing fronds or segments about 1 in. long and ⅛th in. wide, forming a tuft like a small Selaginella, a moss or a Jungermannia, and totally unlike a Hart's-tongue. One has no conception of what this could mean or represent in the life history of the species. Quite a large and old piece can be grown under an inverted tumbler. S. v. Cousensii produces many round-headed fronds upon a single stalk and the whole stands about 6 in. high. The fronds of S. v. crispum Wills measure 4 in. and more across, and in our opinion it constitutes one of the most handsomely crisped and crested forms in the species. It ought to be grown in quantity for decorative purposes in private gardens. Another very singular form is S. v. cristatum viviparum O'Kelly, which is heavily crested at the apex, and irregularly proliferous on the upper surface, the small protuberances or bulbils gradually becoming plants. S. v. supralineatum is notable for the presence of a raised line on either side of the midrib, its significance being undetermined.

Turning now for a glance at the multifarious forms of the Hard Fern (Blechnum Spicant) we felt greatly interested in the beautiful form named B. S. concinnum Druery, in all probability never detected by human eye till Mr. Druery spotted it on Exmoor in 1881. He was at once charmed by its distinctness and graceful form; and if he was an admirer of Ferns previous to that time, he henceforth became a most ardent and resolute enthusiast. It was in fact the turning point of his career, when

he changed from an ordinary or casual observer, and developed into a specialist of the most pronounced character; and since then has been so successful not only in finding new and remarkable forms, but in raising even finer ones under a state of cultivation. Within a week of his first find he picked up B. S. polydactyla near Lynton, Devon, and was now smitten with the fever for collecting, a most enticing and alluring pursuit which he has since cultivated at intervals in various parts of Britain and Ireland. The very narrow and neat fronds of B. S. concinnum Druery are made up of semi-circular, very short and beautifully serrate pinnae. B. S. lineare Barnes differs in having entire or almost entire strap-like fronds. Quite a handsome form is B. S. plumosum Airey, which, in its best and highest development, is bipinnate, and 2 ft. long, yet narrow and graceful. The basal third only of the fronds of B. S. contractum is narrow and contracted. The broad pinnae of B. S. imbricatum overlap one another like the tiles on a roof. Another type is B. S. ramo-cristatum, with branching and crested fronds. B. S. ramo-cristatum Sinclair has the pinnae of the fertile fronds mostly confined to the apex. Of the Lady Ferns, Lastreas and Polystichums we must say something later on as the limits of space are against us on this occasion; while the varieties, which include some of the finest forms in existence, are too rare, beautiful and interesting to be overlooked.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, October 23rd, in the Drill Hall, James Street, Westminster, 1—4 p.m. A lecture on "Mistakes in Orchard Management," illustrated by limelight, will be given by Mr. John Ettle, F.R.H.S., at three o'clock.

Syndical Chamber of Belgian Horticulturists.—At a meeting of the above in conjunction with the Royal Agricultural and Botanical Society of Ghent on the 7th inst., Certificates of Merit were awarded to Dracaena Standaerti, presented by M. P. Standaert (by acclamation); Agave attenuata, shown by M. E. Bedinghaus; a lot of Cattleya hardyana and C. h. Mme. Maurice Verdonck, exhibited by M. Maurice Verdonck (in both cases with unanimity); Cattleya Harrisoniae var. Prince Albertus van België, shown by M. L. P. De Langhe-Vervaene (by acclamation); to each of Laelia praestans var. amoena (with unanimity), L. praestans var., Stenoglottis longifolia var. albens, Cattleya bowringiana Wild's var., and C. hardyana lilacina, all exhibited by the Marquis of Wavrin; Miltonia moreliana Vinckii, C. Harrisoniae var., C. Prince Albert (C. Loddigesii × C. Trianaei), Dendrobium Phalaenopsis Princesse Albert de Belgique, Cattleya labiata Princesse Clementine (by acclamation), Laelia praestans grandiflora, Cattleya schilleriana superba, and C. Lafontaine (C. Mendelii × C. guttata), all the eight being shown by M. Vincke-Dujardin; Laelia praestans var. bella, shown by L'Horticole Coloniale (by acclamation); a collection of cut flowers of new varieties of Cactus Dahlias, exhibited by M. A. Gallet (with unanimity); a collection of cut flowers of Ceanothus, in twelve varieties, staged by M. G. Kerkvoorde; and a collection of cut flowers of Gloxinia, presented by M. le Comte Oswald de Kerchove de Denterghem. A Certificate for culture was accorded to Echinocactus Grusonii, shown by M. E. Bedinghaus. A Certificate for novelty was placed to Anthurium scherzerianum Aurora Boréale, shown by M. Louis De Smet (with unanimity). Honourable mention for flowering was accorded to Burlingtonia candida, exhibited by M. Maurice Verdonck. A similar award was made to a collection of cut flowers of new varieties of Canna floriière, shown by M. A. Gallet. Chrysanthemum Chas. Molin, Chrysanthemum Mutual Friend, Kentia gracilis, Cibotium Schiedei, and Dracaena Bruanti fol. var., shown by several exhibitors, the Jury desired to see again at a future meeting.

Thunbergia grandiflora, a pretty warm house climber, is now displaying long sprays of its tubular, lavender-coloured flowers.

A Pink Carnation is President McKinley's favourite flower, and has been adopted as an emblem of fealty for the U.S. electioneering campaign.

The Journal of the Department of Agriculture of Western Australia for August, 1900, has reached us, and in it are articles on a wide number of up-to-date agricultural and horticultural subjects, &c.

Orchid Flowers in the Market.—Orchids, especially Cattleyas (says an American contemporary, and we here can say the same), are becoming more and more a factor in the cut flower market; and the general flower-buying public, as well as the very wealthy, are becoming familiar with them. During the winter season the demand is usually greater than the supply and the call for these gems of the floral kingdom will undoubtedly continue to increase.

A New Cabbage Planter.—Mr. John Macdonald, of Lenzie, N.B. (says the *Farmers' Gazette*), has invented an improved Cabbage planter. The implement is of simple construction and performs the triple operations of dibbling, planting, and closing simultaneously. By its aid a man has planted from 8,000 to 10,000 Cabbages in day, every plant being left as straight as a die. The implement is very durable and so simple as to be turned out at the cost of a few coppers.

Gardening Appointments in Ireland. — Mr. Robert Russell, gardener for eight and a half years to — Fry, Esq.. J.P., Wilton House, Merrion Road, Dublin, has been appointed steward and gardener to Mr. Tedcastle, Marlay, Rathfarnham. Mr. William Haddow, for the past two years general foreman at Castle Boro', County Wexford, has been appointed head gardener to Lord Ardilaun, Ashford House, Cory, County Dublin. Mr. T. H. Quin, from Messrs. Dicksons, the Royal Nurseries, Chester, and late head gardener at Bushey Park, Enniskerry, has been appointed head gardener and manager to Col. Cosby, Stradbally Hall, Queen's County.

Croydon and District Horticultural Mutual Improvement Society.—One of the most successful meetings yet held took place at the society's room, the "Sunflower" Temperance Hotel, George Street, on Tuesday, the 9th inst. Mr. W. J. Simpson was in the chair, Mr. M. E. Mills in the vice-chair, and upwards of forty members were present. The chairman introduced Mr. Scaplehorn, a member of the Woking Horticultural Society, who gave an interesting and instructive paper on "Hardy Flowers." The lecturer dealt most ably with the various classes of hardy flowers, pointing out their beauty at various seasons of the year, the treatment, cultivation, propagation, &c.; also the most suitable kinds for giving effect in the garden, as cut flowers, and for exhibition. Hardy Orchids, Liliums, Primulas, Iris, aquatic and bog plants, and the formation of beds and borders were also noted, and in the course of his paper Mr. Scaplehorn pointed out that the humble cottager could grow and enjoy the hardy flowers equally with the millionaire. The reading of the paper was listened to with great interest, and at its conclusion met with most hearty applause. A very interesting discussion followed, in which many of the members took part. A hearty and unanimous vote of thanks was passed. The meeting was brightened by a fine display of hardy flowers by members and friends, Mr. M. E. Mills showing twenty-four fine bunches in as many varieties; also a beautiful vase of Physalis Francheti. Messrs. G. Jackman & Son, of Woking, also contributed about two dozen bunches of excellent varieties. Mr. J. R. Box, Croydon, exhibited a number of boxes of single and double seedling Begonias, cut from the open ground at West Wickham Nurseries, of the best types and rich colour, also some new Dahlias. Messrs. John Peed & Son, West Norwood, exhibited a large collection of Begonias from the open ground, both single and double, the Camellia and Picotee forms being exceptionally fine. A vote of thanks was accorded the exhibitors for their exhibits. The chairman announced that the next meeting would be held on the 16th October; subject, "Chrysanthemums," by Mr. M. E. Mills, The Gardens, Coombe House, Croydon.

Mr. Peter Barr, V.M.H., was lately at Melbourne, New South Wales, and gave a lecture on Daffodils before the Royal Horticultural Society, of Victoria, on August 9th. His portrait appears in *The Leader*, which is an immense weekly publication issued in Melbourne. A short history of Mr. Barr's career is also furnished. His aim in thus travelling so far and wide is for collecting and classifying plants that may be useful to "the trade."

Royal Horticultural Society.—Mr. Gauntlett, of Redruth, has presented a collection of thirty-four hardy varieties of Bamboos to the Society. The Essex County Council have presented one of their Technical Committee Students to a Scholarship tenable at the society's gardens. The following are the subjects appointed for trial at the gardens during the season 1901-2, viz.:—1, Verbenas. 2, Hybrid Tea and hybrid China Roses. 3, Delphiniums. 4, Herbaceous Lobelias. 5, German Irises, with a view to the correction of nomenclature. 6, New varieties of Potatos. 7, New varieties of Peas. 8, Summer and autumn Cabbages. 9, Plants suitable for salads. *W. Wilks, Sec.*

The Plenteous Fruit Harvest.—Fruit growers in the Peterborough district (and possibly elsewhere), says the *Midland Counties Herald*, have a grievance against the newspapers. Exaggerated statements have been made as to the bulk of the fruit crop; buyers have acted on the information and refused to buy except at very unremunerative prices to the seller. Consequently the crop, which is an average one, is being wasted. Around Peterborough tons of stone fruits lie rotting beneath the trees. A local buyer admitted that he purchased at £6 a ton Plums which in London readily fetched a price "equivalent to £40 a ton." For ourselves we will say that there is a vast amount of irresponsible statistical writings and reports given through the Press in these days. The fruit crop has been so heavy this year that we know there are men who have not cleared carriage and commission agent's expenses on the sale of tons of their fruits!

Reading and District Gardeners' Mutual.—The first meeting of the autumn session was held on Monday, the 8th inst., and as it had been arranged for Mr. G. Stanton, of Park Place, Henley-on-Thames, to give a paper on "Annuals," it is needless to say that a very large attendance of members was present. Mr. Stanton, in introducing his subject, said that at the present day it was difficult to draw the line exactly between annuals, biennials, and perennials, because the two latter are frequently treated as annuals, with advantage by growing from seed. Annuals may be said to serve three distinct purposes, viz.:—for cutting, an important consideration in these days; for bedding, a purpose for which many of them are well adapted; and for filling up or supplementing our mixed borders as may be necessary. The varieties best adapted for various purposes were then touched upon under the following headings:—Climbers, Summer Bedding, Spring Bedding, Cutting, and Mixed Borders. A very interesting discussion followed, in which Messrs. Fry, Townsend (Wellington College), Barnes (Bearwood), Tunbridge (Henley), Pope (Wargrave), Butcher (Newbury), Neve (Sindlesham), Tufnail, Sherlock (Mortimer), Lever, Alexander, and Bryant (Pangbourne) took part, and the conclusion came to was that autumn sowing was of great advantage and that many perennials should be treated as annuals. A great feature of the meeting was the exceptionally good exhibits of flowers from the open, and which would have been considered excellent had it been August instead of October. The flowers were staged by Mr. Stanton, who had a collection of thirty-four varieties; Mr. F. Lever, The Gardens, Hillside, perennial Asters from seed; Mr. W. T. Townsend, Sandhurst Lodge Gardens, Pentstemon and Physalis Francheti; Mr. E. Fry, The Gardens, Greenlands, Sweet Peas; Messrs. Sutton & Sons, Ten Weeks Stocks, Nemeslas, Marguerite Carnations, and Mexican Poppy; Mr. S. W. Sherlock, Oakfield Gardens, Salvias; whilst Mr. Botley, Blythewood Gardens, Maidenhead, brought some beautiful Eucharis amazonica. A hearty vote of thanks was accorded to the lecturer and to the exhibitors. Although the association is a very large one it is continually growing, seven new members were elected at the meeting.

Weather in London.—On Sunday the weather was very changeable, and severe hailstorms fell toward mid-day. Monday and Tuesday were bitterly cold and threatening, the mornings being foggy. Wednesday morning was very mild, and some rain fell.

Messrs. Yamanaka & Co., of Osaka, Japan, have opened a branch establishment at 68, New Bond Street, London, for the sale of Japanese Art Work, both ancient and modern. The reputation which the firm has enjoyed in Japan for many years among Japanese, European and American collectors is such as to warrant it in appealing to the British art-loving public with the fullest confidence. Consignments of artistic work will be received direct from Japan from time to time, and collectors, interested in any special classes of art work, will be regularly advised of shipments, provided they notify to the firm particulars of their requirements.

Tomato Disease and "Veltha."—In reply to "A. P's." request on p. 4, that marketmen and growers of fruits and vegetables on a large scale might furnish testimony of their experience in the use of "'Veltha,' a much advertised remedy for disease," we furnish the names of growers who have so far all written in favour of "Veltha." These are:—Mr. James Harris, Blackpill Nurseries, near Swansea; Mr. Brett, nurseryman, High Street, Whitstable; Mr. Campbell, Auchinraith Nurseries, Blantyre, N.B.; Mr. G. Wilson, Sunningdale Nurseries, High Blantyre, Lanark; Mr. J. R. Hamilton, Waltham Cross Nurseries, Herts; and Mr. F. S. Baker, Goring Nurseries, Sussex.

Essex Technical Instruction Committee.—A party of thirty-one persons started from Harwich on May 26th and spent six days in Denmark. While in Denmark they visited the Danish Co-operative Butter Manufactory at Eshjerg, and the Agricultural School at Ladelund, and other schools. The margarine factory at Vejen and milk-freezing establishments, &c., were amongst other of the places visited. The party appear to have had every attention and the kindest of welcomes. An account of the trip has been published, Mr. T. S. Dymond having compiled the report. We do not know if a price is placed upon these pamphlets containing the report, but enquiry at the County Technical Laboratories, Chelmsford, would elicit the information. Being fully descriptive and illustrated, the report should be interesting and valuable to all agriculturists and dairy folks.

Beckenham Horticultural Society.—On Friday, October 12th, Mr. D. Harris, gardener to Colonel Jekyll, Munstead House, Godalming, read a paper on "The Formation and Arrangement of a Hardy Border." In the selection of a site, south or south-west was recommended, backed by a wall, upon which might be grown many beautiful shrubs, forming a background. Rigid lines and narrow strips were alike unsuitable; 15 ft. wide was desirable for effective arrangement. Lumps of sandstone along the front afforded suitable places for trailing plants. In the arrangement, repetition of groups at regular intervals was to be carefully avoided, planting threes and fives to break formality. A few good annuals were quite admissible, but nothing weedy-looking. Such perennials as Helianthus and Harpalium required to be lifted annually and roots carefully removed, replanting small pieces. Some plants, such as Delphiniums, Anemone japonica and others are best undisturbed for years, while others are much better lifted annually. Ordinary bulbs were not favourites in the hardy border. Mr. Harris spoke very highly of the advantages afforded by working with Miss Jekyll some years ago, when discriminating between the better plants and the less worthy, and recommended any one contemplating planting or rearranging a hardy border to read "Wood and Garden." It is impossible in a short note to give even a synopsis of the subject. Quite a number of questions were asked, and at the close, Mr. Thornton, in a few well chosen remarks, proposed a vote of thanks to Mr. Harris, which was accorded heartily by all present. An imposing display of Begonias was sent by Messrs. John Peed & Son, Roupell Park Nurseries, West Norwood. A tastefully arranged basket of Roses and some of the newer varieties of Cactus Dahlias were shown by Mr. Trowell, gardener to D. Link, Esq., "Fairlight." Mr. Day, gardener to H. F. Simonds, Esq., "Woodthorpe," exhibited a beautiful specimen bloom of Vanda sanderiana.

Your article on the moth catching propensities of Physianthus albens is most interesting. Since writing you, when I sent up the specimen, I have recollected that some two years ago a specimen was sent up from here to the Natural History Museum, South Kensington, with a bee caught in it—just in the same way that moth was, and the reply sent was that this was very interesting, as in Argentina, where the plant was indigenous, the bees never were caught; but that in the south of France and in other countries, where the plant had been removed to, they had received reports that bees there got caught, which looked as if bees had intelligence, and ought not to be caught when they got better acquainted with the plant. Now oddly enough I find that though that year many bees were caught on my plant, this year not one has been, which looks as if in some way they had got to know that there was a trap there; and yet the plant is usually covered with bees. I suppose there are not many parts of England where this plant will grow in the open air, otherwise I should much like to know what others have noticed. Of course, in a greenhouse neither bees nor moths would be plentiful enough to make this peculiarity noticeable.—*C. Halford Thompson.*

Devon and Exeter Gardeners' Association.—The annual general meeting of the above association was held in the Guildhall, Exeter, on Friday, October 12th. The committee were again on this occasion able to present a most gratifying report. The work done had been strictly in keeping with the practical issues for which the association was founded. To all who in any way had been instrumental in helping the business and ends of the association the society expressed its thanks. Mr. Mackay reported that the balance in hand from the previous year was £16 11s. 9d., the number of members 64, and the balance in hand at the end of the year £21 13s. E. A. Sanders, Esq., was re-elected president, and the following as vice-presidents:—The Mayor, the Sheriff, Major Tracey, Messrs. Imbert-Terry, G. D. Cann, P. C. M. Veitch, J. Dallas, C. T. K. Roberts, R. G. Abraham, W. Lethbridge and W. B. Heberden, C.B. Messrs. A. Hope and Mackay were unanimously re-elected hon. secretary and hon. treasurer respectively. The committee for the ensuing year consists of Messrs. W. Andrews, G. C. Crabbe, W. Rowland, J. Rogers, S. Radley, J. Baker, W. R. Baker, W. Charley, F. Edwards, J. Weeks, W. Merritt and J. Luxton.

Bristol and District Gardeners' Mutual Improvement Association.—The opening meeting of the winter session was held at St. John's Parish Room, Redland, on Thursday, October 11th. Mr. W. A. Garaway presided over a very large attendance, and briefly introduced the lecturer, Mr. F. W. E. Shrivell, F.L.S., of Tonbridge, Kent, assuring him of the pleasure his visit gave to the association members, who were deeply interested in the line of work to which he had given his time and ability. The lecture was on "Chemical Manures in the Kitchen and Fruit Gardens," the subject being treated by Mr. Shrivell in his usual lucid style. He claimed at the outset that to use chemical manures successfully a man need not be a chemist, admitting that the matter required some thought, but not more knowledge than was possessed by the ordinary gardener. He combatted the idea that chemicals impoverished the soil, urging that by their proper use they gave back to the earth what was by root action taken away. On economic grounds he strongly advocated the increased use of chemicals, and gave some very interesting statistics as to experiments he had conducted over several years at Tonbridge, showing that in some cases crops could be more successfully grown with chemical than other manures, and proving in all cases that chemicals could be profitably added to whatever manures were being used. Broccoli, Potatos, Strawberries, Apples, and Gooseberries were all mentioned as having been grown under the varying conditions, and always to greater advantage with the judicious use of chemicals. Several questions were asked Mr. Shrivell, all of which he kindly and clearly replied to, and received by acclamation the thanks of the meeting for his attendance and lecture. Prizes for twelve Plums were awarded Messrs. Orchard and Poole; for six Onions, Messrs. Ross and Sutton. Certificates of Merit went to Mr. Poole, for a collection of hardy flowers; Mr. Ambrose, for baskets of Peas and Cauliflower; Mr. McCulloch, for Cattleya Harrisoni; and Mr. Maidment, for Cattleya labiata.

First Ascent of Mount Kenya.—The inaugural address, given by the principal of Reading College (H. J. Mackinder, Esq., M.A.), on Wednesday, October 10th, was very interesting and instructive. The subject was "First Ascent of Mount Kenya in Equatorial Africa," and was beautifully illustrated by a series of photographs taken on their journey. It was not a botanical expedition but the photographs showed the remarkable vegetation in this almost unknown part of the world. Arriving at Zanzibar the expedition had considerable difficulty in obtaining porters, &c., but after some trouble this difficulty was overcome and the party consisted of six white men including two Swiss guides, and about 170 black men. Owing to modern methods of communication he and his party were able to be on the brink of an unknown country in a very short time. During the journey from the shore of the Indian Ocean to the great Victoria Nyanza he obtained what he believes to be an unique photograph of a rhinoceros in its wild state at comparatively close quarters. Mr. Mackinder spoke of the wild animals while crossing the plains, immense herds of zebras, antelopes and numerous ostriches, while a lion was actually shot from the train. The remarkable thing was their apparent indifference to the locomotives, while the sight of a human being was sufficient to send the whole herd off at full gallop. A photograph of the Uganda railway passing through a forest showed that the trees, although gnarled and old, were only bush height. He explained the phenomena by saying that there is such little rainfall during the year, and the trees only break into leaf after a storm which is very infrequent; hence the slow growth of the trees. Of rare plants he showed the photographs of what he simply termed giant Groundsel (Senecio), and giant Lobelia. The collector and guide stood in the photo for comparison. The latter Lobelia, to use Mr. Mackinder's own words, was "Taller than a man, with flower spikes half as tall as a man." These plants were most curious, dotted about over the slopes of Mount Kenya. The difficulties of the actual ascent, and the surrounding country were then graphically described; and the necessary observations taken. The speaker said its present altitude was from 16,000 ft. to 17,000 ft.—*C. P. C.*

Lady Warwick Agricultural Association for Women.—The second annual meeting of the above association was held at Stafford House, St. James's, S.W. (by kind permission of the Duke of Sutherland), on Friday, October 12th, at 3.30 in the afternoon. There was a large turn-out of ladies and gentlemen who are interested in the progress of this project. The Countess of Warwick presided, and speeches were made by Messrs. T. W. Sanders, W. Iggulden, J. C. Medd and others. The speakers confined their remarks to hints useful to women who may wish to enter any of the lighter branches of agriculture. After the Countess of Warwick had delivered her opening address in which she spoke satisfactorily of the progress made by the association, Mr. W. Iggulden was called upon. His theme was "Women as Market Gardeners," and in his remarks he made the following suggestions:—Find out what is wanted, then grow it well. It is not a case of what you think *ought* to sell, but what experience teaches *will* sell. Buyers, like schoolboys, have their fads. Be careful when leasing or buying land. Unscrupulous dealers will fleece ladies on all hands. Always, if possible, choose a "high" church district instead of a "low" church neighbourhood. There are ten times more flowers wanted by the "high" church. A small market town is preferable to make a start in; do not come to London. Have something to sell before you open shop or nursery, for if you obtain a customer one day and cannot keep her supplied, you need not expect to get her again. You must lay yourself out to employ a certain amount of unskilled labour; you will never succeed without this aid. Above all, be careful and have full experience before you start. Mr. T. W. Sanders also spoke on much the same lines. He advised the women gardeners to be very careful and as tasty as possible in choosing and presenting their produce for market. The grading of fruits, &c., and packing in general was dealt with. Other speakers followed, some reading papers, others merely saying a few words, but their suggestions will be embodied in the report of the association or in the *Women's Agricultural Times*. The organising secretary of the L.W.A.A., Lady Warwick Hostel, Reading, will be pleased to furnish information to those interested in the work done by the association.

Mr. A. Hubbard, recently gardener to Mrs. Burn, North Mymms Park, has been engaged by Mrs. Llewellyne, Baglan Hall, Bicton Ferry, South Wales, in place of Mr. Gilbert, who is going into business.

The Society for the Protection of Birds is offering two prizes, of £10 and £5 respectively, for the best papers on the protection of British birds. The mode of dealing with the subject is left entirely to competitors, but among the points suggested for treatment, are the utilisation and enforcement of the present Acts and County Council Orders; the modification or improvement of the law; educational methods; and the best means of influencing landowners, and gamekeepers, agriculturists and gardeners, collectors, birdcatchers, and birdnesters. Essays are to be sent in by November 30th. Particulars may be obtained from the hon. sec., at the society's offices, 3, Hanover Square, London, W.—*Mrs. F. E. Lemon, Hon. Secretary.*

Speedy Flowering of Nymphaea stellata.—Mr. James Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton, W., sowed some seeds of Nymphaea stellata in February last. The seedlings were planted out of thumb pots on the third day of the Temple Show. The leaves were then about the size of a florin, but before the end of August they were 14 in. to 15 in. in diameter, which was large even for this species, and the plants were in full bloom. That seems to us to be pretty quick work, making the plants behave as if they were annuals. We need not overlook the fact, however, that Victoria regia reaches the flowering stage in the same period of time. It needs to be shown, however, that other Water Lilies can be grown to the flowering stage in the same period of time; and in the case of N. stellata it has been accomplished.

PRACTICAL SWEET PEA CULTURE.

To be successful in obtaining the richer shades of these popular flowers, varied stimulants must be employed. Kainit or sulphate of potash is essential to superior colouring of primrose, maroon, scarlet and deep blue shades, as seen in Queen Victoria, Black Knight, Salopian and Countess Cadogan. The superb variety Gorgeous is worthy of its name when fed on sulphate of potash. This fertiliser assists the development of substantial blooms as it retains moisture in the soil, a condition essential to the production of superior Sweet Peas. Both these potassic substances are indirectly soluble, so should be placed in the under soil during autumn or early winter, at the rate 1 oz. to 1½ oz. per square yard.

Soft red and rose shades as Lady Mary Currie, Prince of Wales, and the striped variety Coronet, do best with sulphate of ammonia. If not overdone this manure gives grand results in size and colour of flowers; but it must be remembered plants gorged with sulphate of ammonia will produce coarse and tainted flowers. Half an ounce to the square yard is ample, which should be worked through the under "spit" at time of sowing or planting. Light shades, such as Lady G. Hamilton, Venus, Prima Donna, and the superb white flowered variety Blanche Burpee, are decidedly improved in substantial transparency by a mixture in equal parts of superphosphate and sulphate of ammonia, 1 oz. to 2 oz. per square yard at time of sowing. True, these substances are soluble, but I write from practical results obtained in the present season of 1900, therefore offer no apology to scientist or theorist. I am not, however, prepared to say that the substances enumerated would be best for all soils—rather otherwise. The soil I deal with is heavy loam on stiff clay subsoil, and rather favourable to Sweet Pea culture. It is also in good heart from previous supplies of farmyard manure, leaf soil, ground gypsum, &c. So readers with poor soil might profitably employ the larger allowance of artificials recommended, and those with rich soil the lesser quantity. Autumn sowings have never succeeded with me, so I resort to 6-in. pots filled with soil consisting of three parts fibrous loam, one part leaf soil, one part sand, thoroughly mixed. Six seeds are planted ½ in. deep in each pot, placed in an ordinary greenhouse about the middle of February. At the end of March they are taken to a cold frame, matted well for a few nights, gradually hardened off, then planted in their flowering quarters from middle to end of May. I make a point to supply rods in good time, and after the flowers appear which is about the first week of July, I remove all showing signs of decay, thus preventing seed pods and encouraging a plentiful supply for future cutting. After the end of July I keep my plants in good heart by alternate supplies of soot water and liquid from farmyard tank, mulching in severe drought. The soil in which Sweet Peas are grown should be *wet* previous to applying liquid manures. The above twelve varieties—changing countess Cadogan for Navy Blue—are very hard to beat.

No flower than the Sweet Pea lends itself to such arrangement, and no flower reflects more credit on an enthusiastic floriculturist.—*Henry H. Gibson, The Gardens, Glencairn, Belfast, October 15th*, 1900.

MULCHING

Is a boon to almost all plants, and I would like to say a word in favour of a mulch material I used last autumn when planting my bulbs; and again in spring. About February I planted several hundreds of Daffodils, such as Emperor, Empress, P. R. Barr, Princess Ida, Sir Watkin, Cernuus, and the double incomparabilis varieties, &c., in ordinary garden soil, and which, in my garden, is not of the best. The material used was Jadoo Fibre, which I had direct from Exeter; and the result of my experiment with the above was so very beneficial to the growth, the quality of the flowers, both as regards size and colour, that it compels me to urge those who, like myself, have a poor soil to give Jadoo a trial. I planted my bulbs in October, from 3 in. to 4 in. deep, rather firmly, in rows about 6 in. by 3 in. apart. When the bulbs were lifted they had increased amazingly, and had large handsome, heavy bulbs such as I had seldom seen. Lilium auratum bulbs, planted at the end of October, have flowered equally well. These, however, were nestling among the fibre, and some spikes carried as many as twenty to thirty well developed flowers. With Montbretias and Gladioli The Bride I had similar results. The Jadoo seems to create a strong healthy root action before the bulbs have made much top growth, which is very necessary in the successful cultivation of bulbs and tubers.—*W. L.*, 109, *Hither Green Lane, Lewisham.*

AMONG THE VIOLETS.

After so many good articles that have appeared in your pages this season on the culture of these, there should be no lack of good stuff for removing under glass to supply the always welcomed blossoms during winter and spring. I have seen them tried under various ways, and come to the conclusion that unheated frames or pits give the best returns, the Violet being so impatient of anything in the way of fire heat or coddling in any shape. Ours are planted, or will be this week, in brick pits that grew early Potatos. These were three parts filled with freshly gathered leaves in January, and all that is required now is to clear out the soil (Cucumbers have been grown since the Potatos were lifted), and fill up to within 1 ft. of the woodwork with decayed leaves, treading it well, then replacing the said soil 10 in. to 12 in. in depth, when all will be ready to receive the plants. In lifting secure good balls of soil with the roots; trim off all lengthy runners, preserving short jointed ones close up to the parent plants, and place the plants as closely together as the said ball of roots will allow, making the same quite firm, and well watering in after. With this treatment no lights need be put on for the present or shading resorted to. Marie Louise and Swanley White we stand by.—*J. Mayne, Bicton.*

SINGLE CACTUS DAHLIAS.

The beauties and grace of the single Cactus varieties far exceed (in my opinion) any of the other sections; their light and elegant forms and vivid colourings all seem to lend themselves so gracefully to the art of the decorator. When cut and lightly arranged in conjunction with Gypsophila paniculata, or any light decorative grass, nothing can exceed their elegance. Slowly and surely they are pushing their charms to the front. Many are the remarks I have heard about them when first brought before the public, "thin, washy, not up to much, don't care for them." My advice to all is, to grow a few plants, arrange a vase when in flower, and I feel certain they will be pleased with the result. Their cultural requirements are the same as the other sections, without the thinning of shoots and buds so often recommended for the double Cactus Dahlias. Cut with long stems in the early morning, flowers in a young stage. Grown in beds or borders they are very attractive for garden decoration, starting to flower early and lasting until frost cuts them off. I append the names of a few varieties I know to be useful. Queen Mary, Lady Clare, Crusader, Bruce, Brenda, Althaea, and Meg Merrilees, all of which should find a place in the garden where cut flowers are in request.—*A. Manson.*

IMPROVEMENTS.

We have now reached the proper time for transplanting all kinds of ornamental trees and shrubs; and it is wonderful the improvements we can make on the face of this old world, and especially on the rough corners, when we get the wherewithal to do it. One with a quick eye for the ornamental can easily notice spots where a few finer trees or shrubs would brighten them up. Every planter should aim at what is likely to succeed, and none are better for this purpose than the double Crataegus or Hawthorn, double Cherry, Cytisus, Syringas, Purple Beech, red-leaved Oak, &c. Other grand objects for pleasure grounds are the many varieties of weeping trees, such as Weeping Lime, Ash, Elm, Birch, and Willows, especially if there is a pond or cascade in the neighbourhood. Then there are the different beautiful forms and colours of the Maples or Acers. There is always satisfaction in planting this class of trees as they increase in size and beauty every year, and even add to the value of a property. For moist and shady corners the golden and silver Hollies do well; also Rhododendrons, Azaleas, Ribes, Weigelas, Coniferae, &c. In planting it is necessary to make a good sized pit for each; and if the natural soil is poor, give a mixture of rotten turf and old leaf soil, for the first mentioned class of trees. The others thrive better if a good proportion of fibrous peat is added.—*J. C. Dick, Champfleurie, Linlithgow.*

BRUSSELS SPROUTS.

For the present and winter use this is one of our most useful vegetables, and a little anxiety might be caused at the looseness of the early Sprouts, especially on light soils. This I attribute in a great measure to dryness of the season, which caused them to be so long in growing. One should get amongst them, and some of the leaves will be accidentally broken off; if not, a few should be removed where they are too thick, so that light and air can play their part. If the weather still continues dry a good soaking of water or manure water should be given, and it will be found that growth is much quicker, the Sprouts larger and firmer. When Sprouts are required early the tops ought to be taken off a few of the strongest. By so doing more vigour is thrown into them, though some by no means agree with this, averring that they are more liable to be injured by frost through being exposed at the top of the stem, although they are by many taken off after the first few frosts. Varieties I have not mentioned, but am of opinion that the old Wroxton is second to none, and from what I have seen of the Wroxton Improved it is still likely to hold its own.—*W. Waite, Southfields.*

POLYGONUMS.

During the late summer and autumn there are few brighter and more interesting subjects in the borders and rock garden than the Knotweeds. They quickly become established, are not fastidious as to soil or situation, and require very little attention, except to keep them from encroaching on their weaker neighbours. To commence with the species I will first mention polystachyum, as one of the best. In October it is a wealth of blossom, branching out from the stems, making quite a mass of pure white flowers, which are deliciously fragrant. It is very useful for vases lasting a long time in water. Cuspidatum is another grand species with handsome dark green foliage and creamy white flowers. Sachalinense is a splendid plant of immense size, very striking on the margins of streams or lakes. Macrostachyum is a very good plant for the borders, with creamy white flowers. Amplexicaule is a charming plant, producing scarlet spikes of flowers in the autumn, and also very useful for vase work. Amplexicaule oxyphyllum is a variety of the preceding, with feathery spikes of white flowers. Sphaerostachyum is a good alpine with carmine spikes of flowers. Brunonis, a great favourite and one of the best alpines, produces rosy-pink spikes of flower in great profusion. Vac-

cinifolium is a pretty creeping alpine with branching spikes of rose-coloured flowers. They are easily increased by division of the roots, which is preferable, and by seed sown in April.—*A. Thatcher, Aldenham, Elstree.*

CLERODENDRON FALLAX.

This useful decorative plant, with its broad erect leaves, and bright scarlet flowers, is easily raised from seed sown in January and February, and potted on as soon as large enough; or it may be grown from cuttings, taken from old plants, started in spring and struck in a propagating case where they soon root. After they are rooted, they should be potted in a mixture of loam, peat and decayed cow-manure, with a sprinkling of silver sand, using 48's and 32's for potting them in, as these sizes are most useful. Clerodendrons delight in a strong, moist heat, kept near to the glass to prevent drawing, and shading in bright sunshine, as the leaves easily get burnt. When the flower spike shows they may be removed to an intermediate house. This will somewhat harden them for the conservatory, or going into the house for decoration. During August and September they are exceedingly useful for these purposes, remaining for a long time in full beauty. After flowering less water should be given to gradually dry them off, after which place on a shelf in a warm house till spring, then prune them back and place in heat to start into growth again. A sharp eye must be kept on insects, &c.; sponging and dipping, as any appear, in one of the many well known insecticides now in commerce is the best remedy.—*John Botley, Blythewood Gardens, Maidenhead.*

BEGONIA GLOIRE DE SCEAUX.

I am glad to notice two short notes recently anent the above useful winter and spring flowering plant, for it is quite a decorative subject when not in bloom, its rich coppery leaves having a telling effect when intermixed with well coloured Crotons. We find spring-struck plants do better than keeping and growing on old plants the second year. Your correspondent, Mr. James Reid, did not say whether he cut them back after flowering or not, but I presume he does so, as he says they are easily struck. The most satisfactory way we find in increasing the stock is to cut the old stems up into single eyes with leaf attached, and dibble the same into cocoanut fibre in a close case, potting up as soon as rooted, which quickly takes place in this light material. We pinch the leading shoot at the second leaf, potting on as required. A 6-in. pot will grow fine plants. I learnt from our county council lecturer this Begonia is easily rooted from the leaf, similar to Gloire de Lorraine, of which so many of your correspondents have recently had a say. We hope to give this a trial next spring. We find it advisable to keep away the syringe when in bloom, as the flowers drop so soon and the foliage decays if kept wet overhead. They do well in the Fern house at this stage. —*Grower.*

PERENNIAL ASTERS.

This beautiful and interesting family, better known perhaps as Michaelmas Daisies, although more extensively grown of late, promises to become even more popular when the newer varieties become more generally known, and deservedly so, coming into flower as the majority of them do, when other flowering plants have been spoilt by early frosts. I think the reason why they have been so despised is because the varieties so often met with, especially in cottage gardens, have no decided colour; and are entirely different to the newer kinds which possess some beautiful shades of colour. Another important point in their favour is that their blossoms are quite regardless of autumn cold and rains. Their cultivation is of the simplest; although they delight in a good soil, they do not refuse to grow in almost any soil or situation. The essential point is to select the best kinds. Some good varieties from 1 ft. to 2 ft. high are Madame Cacheux, Amellus amelloides, diffusus horizontalis, niveus, and Amellus bessarabicus; from 2 ft. to 3 ft. high, ericoides, laevigatus, Novii-Belgii Miss Stafford, paniculata W. J. Grant; from 3 ft. to 5 ft. high, grandiflorus, Novae-Angliae ruber, Novii-Belgii and its varieties F. W. Burbidge, densus, and Berenice. The last named tall growing kinds produce a fine effect if planted in the back row of a border, or any odd space near tall growing evergreens, where, besides having a charming effect at this season, they supply plenty of flowers for cutting for vases.—*G. Robins, The Gardens, Dudley House, Springrove, Isleworth.*

ORCHID NOTES & GLEANINGS.

By the Editor.

Orchids from Cheltenham.—A box of grand blooms of Orchids, chiefly Cattleyas and Dendrobiums, have reached us from Mr. James Cypher, Queen's Road Nursery, Cheltenham. The varieties of Cattleya labiata were notable for their great size and lively colours. They measured about 9 in. across the petals, and 2¼ in. to 2½ in. across the lamina of the lip. Needless to say these measurements or amplitude of size add largely to the gorgeous appearance of the blooms. One had a rich crimson purple lamina, and others were conspicuous by the heavy purple veins running through the same, the expansive throat showing the orange blotch to advantage. Even more gorgeous in their rich colouring were the flowers of Cattleya dowiana aurea, the greater part of the lip, including the tube, being lined with crimson on a rich orange ground. The lip in this instance measured 3½ in. long and 2¾ in. across the wavy lamina. The substance was also excellent. A spike of the hybrid C. Mantinii accompanied the others and was notable for the rich purple sepals and petals and crimson-purple of the lamina. Vanda caerulea, with its beautiful sky-blue marbling, measured 4 in. across.

Amongst the Dendrobiums, D. aqueum, otherwise known as D. album, was notable for the size of the flowers, which had only a yellow blotch on the lip to contrast with the snowy purity of the rest of the flower. One bloom had actually three lips, showing the vigour of growth. For autumn and late summer flowering this ought to be more grown, as the white flowers are well shown up by the evergreen foliage as in D. chrysanthum. Dendrobium Phalaenopsis schroderianum was represented by a large number of flowers in many colours. The finest and rarest of all was D. P.s. hololeucum, the pure white variety, which is still very scarce and valuable. Two very dark varieties of the same Dendrobe had purple segments and a maroon-crimson base to the lip. The others were lighter but showed many pleasing combinations of colour. A chaste form had the lamina of the lip lined with rose, and the petals tipped with rose, the rest being white. Cattleya Loddigesii Harrisoniae had large and chastely coloured flowers of a very light shade. A spike of Zygopetalum maxillare was also noteworthy.

CROSSING AND RAISING CHRYSANTHEMUMS.

Two years ago I made my first and only experiment in hybridising the Japanese Chrysanthemum; and out of some nine pairs of plants, I was so far successful in raising about 130 plants. With a very few exceptions I flowered them all the same year as they were sown. Several of them if still in existence (I have since left the profession), and grown for exhibition purposes, will vie with many of the best show varieties.

With your permission I might give a few words as to my procedure. I had a house which was empty, waiting for repairs. The house was span roof, well heated, and well ventilated, and by a no small amount of shifting the plants about I escaped drips. In the latter end of November I chose the plants I wished to cross. I took them into this house, and stood them in pairs, of which pairs I intended one plant as pollen bearer, and the other as seed bearer. I was careful when pairing them to have the flowers on pollen bearing plants younger than those on the seed bearing plants. I kept the heads about 18 in. from the glass, and kept the night temperature at 50° to 55°, with 5° to 10° warmer during the day (I might say that the flowers were on the crown bud), and then I set to work and pollenised the plants several times daily carefully with a camel hair brush. The plants were rather sparingly watered, and all drops wiped up at once. I found my worst enemy was greenfly, but by persistently vapourising with nicotine, I managed to keep them clean.

This watchful care was carried on until the middle of January, or a little later, when I had all the seed heads cut off. I put them on trays, and stood them over the warm pipes in the same house (some 4 in. off the pipes), turned them daily, and as they thoroughly ripened by a little manipulation the heads fell in pieces, when I put them in paper until the middle of February, when they were sown.

I might say that previous to sowing I had occasion to call on one of our best experts in raising seedling Chrysanthemums. I told him all about my experiment, when he told me I did not need to trouble with them. As they were difficult to get seed from, he doubted if I would get a single seedling from the whole lot. I knew what he had done and was doing, and came away in very small hopes of success. However, the next day I thought I would sow the seed and see; but instead of keeping the parentage of each lot as I had them labelled, I mixed up the whole lot together, sowed them in shallow boxes, and stood them in an early Peach house. Much to my surprise and chagrin I raised the number as stated at the beginning of this article.

I write this to show how easily Chrysanthemums may be raised from seed, and by crossing only the best varieties, and keeping dwarfness in view, it is possible to do what a few and very few gardeners are doing at the present time. We have a Molyneux, a Coombes, and a Weeks, noted for their success in raising varieties better by far than any foreign introductions, simply by using a little common sense. Why not others go and do likewise?—*Wm. Rushton, 249, Junction Road, Upper Holloway, N.*

The Orchid Growers' Calendar.

Greenhouse Orchids.—"I wish we could grow some Orchids!" is a common exclamation, "but as we have only a greenhouse it is no use our thinking about it." This is a mistake, however, for with a little trouble there are many beautiful Cape or North American Orchids that thrive well in a greenhouse. From the Cape comes the beautiful Disa grandiflora, which does well in frames facing north during the summer months, and at the cool end of the greenhouse in winter.

Shallow pans suit them best, and the compost they like is fibrous peat, live sphagnum moss, bits of sandstone, which should be made rich by an addition of some leaf mould or well rotted manure. They like a liberal amount of moisture at all times, which is best afforded by the syringe.

From North America come Cypripedium parviflorum (which somewhat resembles C. Calceolus), C. candidum, C. humile, and C. pubescens; C. guttatum from Siberia, and C. japonicum from Japan. Then there is the beautiful C. spectabile and C. spectabile album, which I have seen in great masses, doing well planted out in the South of England.

Being terrestrial species, those potted up must not be raised above the rim of the pots, as is the custom with most Orchids, but the compost should be about an inch below the rim. This admits of a thorough watering being given them.

The compost should be similar to that recommended for the Disas, except that the peat should be more broken up. Good drainage is essential on account of the amount of moisture required at the roots, which must be allowed to pass freely away.

By placing them at the north end of the greenhouse during the winter months, and in cold frames facing north during the summer months, a grand display can be had with a very little trouble. Insects trouble them but very little, providing their treatment is intelligently carried out. Sometimes though in very hot summers thrips and green fly will attack them, or a few might get on them from other occupants of the greenhouse during the winter, but these may and should be got rid of at once by the use of the vaporiser.

Cypripedium insigne I have seen done exceedingly well in cold frames during the summer months, producing plenty of flowers when returned to a warm greenhouse in winter. C. villosum, too, will do finely treated in this way, and no doubt a great many other things would be all the better for a system of cooler treatment during the summer.—*S. C.*

HINTS FOR AMATEURS.

Chinese Primulas.—Being very amenable to the artificialities set up by progressive florists, the Chinese Primulas, or Primroses, to be more homely, have, within the last decade, one might say, been augmented by a variety of sections. It is becoming a varied family. But the later changes have been more or less a reversion to the types of Chinese Primroses, which used to be grown half a century ago; I refer to the newer "Star Primulas." This latter type has all the qualities of gracefulness and brightness. I think that now that gardening (which means gardens and flowers) is becoming so widely popular, and is being enthusiastically patronised by the most artistic and educated personalities, many of the old florists' lines of development and evolution for flowers will have to be given up in place of what we might call an artistic, a freer, and less rigid caste or code of rules. The undeviating exactitude of circular form will merge into an irregular but yet well-defined and pleasing flowering contour, giving us still a flower strong in substance and deep or brilliant in colour. And indeed nearly all the old tenets of rigid exactitude and oriental formality will, and *is*, breaking down before the advance of a more beautiful, because more reasonable, taste. Still, the old Chinese Primulas, the large flowered and double sorts, are likely to be grown and improved on the old florists' lines, for the contrast of the rounded corollas and the curved and sinuate leaves is in keeping with the best of good taste. These Primroses love a cool atmosphere, the temperature during the whole period of growth never need go beyond 70°, and this only at the earliest potting period. When good seedlings have been raised a compost largely composed of loam, inclined to be heavy, is suitable. The most preferable compost is one consisting of about 2½ parts of good loam, and 1½ parts of decayed, dry cow manure and sand. Sowings for early spring flowering should be made early in June of the preceding year; but for winter flowering a sowing may be made in March or April. Sow very thinly and lightly in round pans filled with light soil. Place these pans on the top of cocoanut fibre or sifted ashes, which should cover the bottom of the propagating case. The temperature of the house in which this case is placed, should not go lower than 60° during the succeeding three weeks, whence the seedlings may be expected through the soil. The glass which till then is placed over the pans is partly or entirely removed. When two little seed leaves have developed to the size of threepenny pieces, the tiny plantlets are ready for a shift into the smallest thumb pots. But it is far the best plan ordinarily, and specially recommendable to amateur growers who have not their constant time to devote to the plants, is to "prick off" the seedlings a week after they have appeared through the soil, into shallow boxes filled with soil only a little heavier or firmer in texture than that in which they have germinated. Place them about 4 in. apart either way, and leave them there so long as they are seen to be doing well, and are not crowding each other. Shapely plants are wanted, and the only way to develope nice specimens is to give them freedom and to turn the sides to the light, so that one side may not suffer while another is continuously favoured. From these boxes (which may be placed in a light, airy greenhouse), they must be potted into 3-in. or 4-in. pots, retaining as large a portion of the ball as possible while performing this work. Hereafter the culture is well enough known, and at the present time need not here be followed up. The plants which are coming into flower at the present time chiefly demand careful watering. They, like Cucumbers, Melons, and other such things, are apt to damp off. At the first potting the greatest attention and skill should be exercised to pot the little plant so that the lowermost leaves just touch the finished-off surface soil. In many gardens one sees "wobbly" plants which even require to be propped on the four sides with short stakes. These plants grow well enough, but they are always objects on which one requires to keep an extra vigilant eye, and they are liable to snap off just at the collar.

Cuttings of bedding plants which may be still outside, or may be indoors now, will require to be looked over, so that the many damp, dying and dead leaves, or even the cuttings themselves, in some instances may be removed. Nothing preserves the vitality and resistability of such cuttings as cleanliness and air about them. When taking out the leaves, or when attempting to pull them from the plants, do not be clumsy about the job. And it is necessary to press the leaves downward to unloosen them, rather than to pull them upward, which process may result in the cutting coming away with the leaf. The surface soil or sand may be slightly stirred, though this beneficial operation is not absolutely necessary. Avoid repeated waterings. As a rule the first thorough watering which is given after the cuttings have been newly inserted, will carry them through for almost half the winter. A dry soil should be preferred, during the cold dull months, to a damp one.

Hardy Border Plants.—The propagation of many of the choicer hardy herbaceous plants from offshoots and cuttings is progressing. Division is also quite a good method. The border may soon be overhauled for division and re-planting, though where bulbous plants are planted in numbers one is compelled to leave over this work until the spring. We all like to see the borders gay in springtime with Snowdrops, Crocuses, Scillas, Narcissi, and other flowers, but the border planting of bulbs has also its drawbacks.

Salvias.—The brilliant flowers of the Salvia are now blazing in gardens all over the land. What a splendid plant Salvia splendens really is! There has recently been introduced an improved, or it is said to be an improved form of S. splendens named Ruhum du Stuttgart. It is undoubtedly a vigorous and handsome variety, and may well be taken notice of by growers.

The only point to be insisted on in the culture of Salvias at the present time is not to allow those in flower to suffer at any time for want of water, nor to subject them to a drying atmosphere. Under both circumstances they are sure to drop many of their flowers, and if not that, they go all the more quickly past.

Cyclamens.—Treat these in the same way as Cinerarias and Zonal Pelargoniums. A place in a light span-roofed house, such as I described and recommended a short while ago, ought, if it is at all possible, to be accorded to them. I advised that one house (it need only be a small one) be set apart for the "Zonals" and the Cyclamen, each to occupy one side of the house. Their needs are so much alike that this arrangement works admirably, and from good plants a steady supply of blooms can be cut all through the winter. It is very strongly advised to keep the hot-water pipes at medium heat, unless when the weather is bright and agreeable for growth. By so doing the ventilators can be kept open in nearly all weathers, much or little air being given according to the prevailing conditions. The air is thus kept circulating, and being mild or even warm, one might say, it takes up the moisture which lies above or is intentionally sprinkled for the benefit of the plants. A medium temperature of 60° at night up to 65° or 68° throughout the day should be held as sufficient.

Recently Potted Bulbs which are making roots under the cover of fibre or (preferably) ashes should be examined at short intervals to make certain of the state of their growth. Many bulbs are nigh being spoilt because of being too long withheld from the light after having sprouted into growth. It does not take one long to turn aside the covering and to replace it if the signs are not favourable for the exposing of the bulbs.

Solanum jasminoides is at the present time in flower in the open air, where it is grown in favourable gardens. Cuttings of the young growths, which will soon appear, may be taken and struck in small pots filled with a light compost. It is a very worthy greenhouse climber.

Cannas.—Strong tubers of these should now be sought out for immediate potting. They may be subjected to an intermediate house temperature, and treatment similar to what one accords to a Dracaena or Tuberose. The plants now coming into flower require a liberal supply of water and some liquid manure as feeding.

The Season.—This is a season when the thoughts now turn to many plans yet to be formulated and put into action. The winter is close upon us, and though October is turning out well, for which we are thankful, yet everything should be done to prepare the garden, the houses, and the work they entail, to proceed properly and well, and to be fitted for hard weather, or rain and storms which might come at very short notice.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Greengages unhealthy.—*J. Wood*: Your trees appear to have been starved more than anything else. Prune the old dead wood off closely and remove at the same time any useless "spray," which is weakly shoots. The roots may be laid bare toward the end of the month and the present soil should be enriched by a prepared compost which may then be incorporated. If the roots are in bad order this will conclusively prove that the soil is very much in need of renewal. The drainage should be ample, seeing the sub-soil, according to your cognisances, is gravelly. Add half a barrow load of lime to the soil. A top mulch of sappy manure would also be beneficial. During next growing season supply liquid manure, and sprinkle over top dressings of superphosphate and nitrate of soda.

Roses going bad.—*L. F.*: We fear the soil is far too stiff, and a foot deep is beyond all rule. True enough Roses in general like a fairly stiff soil, but not absolutely one of a clayey consistency. We advise you to lift them and plant elsewhere, or else greatly improve the existing soil by adding five or six barrow loads of road scrapings and light soil to one of the clay. After the soils have been thoroughly worked and broken up, plant the Roses say from 5 in. to 6 in. deep, spreading the roots out and making them moderately firm. Leave the pruning of them till spring.

Rustic seats.—*John*: Provided you have abundance of material—rugged and knotted branches, barked and dried, you ought to be able to place together a substantial framework, and this done, work in a "rustic" pattern with the branches. A saw, a chisel, a hammer, and some nails would be quite sufficient.

Sand below Bulbs.—*C.*: This good practice saves the bulbs from damp and possible rotting. It is advisable to place a handful of coarse sand below all choice bulbs, especially Liliums growing in a tenacious soil.

Scented Pelargoniums out-of-doors during Winter.—If we remember rightly we have seen scented Pelargonium Radula and P. r. majus, besides the Oak-leaved species (P. quercifolium) stand the winter in mid-Yorks. Severe winters would assuredly kill them, but firm-wooded established plants can hold out against a mild winter.

Crinum Moorei.—*A. L. S.*: Keep the bulbs on the dry side during the winter, and we advise you to give them the protection of a fruit house or other cool structure through the winter. They do succeed out of doors in favoured corners in the South of England gardens.

Lapageria rosea.—*Henry Bell*: Perhaps the soil has become too soddened and too compressed. You could not do better than add a considerable quantity of the broken coke and coal cinders, it delights in such stuff. Coarse sand may also be liberally added. See to it that the water has free passage from the soil. You could re-arrange and regulate the shoots and growths of the plants, extracting all needless shoots in doing so.

Propagating Pelargoniums.—*F. J.*: You may successfully propagate both the fancy and the zonal Pelargoniums by cuttings. These you ought to be able to get just now in quantity. The fancy varieties are resting for the winter, but they have plenty of shrubby growths. Well developed zonals which have been in flower during the summer will also be at the propagator's disposal. Choose good, stout, hardened shoots, and cut off the bottom leaves to make a bare stem of about 4 in. in length. A clean, horizontal cut should be made through the stem below a joint. Then pans or small 2½-in. pots filled

with a sandy compost should be used for dibbling them into. A place in a small frame having a normal temperature of 60° will suit them till they are rooted.

Making a Lawn.—*A. L.*: Despite the fact that special publications on this subject have recently been noticed in our columns, we receive sundry queries about certain points connected with the making of lawns, &c. We can only say here that to obtain a level on ground now very uneven borning rods have to be employed. But a rough general level can be cast up first, judging simply by the eyes unaidedly. Then starting from some fixed point, where a level headed pin has been driven down, you should work round this pin in all four directions, knocking down other pins like the first one, and taking their level from the first one inserted. This is done by looking over the top of a borning rod placed on the top of the central pin, and thereby catching the level of one placed on top of the surrounding pins, so that if the pins are driven too low they may be raised, and if not low enough they are beaten to the proper level. The surface soil should be good, and ought to be firm. A mixture of the best grass seeds should be selected, and sown at the rate of one and a half to two bushels per half acre.

Treatment of Crinums.—*T., Minto*: At this time ripen the bulbs as well as you can. Expose them to all the sunshine there is going, and keep them sufficiently supplied with water to maintain healthy working roots. Soon, of course, they will be under treatment to rest them during winter. One of the most important facts to remember in the culture of all bulbous plants is that the better ripened and more fully developed they are, the surer will they flower (and flower well) during the succeeding year. Pot or top-dress the plants in March, and in June place them out of doors.

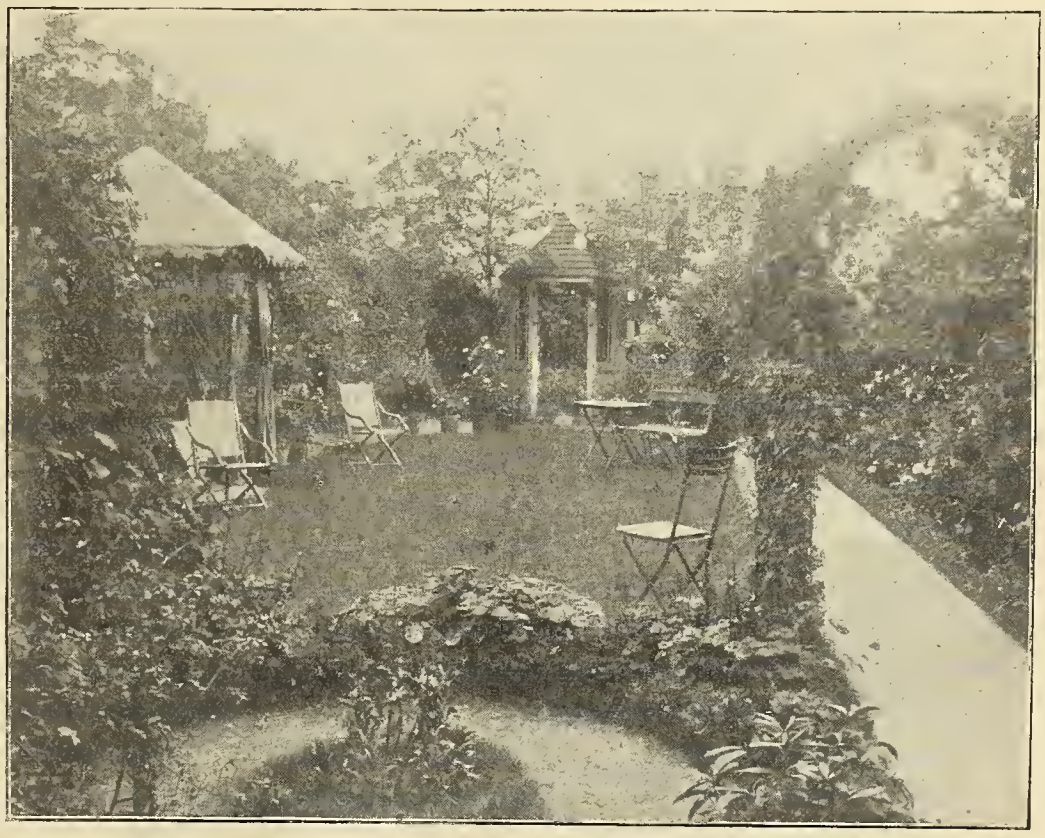
A SUBURBAN GARDEN.

One of the finest traits of the present day, in the dispensation of their means by those who are successful and well-to-do, is the thought and appreciation which the wealthy give to gardens and gardening. When the comforts necessary to a happy home have been provided for, generally the first consideration after this is the provision of as ample and beautiful a garden as possible, for it is recognised not merely as a place where so many stationary beauties and pleasantries can be enjoyed, but also as an area for recreation, and it is the fittest place of all, for quite contemplation, study, and rest. Those who make up their minds on these points, and whose temperaments incline them to the quiter pleasures, are never disappointed when they interest themselves in the culture of plants and flowers, and in the planning and working of a garden.

The owner of the suburban garden, which we are about to describe, is James Webster, Esq., whose house and grounds are situated at 70, Lewisham High Road, New Cross, London. New Cross is a large district or vestry in the south-eastern part of this mightiest city of the world. To glance at the illustrations here shown (and we are sorry that considerations of space prevented other equally pretty and characteristic photographs from being employed) one would be dubious in accepting a statement that these represented a typical London suburban garden. The apparent vigour both of the foliar and flower display, seems to reflect more the purity of country air and sunshine, than the real conditions of pent-up and hot reflected air with its suffusion of sulphurous smoke which is found in London. But Mr. Webster is fortunate enough to possess a pretty garden, and to love it, too. And when a gentleman takes active interest in the what and wherefore of the operations which rule the formation or keeping of the garden, one seldom finds it other than successful. The garden is not newly made, though improvements have recently been enacted under contract by Messrs. J. Laing & Sons, of Forest Hill, S.E. In the first instance, however, the garden had been arranged sensibly and with taste. Where space is limited, the trained landscapist exercises the rules of his craft when planning and planting, to deceive the visitor or surveyor in his estimate of apparent extent. This, the designer accomplishes by his system of planting, whereby vistas may be formed, or open stretches are introduced; and skilfully planned features which one would only expect to find in more extensive domains are ingeniously contrived, the aim being to impress one that amplitude is certainly a feature of the garden.

We do not infer that in Mr. Webster's garden the designer had scope to practice his greater art, but on a scale adapted to this suburban garden of an acre in extent, there seems to have been an attempt to give breadth and extent by only showing one portion at a time, and never an entire view of the whole from any point of vantage. At the north end or that portion furthest from the house, a fruitful orchard of half-standard Apple and Pear trees is located; and behind the screen, which these fruit trees provide, a fair-sized poultry yard exists. The fowls receive plenty of air and good light, so that all of them are strong and sturdy birds. Pigeon cots, rabbit hutches, and a number of convenient sheds that are handy for a variety of purposes are also to be found, and all of them are unobservable from the centre of the garden. The grounds are bounded on three sides by walls about 8 ft. or 9 ft. high. On the wall facing south young fan-shaped and horizontally trained Apple and Plum trees have been planted; and now that they are becoming established some exceedingly fine fruits have developed, fruits which for size, good form, and handsome appearance would be creditable even in the gardens of expert fruit growers. The situation and aspect of the wall on which these young trees are developing should be favourable for the production of heavy and well finished crops. The practice of summer mulching, and strict attention to pinching of the shoots in the late part of summer are the main factors to be borne in mind for their successful culture. Some shapely standard trees of Williams' Bon Chrêtien Pear were on the point of yielding liberal crops at the time of our visit. Many of the fruits, however, were infested with the larvae of the Codlin Moth, one of the means of combating which is to spray the trees with Paris Green. This poisonous material is very dangerous in its effects, and the utmost care must be taken in all operations in which it is handled and used. One ounce of Paris Green to twenty gallons of water furnishes an excellent insecticide for destroying the caterpillars before they enter the fruits. The solution should be sprayed over the trees and fruits when the latter are very small, and it is advisable to choose a quite, dull day for the operation. The spraying may be repeated at intervals of ten days for a period of six weeks.

Besides the larger trees, bush fruits are represented by clean and healthy Currants, of sorts, Raspberries, and a fine break of young Gooseberries. These receive the attention they demand, and in their season provide Mr. Webster and family with palatable dessert and produce for the table. In this screened-off part of the garden the vegetables are cultivated. Laing's Crystal White Celery was magnificent, though grown rather too closely. The break of Cabbages (fine plants all of them) had suffered detriment from the ravages of the Cabbage caterpillars. It is sometimes advisable to make use of one's hens or ducks as natural agents in overcoming these unwelcome pests. After an infliction of this nature it is generally good practice to dress the surface soil with quicklime. Carrots, Salsify, both of which are very healthful vegetables, were each shown by fine crops. Tomatos were not grown to any extent out of doors, but in one of the glasshouses some remarkable pot specimens were seen. These were bearing heavy crops, and so unusually large were some of the fruits that they were weighed for curiosity's sake. One of the heaviest reached ½ lb., and others came close upon this weight. Perhaps such very large fruits are not recommendable for any method of use other than cooking; but the fruits produced on Mr. Webster's plants were very solid and of splendid flavour. Coming back to the vegetable garden, however, it is noticed how the skill of the designer has screened off this not quite esthetic section from the large tennis-lawn and other parts of the flower garden on which it borders. By the new arrangement of the garden a belt of choice Conifers has been planted between the lawn and the vegetable quarters. This belt of evergreen trees is at once utilitarian and ornamental. Over the tops of this, the as yet, dwarf Conifers and the Apple trees are seen. The lawn we have just spoken of is as level as a billiard table and almost as smooth—a happy, little playground for all manner of games. On the left side looking down the garden and skirting this large lawn are the herbaceous borders, which contain a bright collection of hardy and summer flowering plants. These borders on the south side are backed up by shrubbery. On the opposite or north side stands the fruit wall above mentioned. In what might be termed the south-east section of the garden the formation merges outward in a winding and circular fashion, leaving abundance of space for more bush fruits, flower beds, and borders. Enormous Sunflowers, Phloxes, and Asters enliven the various parts here, and passing along under the Rose and "Creeper" covered arches a vinery placed at a short distance from the house brings us to a halt. We go inside and there count five Vines, on which we see from 250 to 300 bunches. The rods are planted in an outside border, and trained up and then down on both sides within the house. The



T. Sturdee.] [St. John's, S.E

The Arbour in a Suburban Garden.

lateral branches have been allowed to grow as far as space permitted them. The whole treatment speaks well for the man in charge. With such heavy crops from five young rods (about twelve years old) they must demand a deal of nourishment if the bunches are to be finished to perfection. The Muscats were doing well, and the Black Hamburghs had almost completely finished their ripening. A few Ferns and table plants were housed in this vinery.

In the greenhouse which stands a little higher up, we found the beautiful Hoya carnosa. The Bride's Wreath (Francoa ramosa) in pots was also doing well, and other well-known greenhouse subjects furnished the stages. We had an idea of the fairyland scene which the garden must present on the dusk of a summer's evening, when Mr. Webster pressed a switch which let the electric light flash into a hundred little globes beaded about the vinery, the arbour, the fountain, and among the bushes and trees of this the higher part of the garden. One of the illustrations (p. 123) shows the tiny fountain playing. Mr. Webster and two of his boys are also represented. The other photograph gives a view of a cosy arbour near the house, and which overlooks the lawn and other parts of the garden. It should be mentioned that around the basin of the fountain various Stonecrops, Saxifragas, and some dwarf alpines are planted. The vinery is within a few paces to the left of this. But though there are other features of this pretty suburban garden which one could bring to notice, it may be conceded that we have furnished a fair idea of its pretensions and general plan. If so comfortable a garden can be designed and furnished in one of London's closely-built suburbs, such gardens, having the maximum of utility and beauty, ought to be found far more frequently than is the case. So we leave Mr. Webster's garden for the present.

THE FRUIT CROP,

As I predicted in your pages early in the spring, has been enormous, and all up to its usual standard of excellence with the exception of Apples, which are very small, and a great part of them gnarled or crumpled quite useless for dessert or cooking. Neither do I think such fruits will tend to the quality of cider if used for this purpose. This is to be regretted, as no doubt it is the fruit of the masses, not only this, the majority of standard trees in the orchards in this locality are very much blighted, which must surely be detrimental to the formation of fruit buds for next year's supply. American blight, too, has been very prevalent this season, all against a clean healthy growth being made. This coupled with another dry summer must be part, if not wholly, the cause of so much deformed fruit and unsatisfactory growth. Pears are a fair crop, and the fruit clean and good, especially Beurré Hardy, B. Superfin, B. Bachelier, B. Diel, General Todtleben, Pitmaston Duchess, Marie Louise, Marie Louise d'Uccle, Thompson's, Doyenné Boussoch, Doyenné du Comice, Winter Nelis, and a few others of lesser value; while that good late variety, Glou Morceau, is very scarce with us this season.

Peaches and Nectarines have been very plentiful and good, not so much damaged by wasps and flies as at one time seemed likely. No doubt our placing bottles of beer and treacle on the trees was the cause of this, for we caught thousands. The trees have made clean and healthy growth, and all carrying such heavy crops of fruit. The said growth has not been too strong except one tree of Early Alexander, whose roots will be seen to very shortly. We still have a few fruits (October 12th) of that late Peach, Golden Eagle, to gather, so have had a fairly long season, starting with the former on July 18th, ten days later than some seasons. The trees get a thorough engineing twice a week, and an abundance of water at the root, two important factors to bear in mind in the culture of these luscious fruits.

Plums have been too plentiful, I think; tons upon tons must have rotted upon the ground in some parts. Nearly all of ours are on walls, east, west, north, and south. I am gathering the last lot to-day of Belle de Septembre; while Golden Drop was cleared two days ago. This has been extra good this year; it should be given a southern aspect as it requires a long time to finish. These remarks also apply to Reine Claude de Bavay, a grand late Gage. Apricots were a good crop, and quality supreme. Small fruits of all kinds have been in abundance, as well as Filberts and Walnuts. It is curious to relate that, in spite of the drought, those winged depredators, the birds, whose mischief I condemned so strongly last year, have not served the Apples and Pears so badly this season. Let us hope they see the folly of spoiling good fruit, and intend to let the grower sample his own when ready, but I shall still "*net*" in case they revert to their old game. —*J. Mayne, Bicton.*

TREES AND SHRUBS AT WINDLESTRAWLEE NURSERY, EDINBURGH.

On a beautiful September morning we took the electric car from Princes Street, Edinburgh, along by the Botanic Gardens and Inverleith Row towards the Granton Road, by the side of which the Windlestrawlee Nursery is situated, and which belongs to Mr. David W. Thomson, 24, Frederick Street, Edinburgh. The nursery forms part of the celebrated Lawson Nurseries in the early seventies. We took a hurried run through twenty acres of forest trees and flowering trees and shrubs, to which we confined our attention, although that does not exhaust the business done here. The ground is laid out on the plan customary in nurseries devoted to trees and shrubs, and the various breaks and acres of ground occupied by different subjects are kept scrupulously regular, neat, and clean. Hedges form dividing lines and give shelter in some places, but several belts of ornamental trees suitable for street, lawn, and pleasure ground planting also form even better shelter than the hedges as wind-breaks, because they are taller and much broader, while they are at the same time saleable stock, and thus occupy the ground economically, none of it being allowed to lie fallow.

One of the main walks runs parallel with the Granton Road, and on either side of the walk is a broad border occupied with a great variety of choice and useful trees and shrubs, including Conifers, Cherry Laurels, green and golden Privet (Ligustrum ovalifolium aureum), Cotoneaster microphylla, Lilacs, the purple-leaved Prunus Pissardi, and similar subjects always in demand for the planting of parks, pleasure grounds, &c. The left-hand side of these borders is fringed with a belt of Sycamore, Sweet Chestnut, Service Trees, Oaks, Ash, Laburnums, Willows, Poplars, Limes, and other deciduous subjects.

Weeping trees receive considerable attention, and amongst them we noted the Weeping Elm (Ulmus montana pendula) the Kilmarnock Willow (Salix Caprea pendula), and the American Weeping Willow (S. purpurea pendula). The Willows are highly suitable for planting in the neighbourhood of lakes and ornamental water. To these may be added Salix rubra, S. acuminata, the Golden Osier (S. alba vitellina), and several others.

Still proceeding along these borders we noted the Irish and Common Yew, Ligustrum japonicum excelsum superbum (with a creamy edge to the leaves), Rosa rugosa, Weigela rosea, W. Looymansii aurea (with golden foliage), and Cotoneaster Simonsii, in finely berried condition. The latter is a first-class subject for walls, porches, for covering fences to screen undesirable views in gardens, or for loose and not too closely cut ornamental hedges. Philadelphus coronarius aureus is another choice golden-leaved shrub. In the south of England Ceanothus Gloire de Versailles is considered the hardiest of the broad-leaved varieties, but here C. Marie Simon seems to take its place. The pink flowers are produced in great profusion. The Barberries are represented by Berberis stenophylla, B. vulgaris, and various others. Fine leaved subjects are the Purple Beech, Populus canadensis aurea, Cornus Spathii aurea variegata, and Cornus variegata, the latter having white margins to the leaves. The Swiss Stone Pine (Pinus Cembra) in specimens, 12 in. to 18 in. high, is grown in considerable numbers. It forms a beautiful upright tree, not liable to be smashed by snowstorms. There is a considerable variety of green Hollies, Sweet Briers, Spiraea ariaefolia, S. paniculata, S. Douglasii, and various others, all worthy of examination by intending planters.

In other parts of the nursery we came across varying quantities of such things as the Golden Elder, highly suitable for town planting; the golden cut-leaved Elder (Sambucus racemosa foliis aureis); Hypericum calycinum, Portugal Laurels, the red-stemmed Cornus sibirica, 5 ft. to 6 ft. high, and valuable for landscape effect in winter on account of the bright red bark; and Furze (Ulex), which is useful for planting in various situations. Prunus Pissardi, 4 ft. to 5 ft. high, was notable for the rich colour of the foliage. Double flowering Cherries and Paul's Scarlet Thorn are amongst the finest of flowering trees. A break of White Thorn was being budded with Paul's Scarlet Thorn. The Golden Mountain Ash, 4 ft. high, is notable for the rich golden colour of its foliage in spring. It had been lost sight of for some time and was recovered here by accident, as it were.

Of Rhododendron ponticum and choice hybrids there is a large stock; seedlings of the former being grown in great quantity and suggesting a use for covert purposes. The same may be said of the Black Thorn and Silver Birch, 3 ft. to 4 ft. high. The oval-leaved Privet is grown in great quantity for covert and hedges. The round-leaved Laurel (Prunus Laurocerasus rotundifolia), 2 ft. high, is stocked in quantity. It stands frost better than the common one. Next came a plantation of choice named hybrid Rhododendrons; and one of hybrid perpetual and Tea Roses. The Duke of Fife's Ash (Pyrus pinnatifida) stood 6 ft. to 8 ft high. Belonging to the same group were P. Aria latifolia and P. Theophrasti, the latter having oblong-elliptic and lobulate-serrate leaves, that are white and cottony beneath. It is a rare tree and proves suitable for town planting as it grows slowly. Other plantations contained one year's seedling Geans, Evergreen Privet, Maples, Ivies in pots in quantity and variety, White Broom, and Cytisus scoparius andreanus, with velvety-brown wings to the flowers.

Forest Trees.

Where these are grown, the nursery is laid out in squares, and the trees kept in capital trim for transplanting. Millions of Scotch Firs are grown. Commencing with the youngest there are one and two years' seedlings, two years and one transplanted, two years and twice transplanted, and two years and thrice transplanted. Oaks, 1 ft. and 2 ft. high, are grown in quantity. The green Populus canadensis and the Ontario Poplar are distinct trees. The English Yew in various stages and suitable for different purposes is grown in quantity. The same may be said of Cupressus lawsonianus, of which there is fine stuff 2 ft. to 3 ft. high. Some fine young Hollies, transplanted last autumn, are in good condition for moving now.

A large break is occupied with Spruces, ranging from 18 in. to 24 in. high, according to age, and forming fine even stuff. Some of them are three years' seedlings and one transplanted; while others are two years' seedlings and two transplanted, this lot being 6 in. to 12 in. high. There are variegated Sycamores of all heights, as well as green ones. Acer Prince Hendryi has golden leaves, with a purple under-surface. Acer Pseudoplatanus purpurea is also purple beneath. The Mountain Ash does well here, having large leaves and red petioles. Limes (Tilia vulgaris), paper-leaved Birch (Betula papyrifera), Purple Beech, 3 ft. to 5 ft. high, Horse Chestnut, 3 ft. to 4 ft., Black Italian, and Canadian Poplars are all trees that suggest subjects for town planting as well as parks and pleasure grounds.

Very fine is the stock of one and two years' seedling Larch from home-grown seeds, generally spoken of as native Larch. Of the ordinary European Larch there are seedlings in great quantity and breaks of trees 12 in. to 18 in., and 18 in. to 24 in. high. Other Conifers are grown in variety, including the Corsican Pine (Pinus Laricio), 12 in. to 15 in. high, Pinus montana, and P. austriaca in variety.

Fruit trees also form part of the business, including pyramidal and dwarf-trained trees in all the classes. Gooseberries and Currants are grown in quantity. Amongst Raspberries we noted Yellow Antwerp and Superlative, both very fine varieties of their kind—we should say the finest. All these things are kept in the finest condition for moving by the periodical transplanting to which they are subjected.

Bromelaids as Floral Receptacles.—It remained for a Chicago florist to take advantage of the structure of many Bromelaids, which enables them to retain a large quantity of water at the bases of their leaves, by using the plants as cut flower receptacles. Tillandsias are used in this way, and

when the proper kind of flowers are employed, the effect is both novel and pleasing.

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned below were given by the Royal Horticultural Society on the 9th inst. :–

Orchid Committee.

LAELIA PUMILA BUSH HILL VAR.—The sepals and petals of this variety are white, as is the lip, with the exception of a lavender band across the base of the lamina and on the side lobes. The interior of the tube, moreover, is golden-yellow. (Award of Merit.) Messrs. Hugh Low & Co., Bush Hill Park, Middlesex.

CIRRHOPETALUM GUTTULATUM.—The name of this gem in miniature is suggestive of the spotting of the flowers. The segments are all short for a species of Cirrhopetalum, amber-yellow and beautifully spotted with crimson. The lip is small and violet. (Botanical Certificate.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking.

GONGORA NIGRITA.—The sepals of this curiously constructed Orchid are brownish-crimson and marbled with yellow. The curious lip is variously marked with crimson and yellow. (Botanical Certificate. F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin.

Floral Committee.

CUPRESSUS LAWSONIANA PYGMAEA ARGENTEA.—Small, compact and conical bushes of this were hown by Messrs. J. Backhouse & Son, Ltd., York. Though eight or nine years old they were only 10 in. to 12 in. high. The branches and twigs have a great deal of a creamy variegation fading to a silvery white with age. The variety should prove highly useful for rockeries, owing to its slow and compact growth. (Award of Merit.)

POLYGONUM ORIENTALE.—This hardy annual grows from 18 in. to 8 ft. in height according to treatment, and is very showy when the branching plant is laden with drooping spikes of deep red flowers. The large leaves are ovate-cordate. It is a useful subject for isolated beds, borders and shrubberies. (Award of Merit.) Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton.

KNIPHOFIA LEICHTLINI AUREA.—The spikes of this dwarf form are short (3 in. to 5 in.), and consist of yellow flowers that are remarkably short and wide mouthed. The yellow corolla is practically overpowered and hidden by the long, orange-red filaments. K. L. distachya has pale orange-red flowers. (Award of Merit.) Messrs. Barr & Sons, King Street, Covent Garden.

KNIPHOFIA TRIUMPH.—The spikes in this case are 9 in. to 12 in. long, with large, soft, orange-yellow flowers, with a white edge to the lamina. Short side branches are often produced. (Award of Merit.) Messrs. Barr & Sons.

DAHLIA MRS. H. J. ALLCROFT (CACTUS) has blooms of large size and very showy, the florets being long, slender, and of a soft orange colour. (Award of Merit.) Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham.

DRACAENA OFFERI.—The parentage of this plant was D. Warreni × D. Gladstonei. The leaves are very long, arching, and bronzy-black with a broad red margin. It is a handsome plant for table decoration. (Award of Merit.) John Warren, Esq. (gardener, Mr. Albert Offer), Handcross Park, Crawley.

NERINE PURPLE PRINCE.—The flower scape of this distinct form stands about 12 in. high, and bears about seven flowers, having stiff spreading segments of great substance and deep crimson-red. (Award of Merit.) Mr. H. J. Elliott, Hurstpierpoint, Sussex.

ASTER CAPTIVATION is a seedling from Pleiad, and stands about 4 ft. high. The flowers are of a very delicate blush lilac, and produced in pyramidal panicles. (Award of Merit.) Lord Aldenham (gardener, Mr. E. Beckett), Aldenham House Elstree, Herts.

ASTER VICARY GIBBS is another very pretty Michaelmas Daisy, in this case having very small leaves like A. viminalis and A. ericoides, but differing from either in habit, which is strictly erect. The flowers are small, but freely produced in close, upright panicles, and of a beautiful rosy colour. (Award of Merit.) Lord Aldenham.

ASTER HON. EDITH GIBBS.—The flowers in this instance are small, pale lavender, and produced in large, branching panicles. The plant has the habit of A. diffusus pendulus, but is infinitely superior to that Michaelmas Daisy. (Award of Merit.) Lord Aldenham.

CHRYSANTHEMUM MRS. JAMES WILLIAMS is a sport from Lady Fitzwygram, of which it has the habit and everything else except the colour, which is of a clear lemon-yellow. The blooms are mostly produced on one level. (Award of Merit.) Mr. James Williams, College Park Nursery, Lewisham, S.E.

Fruit and Vegetable Committee.

PLUM PRESIDENT.—This handsome-looking Plum received an Award of Merit in 1895, and now is honoured with a First-class Certificate. The fruits are of large size, oval and dark plum-purple. Messrs. T. S. Rivers & Son, Sawbridgeworth.

MELON FREE CHASE FAVOURITE.—The oval fruits of this variety are yellow and moderately netted. The flesh is white, of considerable depth, rich and juicy. (Award of Merit.) Sir George Allen (gardener, Mr. Meads), Free Chase, near Hayward's Heath.

APPLE RIVAL.—The parentage of this handsome new Apple was Peasgood's Nonsuch × Cox's Orange. The fruit is oblate of good medium size (much larger than Cox's Orange), and the open eye is situated in a deep nearly smooth cavity. The skin is shining very clear, and bright red, with a yellow side where shaded. Sometimes the fruits are almost wholly red. The tree is a very free bearer, and the fruits ripen about November and keep good till Christmas, perhaps later. It will make a very telling Apple for market purposes, on account of its bright colour and good size for a dessert Apple. (Award of Merit.) Captain Carstairs (gardener, Mr. Charles Ross), Welford Park, Newbury.

Canadian Fruits in England.—One thousand cases of magnificent Pears, in many varieties, and numerous cases of the famous Crawford and Elberto Peaches have recently landed from Canada and been sold at Manchester. Many of the Pears are what are termed "giant fruits," being from 4 in. to 4½ in. long, the diameter being from 3 in. to 3¼ in. In colour, flavour, and juiciness they are said to be far superior to French Pears and meet with a ready sale.

BEGONIAS AT THE ROUPELL PARK NURSERIES.

IN spite of the reputedly bad summer we had, many garden crops have given excellent returns, amongst which tuberous Begonias grown in the open air must be included. The other week we paid a visit to the Roupell Park Nurseries, of Messrs. John Peed & Son, in the Norwood Road, London, S.E., and found the tuberous Begonias still in a floriferous condition in spite of cold nights and an occasional touch of frost in the mornings. A piece of ground in these nurseries, mostly devoted to glass, was planted with a set of most of the strains of tuberous Begonias raised from seed; but by far the larger area occupied with this popular race of flowers is in the Norwood Road, about five minutes' walk distant. Altogether there are about 100,000 plants raised from seeds in the early part of the year and transferred to the open ground in June. The quality of the flowers has been worked up to a high standard by the grower, Mr. R. J. Bastin, who has been schooled in more than one good Begonia establishment. Both single and double varieties are in excellent form, the former being of perfectly circular outline, and the latter containing a large proportion of varieties of first-class quality in good Camellia shape. All the plants have been classified according to quality and colour; the tubers of each type will be kept together as they are lifted, and will make excellent material for bedding purposes next year, or for pot work in the case of the special selections.

THE DOUBLE VARIETIES have now good stout footstalks which hold the flowers erect, and show them to the best advantage in bedding arrangements. By taking the colours as they are planted we can refer to the collection at both places and thereby avoid repetition. Amongst the apricot-coloured flowers are many fine forms of Camellia shape, and the colour is certainly attractive. Golden bronze is another popular colour, as evidenced by the five long beds in the Norwood Road alone. The plants are bushy and cover the ground quite closely, a remark that applies to all the other seedlings at both places. Of double crimson a goodly proportion have flowers of excellent form. Amongst the salmon varieties are many charming shades of colour, lighter or darker. Some salmon-pink varieties, with a white centre, are certainly excellent in form and

T. STURDEE] [St. John's, S.E.

FOUNTAIN IN A SUBURBAN GARDEN. (See p. 122.)

pleasing in colour. The bronze varieties are several shades darker than the golden-bronze section, having more of the bronzy-buff and orange-red shades in them. Many beds of the pink strain are grown and numerous choice flowers may be noted amongst them. A nearly white form was noted for the size of its blooms and beautifully crimped petals. Some of them were crossed with the view of getting Picotee edged varieties, and some of the seedlings show this type very markedly. They are generally pink with a rose margin of greater or less breadth and intensity. Crossing has the effect of introducing a considerable amount of variation, and amongst the pink strain others have salmon, salmon-pink, or pink shaded with orange. A few are tipped like a fancy Dahlia. Double red is lighter than crimson, yet a dark colour. At the opposite extreme is double white. Amongst the scarlet sorts are many first-class flowers fit for pot work. This bright colour is also highly effective for bedding purposes. Nor must we forget yellow, which has been greatly improved within the last decade, especially the double forms. The vigour of all seems pretty nearly equal.

Single Varieties.—Many gardeners and superintendents of parks still believe in the superiority of single forms of the tuberous Begonia for bedding purposes, on account of the brightness of the flowers and the ability of the stalks to support the flowers even under conditions that are not altogether favourable to them, as for instance during thunderstorms and wet periods generally. There are no doubt differences of opinion as to whether crimson or scarlet is the most effective colour, but we believe that most growers and gardeners would prefer the latter. In any case about a whole of one of the long beds of the scarlet strain has been sold for one of the parks. Four beds of the crimson type are, however, bright and effective as seen when the sun shines upon them. The single varieties also include beds of yellow, salmon and pink varieties respectively. A bed of the pink type was raised from three pods of seed, and all have come true to colour, the shade being of a soft pink and the flowers quite circular. Salmon, soft red and salmon-blush have all come true to their respective colours. The latter shade is very popular with the ladies. White, orange and yellow varieties have also been brought to great perfection, considering the quality of the average of the seedlings.

In a neighbouring garden Messrs. Peed & Son have planted several beds with Begonias of upright habit with large and shapely flowers, a bed of rose varieties being very fine. Another plot of six beds in a third garden shows many effective varieties and some interesting ones, including spotted and striped flowers, the markings of which, in one case, have been compared to stars and stripes.

The crop of seeds for next year's sowing is now being developed on pot plants under glass. The best named varieties and selections of the best quality are being used as the seed parents. For instance, all the salmon varieties out of doors have been raised from John Peed, a salmon of fine Camellia-shape. Superiority is a fine double-yellow. Many others might be named; but let it suffice to say that everything is being done to maintain and advance a high standard of merit.

In passing through the other houses we noted batches of pot Vines of all the leading varieties in different stages of growth. Two vineries are filled with Vines carrying heavy crops. In one Gros Colman, Black Hamburgh, Chasselas Napoleon, Alicante and Muscat of Alexandria are grown. Black Hamburgh and Gros Colman are the chief occupants of the other. The foliage of the fine collection of Caladiums here is now dying down. A house is filled with Palms consisting chiefly of Kentias, though there is a fine batch of Cocos weddeliana of different sizes, and another of Dracaena rubra. A second house contains Kentias varying from 9 in. to 3 ft. in height. Crotons, Dracaena goldieana, D. Sanderi, D. Lindeni, Phrynium variegatum, &c., fill another house. A cool house gives accommodation to Indian Azaleas for cut flower purposes, Grevilleas, Nerines and Kalosanthes coccinea. There is a fine batch of Gardenias in 48-size pots in a warm house of large size, other occupants being Cattleya labiata, Ixoras, Ferns, Aspidistras, Pellionia pulchra, P. daveauana, Sonerilla luteo-alba, Begonias in great variety, many being winter-flowering types; Poinsettias and Euphorbia jacquiniaeflora. Elsewhere are fine batches of Begonia Gloire de Lorraine, several varieties of B. semperflorens, and a large batch of Streptocarpus now in full bloom and very gay. A good deal of business is done in cut flowers, this branch of the establishment being conducted in a shop on the premises close to and fronting the busy thoroughfare known as Norwood Road.

NOTES FROM NEWQUAY.

After having taken a general survey of Newquay—as detailed on pp. 85-6—and discovered my location, so to speak, I did what the majority of Nature-lovers would probably do under the same circumstances, viz., go for a short ramble. Now maritime plants, by reason of their peculiarities and other characteristics, have a special interest to those who have not often an opportunity of looking them up, especially in such a county as Cornwall. Moreover, their habitat and the conditions under which they are evolved lend an additional interest to their pursuit. And so having waited for the "turn of the tide," I descended the cliffs and "put out to sea."

As regards the marine Algae or seaweeds, I am bound to admit that I am very much at sea. I do know, however, that they are no more deserving of being designated by the despicable appellation of *weeds*, than those other plants which—

"Enjoy the air they breathe."

There is a common belief that these plants are absolutely valueless. Our classical friend, Horace, too, seems to have been under that impression when he wrote *Alga inutilis*. However, these plants of the sea, notwithstanding their marvellous hues of brown, and green, and yellow, and crimson, and purple, in separate colours, or blended together, may well be dispensed with here—they are not the objects of our quest. Still, these same "weeds" were lit up by the sun's profuseness, and sparkled with delight, or glowed with colour, according to the angle they occupied on the rocks in relation to the fiery orb.

Hence it was a perfect day; a day of strong contrasts; a day of bright lights and deep shadows; a September summer. The rocks themselves exhibit much colour apart from the vegetation thereon. And so in rambling round the beautiful sandy bays one is tempted to look up at the rocky cliffs of slate or granite with mussel-covered bases, and crystals of quartz and mica. Here on almost every available ledge, or in every suitable crevice, the Samphire (Crithmum maritinum) maintains a footing. It is in full bloom, but the bloom is of a yellow-green colour, and as fleshy as the leaves. It is an umbelliferous plant. It is, in fact, the maritime plant of the district. I could not ascertain, however, that it was put to any purpose, so that the "dreadful trade" of gathering Samphire is non-existent here.

The Golden Samphire (Inula crithmoides)—quite a different class of plant—was "spotted" after careful search, and specimens secured, although to many its position on the cliffs would have been inaccessible.

Like the Samphire proper its leaves are narrow, smooth, and fleshy; but unlike that umbelliferous "weed," the flowers of the Golden Samphire are produced in solitary heads, have yellow florets, and remind one of the common Colt's-foot.

Moreover, this Inula is as rare in this district as the other is common. Where the Samphire does not grow the Sea Pink or Thrift (Armeria vulgaris) has surely ousted it. It clings to the most precipitous parts of the cliffs, and in many places constitutes the verge of the cliff tops, notably at Porth, where it forms one exquisite natural carpet as agreeable to the eye and as pleasant to the touch as the choicest product of Turkey or Brussels. What a rosy vision it must be in its flowering season, judging by the myriads of chaffy bracts or silvery scales by which each tiny tuft is tasselated!

With the Sea Pink is associated the Sea Plantain (Plantago maritima), which, however, is not so striking in appearance as the Buck's-horn Plantain (P. Coronopus). Statice spathulata is also to be found close by. It is not uncommon on this rocky coast, if it be well searched for, but my first experience in obtaining this was "pleasurable," on account of the element of danger by which it was surrounded. This Sea Lavender is so named, specifically, on account of the spade-like shape of the leaves. On wet rocks the cheerful-looking little Brookweed (Samolus Valerandi) produces its tiny white flowers, while the Sea Convolvulus (Calystegia Soldanella) is everywhere. On the rocks its fleshy, roundish, or kidney-shaped leaves are small or large according to position: but one must go to the sandy seashore to find it in its finest form.

On these same sand dunes I came across a much rarer plant, viz., Euphorbia Paralias, a Sea Spurge of a somewhat shrubby habit, with finely coloured glaucous green leaves, which are imbricated upwards. It is an interesting looking plant, but will not bear too close examination. It exudes a milky juice which is most acrid and distasteful to one's palate, and leaves a burning sensation for hours afterwards. The Sea Holly (Eryngium maritimum), too, affects a sandy situation, and is remarkable for the colours and rigidity of its foliage. Silene maritima, or the Sea Campion, grows here in dense tufts; Lavatera arborea, or the Sea Tree Mallow, occupies a prominent place—there is no mistaking that. It is, however, likely, by virtue of its prominence, to soon become scarce, and I saw two persons collecting it, root and all. On enquiry I was told that the leaves were cut up and boiled, the decoction being used for sores and poultices.

Numerous caves, weird and otherwise, diversify the lofty cliffs and little promontories; and many of these caves are richly adorned with the dark green pinnate fronds of the Sea Fern (Asplenium marinum), which grows on the dripping roofs in the greatest luxuriance.

It is a wonder whence it derives its nutriment, for the rocks are as adamant, and the soil is practically *non est*. But although A. marinum is abundant, A. lanceolatum would not reveal itself, and Adiantum Capillus-veneris did not come within my vision. Alas! it was not for want of search or for lack of temerity in pursuing the quest. However, a bit of a surprise turned up in another direction, for, while I was hunting about near the Mermaid's Cave, I discovered the mermaids also! At least, I judged them to belong to a genus of sea sirens, although they appeared to lack one of the distinguishing characteristics of the species, viz., a fish-tail extremity.

Still, in some other respects, they resembled very closely those beautiful mythological creatures which we are accustomed to associate with the term of mermaids. At any rate, they possessed long hair and looking glasses, a modest mien and syren voices. In fact, it was the echo of their startled exclamations that warned me of the danger of further approach! And, so, greatly perturbed myself, and with a vague sense of insecurity—to say nothing of the embarrassing situation—I turned and fled. As a consequence of nervous prostration, I propose to resume my story in the next chapter.—*C. B. G.*

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

The members and friends of this now well known and certainly progressive gardeners' benefit society, attended their fourteenth annual dinner, which was held in the sumptuous Royal Venetian Chamber of the Holborn Restaurant, London, on Wednesday evening, October 10th. A company of about 100 enjoyed the evening, the proceedings being under the direction of George Monro, Esq., V.M.H., of Covent Garden, who ably occupied the chair. Supporting the chairman were Messrs. Harry J. Veitch, W. Roupell, Arnold Moss, Peter Kay, V.M.H., W. J. Baker, Geo. J. Ingram, and B. Wynne. At other tables near by were Messrs. J. Hudson, V.M.H. (treasurer), W. Collins (secretary), H. J. Cutbush, W. Cutbush, J. Heal, S. Mortimer, Middlebrooke, Tivey, Harris, H. H. George, H. Weeks, Hidges, G. Beck, Alex. Dean, R. Dean, W. Logan, A. Hemsley, T. Humphries, J. Brewer, J. Baker, T. C. Ward, Fred. A. Cobbold, R. Hooper Pearson, H. J. Wright, W. Greenwood, C. H. Curtis, G. Wheeler, Riley Scott, C. E. Osman, G. Keif, H. G. Clark, and others.

After having discussed an excellent and well served dinner, the usual loyal toast was given, the company heartily joining in the National Anthem. Between the remaining four toasts and the replies to them, solos were rendered by Messrs. W. H. Berry, Charles Ellison, and W. L. Cockburn, also solos on musical glasses by Mr. Charles Nelson. The chairman's toast of "Continued prosperity to the United Horticultural Benefit and Provident Society," allowed him to trace the aims and merits of the society. He began his reference by stating that the society was started in the year 1865, but for

the first twenty years it did not thrive. It was not well known, and, of course, nothing makes success like success. It received signal notice by the endeavours and writings of Mr. John Wright, V.M.H., through the medium of the *Journal of Horticulture*, and gradually its influence extended. The membership fifteen years ago was 100, to-day there are 844 on the books! Since last annual dinner, 65 new members had joined, and Mr. Monro earnestly appealed to the members present to do their utmost to emulate (he could scarcely hope they would surpass it) the past year's work. There are two scales of payments, the higher scale of 9d. a week, which entitles the member to 18/- per week in case of sickness, and the lower scale of 6d. a week, by which 12/- is provided on illness. Full payment is kept up for twenty-six weeks, and half the amount for twenty-six weeks longer if the case demands it.

The members contribute annually a small subscription toward the Benevolent Fund, and 2s. 6d. towards the Management Fund. The Convalescent Fund, started a few years ago by N. N. Sherwood, Esq., is supported by voluntary contributions. This fund is one of the best, and is intended to benefit gardeners who have just recovered from a severe illness, and who may require a seaside trip to put them into thorough health again. Mr. Monro brought this fund specially to the attention of all those who are debarred from being members of the society, but who may be willing to assist in some respect.

The original framers of the rules received a compliment from the chairman, and he mentioned with satisfaction that only three rules had required alteration since the time they were first drawn up. The society was not worked on "the guinea-pigs on the table system," for each member had a separate account on the ledger, and all matters were performed with due caution yet with promptitude. It made light work for the committee in having so attentive and capable a secretary as Mr. William Collins. In further urging gardeners, and especially the younger gardeners, to become members, Mr. Monro pointed out that they would find it a savings bank, and a sure stay in case of sickness. It made for thrift and bred the true British spirit of independence. He cited the case of a member who had £94 13s. 11d. standing to his credit. The interest of this for one year at 3 per cent. comes to £2 15s. 3d. His contributions were £1 19s., so that his standing account was increased by 50 per cent. more than he actually subscribed to it. Surely this was enticing. He had £99 1s. 9s. at the end of 1899, the small annual expenses having at the same time been deducted. Another instance of a similar increase to the account of a member paying on the lower scale was also noticed.

The goodwill and brotherliness which such a society engendered amongst its members, be they employers or employed, was another cord touched by the speaker. Mr. Monro in referring to the splendid sister institutions, the Gardeners' Royal Benevolent, and the Royal Gardeners' Orphan Fund, said that while these provided for old age on the one hand, and for gardeners' orphans on the other, neither of them provided for the working gardener in his time of illness. The above two institutions, and the society whose anniversary they were celebrating, completed the circle of "insurances" against ever-present possibilities.

The chairman then proposed the toast, coupling with it the name of Mr. J. Hudson, V.M.H., treasurer of the society. Mr. Hudson expressed his pleasure at seeing Mr. Monro in the chair, supported as he was with so many friends. It was his hope that the future would show as much success as the immediate past had done. They had a good name and they ought to make it known. Till they had 1,000 members and largely invested funds, Mr. Hudson hoped he might be able to continue in his office as treasurer. The working expenses during the year just closed amounted to 2s. 10½d. per member, but each member only pays 2s. 6d., the balance is voluntarily subscribed at the annual dinner, and money is got from advertisements and other sources. Holding the report of the society in his hands, Mr. Hudson said the list of names contained therein almost provided one with a complete horticultural directory. Those who had become members were wise; and he advised all to join in the benefits afforded by the society.

Following Mr. Hudson's response, the company were photographed as they sat at the tables, by Messrs. Fradelle & Young, of 283, Regent's Street, W.. from whom photographs can be had for 5s. 6d. each. A finished photograph was exhibited before the company broke up.

The toast of "The Honorary and Life Members" was given by Mr. C. H. Curtis, and responded to by Mr. Arnold Moss (Messrs. Jacob Wrench & Co.) The fact that most of the honorary and life members were employers of labour was used by Mr. Curtis to appeal to them to use their influence and induce their workmen to become members. Both parties would thus be benefited from a sense of common security. Mr. Moss supported what Mr. Curtis had just said, and re-echoed the chairman's remarks "that such a society strengthened the independent spirit."

Mr. Harry J. Veitch gave "The Craft," and briefly outlined the changes which he had experienced during his forty-four years of active work in horticulture. He said he had very great hopes for the future of gardening and gardeners. Twenty years ago the question was where are the places for the men? but for the past five years this has been changed to where are the men for the places? Of necessity the condition of gardeners must rise, for the love of horticulture was increasing. Mr. Alex Dean replied at some length. He termed the gardener "an operator in art" rather than a handicraftsman like the carpenter, the bricklayer or other tradesmen. Sir Trevor Lawrence, Sir John Llewellyn, Leopold de Rothschild Esq., and other high personages were well-known gardeners and were proud of their gardening connections. Mr. Dean had lived his life as a gardener and thought himself happy to think he would die a gardener.

Mr. W. Collins, secretary, announced the names of those who had promised subscriptions that evening. These were Geo. Monro, Esq., 5 gs.; Harry J. Veitch, Esq., 5 gs.; N. N. Sherwood, Esq., 5 gs.; and from his daughter whose marriage was celebrated the day before, 5 gs.; Messrs. Dicksons, Chester, gave 2 gs.; T. M. Cox, Esq., 1 gn.; G. M. Roach, Esq., 10/6; and Alex. Dean, Esq., 10/6. Messrs. Willingham Bros., and the Messrs. Cutbush have become honorary members, paying one guinea a year. The pleasant evening's entertainment broke up about 10.15 p.m., after singing "Auld Lang Syne."

GARDENING MISCELLANY.

GUNNERA MANICATA.

WITHOUT any exception I regard this as the most remarkable and magnificent hardy ornamental herbaceous plant I have at present met with. To give those unacquainted with either it or G. scabra an idea of its general appearance it might be described as resembling a giant Rhubarb, with leaves 12 to 20 ft. in circumference, borne on stout foot stalks, 4 to 6 ft. in height. It prefers a damp shady position and should be so placed that its immense foliage can stand out clear from all surrounding objects. A preferable site for it is where it can be looked up to, and down upon. From either aspect its huge proportions cannot fail to impress even a superficial observer.—*W. B. G.*

MONARDA DIDYMA ALBA.

As a companion plant to the very superior Monarda didyma, the white variety of it ought to be included when making up the plant borders at the present time. It does not always develop pure white flowers unless it is grown in a friable soil. When subjected to too much dampness it has a tendency, especially in shade, to assume a green tint. The crimson, the white, and the pink M. fistulosa sorts are all splendid border plants.

OXALIS DISPAR.

ANYONE seeing this Oxalis for the first time, would scarcely recognise it under casual examination as an Oxalis at all. It is a shrubby growing species, with dark green, trifoliate leaves which grow irregularly from the somewhat straggling stems. The flowers are axillary, on long peduncles and are arranged in clusters. Their bright canary yellow colour makes them attractive and showy. It is a native of the lower altitudes of Guinea, therefore requires a stove temperature when grown artifically. During growth it requires to be pinched, in order to form bushy plants.

A GOOD TRAP FOR EARWIGS

CAN be made of old worn out garden hose by cutting it into four inch lengths, and plugging up one end with cork. Place them among plants or trees infested with these vermin and go round every morning with a pail of water, taking the traps and giving them a sharp tap on the edge of the pail. The insects will fall into the water; or a tap on the end of the boot will do, crushing them as they fall with the foot.—*W. B. G.*

BROWALLIA DEMISSA.

FOR winter-blooming the Browallias have been recommended at an earlier date. Probably B. demissa may not have been prominently brought to notice, and if not, it is not because it is inferior to B. elata or any other. The flowers are bright lavender-blue, borne in the same manner as those of B. elata. It is now in flower and has been so for some time. In our warm stoves we want more of these easily grown flowering plants. Beautiful and stately foliage plants are respected by all of us, but they ought not surely to be grown to the exclusion of nearly all the flowering subjects.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. James Reid, Viceregal Gardens, Phoenix Park, Dublin, for his article on "Begonia Gloire de Sceaux," p. 103.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

[*Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.*]

Pot Plants infested with Grubs.—*Gaitlands*: The Cyclamen corm you sent us was perfectly decayed, quite black and swarming with small grubs, not worms as you mention. They are the young larvae or grubs of the Daddy Long-legs or Leather Jackets. They may belong to Tipula oleracea or allied species, but are yet too young to fully determine. The eggs have been laid amongst leaves or on the grass from which the leaves were raked, or more likely on the leaf mould heap. They would thus be introduced to the pots in which plants are grown amongst the leaf mould used in the compost. Then hatching out under the influence of heat and moisture, the grubs commence to feed upon the roots of the plants and other vegetable matter within their reach. After the roots of the Cyclamens have been destroyed decay has set in until the whole corm has decayed and become suitable food for the grubs. You do not say what plants they have destroyed other than the Cyclamen you sent, so that we cannot advise you except in general terms as to what you should do. Where the roots are thoroughly destroyed the plants may be thrown away or burnt, and the soil buried deeply so as to prevent the grubs from getting to the surface. All the Cyclamens like that you sent may be thrown away or rather burned to destroy the grubs. When repotting any plants you should first bake the leaf mould intended for mixing with the compost so as to destroy the young grubs; or the leaf mould might be scalded with boiling water to destroy grubs and eggs.

Planting Gladiolus The Bride.—*Omega*: This variety belonging to the early flowering section, and usually being required for cut flowers as early as possible must be planted out with that object in view. It may be done in February, or even earlier, according to the condition of the weather, the state

of the soil, and the prospects of the season. You should, in fact, select a time when the weather is open and the soil sufficiently dry for working—say sometime in February, and not later than the first week of March, but the earlier the better.

Hottest and Coldest Places on the Earth's Surface.—*Omega*: The hottest parts of the earth's surface we believe to be in Africa, probably in the Desert of Sahara, where the sand gets sufficiently hot to roast eggs. Naturally, there is no shade under such conditions, as the sun beats down upon the naked sand. We do not know the temperature. The coldest part of the earth's surface occurs in the northern parts of Siberia, the temperature being many degrees below zero during a great portion of the year. The plains are covered with ice for two-thirds of the year, and the short summer is relatively hot. The waters of the rivers that flow into Lake Baikal do not rise above 41° during the hottest days of summer. The waters of the lake itself do not rise above 54·5° in the height of summer.

Ribston Pippin Grown on Heavy Land.—*W. Thrower*: Your Apples must, indeed, be in a very bad condition if they are all like those sent us. They are remarkably stunted, and would seem to indicate more than one evil cause at work. The uneven and lumpy character of the surface gives us the impression that they have been injured at an early period of their career by a severe storm of hail. The round spots of a russety hue seem to show the effects of a broken skin while yet quite small. Your trees are not thriving, however, and some of them may be suffering from canker owing to the unripened condition of the wood which would get injured or killed in winter. We imagine that the roots are down in the clay subsoil and want raising, perhaps, also root pruning, which may be done during this month or the early part of next. If the trees are large you should do half this autumn and half of each tree during next autumn. At 3 ft. from the trunk of the tree take out a trench 2 ft. deep or more so that you may be able to shorten back the roots that spread beyond this, as well as those that go directly down into the soil. Next autumn when you complete the root pruning lift the tree up bodily, and put some barrow-loads of good soil (old potting bench material or good rotted loam). Road scrapings containing grit and possibly horse droppings, form excellent material for mixing with the ordinary soil and placing around the roots. If the soil is wet most of the year you should plant the trees almost or quite upon the surface, heaping the earth over them. The scourings of ditches containing much grit and unctuous, muddy matter laid down by water make good compost for the roots of trees, especially after they have lain and rotted for a time. After root-pruning mulch the ground with short manure. This should encourage the trees to make good growth and produce clean fruit, by getting rid of canker. Small trees can, of course, be lifted and replanted at once.

Names of Fruits.—*G. Bailey*: Apples: 1, Cox's Orange Pippin; 2, Duchess of Oldenburg; 3, Lady Henniker; 4, Lord Grosvenor; 5, Mére de Ménage; 6, Bramley's Seedling. Pears: 1, Beurré Clairgeau; 2, Emile d'Heyst; 3, Duchesse d'Angouleme; 4, Pitmaston Duchess; 5, Duchesse d'Angouleme; 6, Conseiller de la Cour.

Names of Plants.—*Adam Burnett*: 1, Aster Novae-Angliae ruber; 2, Silphium perfoliatum; 3, Rudbeckia subtomentosa; 4, Helenium autumnale; 5, Heleninm pumilum; 6, Chrysanthemum uliginosum; 7, Helianthus rigidus.—*Omega*: 1, Aster diffusus horizontalis; 2, Aster Novi-Belgii densus.—*A. J. B.*: 1, Anemone japonica elegans; 2, Chrysanthemum coronarium flore pleno var.; 3, Crataegus Pyracantha; 4, Symphoricarpus racemosus.—*R. M.*: 1, Solanum jasminoides; 2, Lycium barbarum; 3. Salvia azurea grandiflora; 4, Mentha Requieni.—*A. T.*: 1, Gaultheria procumbens; 2, Hibiscus syriacus; 3, Berberis vulgaris; 4, Rhus glabra laciniata; 5, Aster Novae-Angliae pulchellus.—*A. D. N.*: 1, Polystichum aculeatum; 2, Polystichum Lonchitis; 3, Lastrea dilatata; 4, Litobrochia vespertilionis; 5, Polypodium pectinatum; 6, Asplenium ebeneum.—*E. S.*: 1, Colchicum autumnale; 2, Aster Novi-Belgii laevigatus; 3, Aster dumosus.—*A. W.*: 1, Cordyline (Dracaena) australis; 2, Blechnum occidentale; 3, Pteris cretica albo-lineata; 4, Adiantum hispidulum; 5, Chlorophytum elatum variegatum; 6, Cyrtomium falcatum; 7, Aster Novae-Angliae pulchellus; 8, Nepeta Glechoma variegata.

Communications Received.—A. L.—T. B.—W. B. G.—J. Miller.—J. H. S.—J. Mayne.—W. B. G.—J. Dingwall.—A. M.—T. D.—H. C.—T. B.—W. M. H. C. S.—A. J. B.—W. B. D.

TRADE CATALOGUES RECEIVED.

Frederick W. Kelsey, 150, Broadway, New York. Specialities: Choice Hardy Trees, Shrubs, Roses, Herbaceous Plants, Bulbs, &c., for Fall Planting.

Frederick Roemer, Seed Grower, Quedlinburg, Germany.—Novelties in Flower Seeds for 1901.

H. Cannell & Sons, Swanley, Kent.—Autumn Catalogue, a Valuable Book of Reference in Horticulture.

Wm. Clibran & Son, Oldfield Nurseries, Altrincham.—Catalogue of Trees and Shrubs, Roses, and Fruits.

National Chrysanthemum Society.

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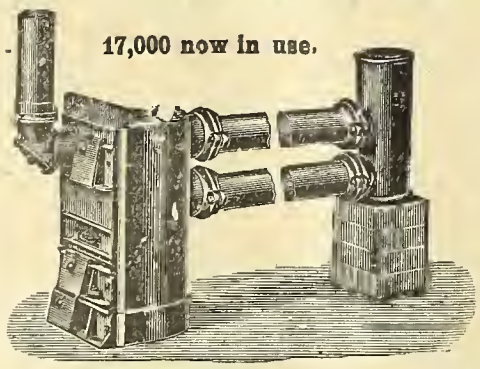
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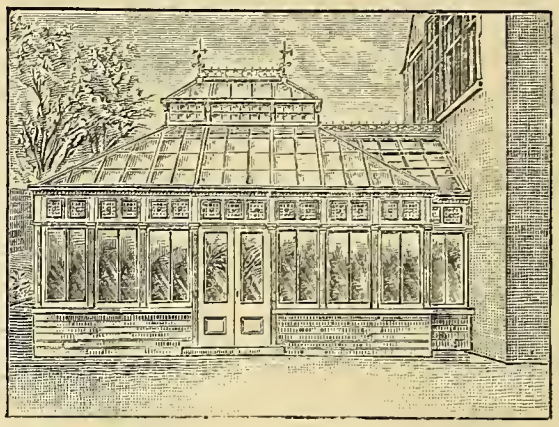
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Catalogues of Messrs. Mellersh, Auctioneers, Land Agents, and Surveyors, Godalming.

National Chrysanthemum Society.

AUTUMN FETE,

ROYAL AQUARIUM, WESTMINSTER,

Nov. 6th, 7th, 8th, 1900.

THE GREAT VASE CLASS in St. Stephen's Hall.

Specimen plants and blooms of Chrysanthemums
Groups Floral Decorations; Fruit.
R. Sydenham's special prizes for vegetables.

Schedules of Prizes on application to—
RICHARD DEAN, *Secretary*
EALING, LONDON W.

MAIDENHEAD CHRYSANTHEMUM, FRUIT & VEGETABLE SOCIETY.—The Third Exhibition will be held in the Town Hall, Maidenhead, Thursday and Friday, November 15th and 16th. Entries close Saturday, 10th. For Schedules apply—J. W. STONE, Esq., Hon. Sec., Cookham Dene.

HULL.

The 17th Annual Chrysanthemum Show of the Hull and East Riding Chrysanthemum Society will be held in the Artillery Barracks, Hull, on Wednesday and Thursday,

November 14th & 15th.

Entries Close November 7th.

Schedules free from the HON. SECS.,

EDWARD HARLAND, Manor Street, Hull.
JAMES DIXON, F.R.H.S., 2, County Buildings, Hull.

BROMLEY & DISTRICT CHRYSANTHEMUM SOCIETY.—The Nineteenth Annual Exhibition of Chrysanthemums, Fruit and Vegetables, will be held on November 7th and 8th, 1900, in the Grand Hall, Bromley, Kent. Entries close November 3rd. Schedules and particulars of the Hon. Sec., W. WEEKS, 23, Widmore Road, Bromley.

BARR'S GOLD MEDAL BULBS.

Finest Selected Quality.

BARR'S TULIPS.

Awarded FOUR GOLD MEDALS by the Royal National Tulip Society, 1896, 1897, 1898, and 1899, and a SILVER CUP at the Temple Gardens Great Flower Show, London, 1900.

Early Single and Double Tulips of finest quality, for early forcing or spring bedding outdoors. See full Descriptive List in Barr's Bulb Catalogue (free).

MAY-FLOWERING "COTTAGE" TULIPS.

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For the finest collections in the world of the above beautiful decorative Tulips, see Barr's Bulb Catalogue (free).

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THE FINEST OF THE SEASON'S CROP.

Choicest named varieties for pots or glasses.
12 in 12 Exhibition varieties, 5/6, 7/6, and 10/6.
25 in 25 Exhibition varieties, 18/6.

Barr's "Rainbow Mixture" of Bedding Hyacinths, a special mixture of great variety of colours. Per 100, 16/6; per doz., 2/6.

Ditto, extra large Bulbs, per 100, 22/6; per doz., 3/-.

Barr's Bulb Catalogue, containing a descriptive List of the finest HYACINTHS, TULIPS, CROCUSES, GLADIOLI, LILIES, and all the best BULBS and TUBERS for in or outdoor planting, sent free on application.

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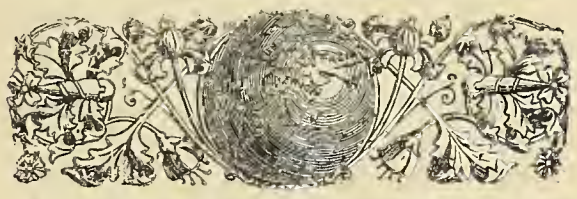

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, OCTOBER 27th, 1900.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, October 31st.—Exmouth. Torquay, Steyning (two days), and Penarth Chrysanthemum shows.

THURSDAY, November 1st.—Horsham (two days), Leyton (two days), Newton-Abbot Chrysanthemum shows.

FRIDAY, November 2nd.—Battersea (two days) Chrysanthemum show.

A SPECIALIST AND HIS FERNS AT ACTON.—Very rarely does one find such an exhaustive collection of the best and more modern forms of the British Ferns in one garden, as exists at 11, Shaa Road, Acton, London; and we feel constrained to continue our notes from p. 116, in order to refer to three more genera to which belong some of the noblest and finest forms in existence. While some of them are wild finds, others have been raised from spores by Chas. T. Druery, Esq., F.L.S., V.M.H. When one thinks of the scarcity of wild Ferns in the London district, it almost acts as a deterrent against attempting their cultivation in the neighbourhood of the metropolis. In actual experience it is found that certain of them may be grown with considerable success in the open air, provided they are planted in cool and fairly moist situations. As a rule, however, they are of dwarf growth, with a relatively stunted appearance; and towards the end of summer even most of the evergreen sorts assume more or less of a rusty aspect. We consider these facts are due chiefly to the effects of a dry atmosphere during the period of growth. Mr. Druery overcomes this difficulty by growing the most of his plants in a fernery situated on the north aspect of his house, with an overflow of the hardier ones in the open garden. When we speak of hardiness in relation to British Ferns it must not be inferred that any of them, with the exceptions, perhaps, of Adiantum Capillus-Veneris and Asplenium marinum are in any way tender. The simple expedient of an unheated glasshouse, moreover, has the effect of rendering a number of the British species perfectly evergreen that would otherwise lose their foliage entirely in the open air during winter, of preserving others in a fresh and green condition that would be liable to get rusty, and enabling the cultivator to grow all of them to perfection. When so cared for they constitute a hobby as fascinating as Orchids, Roses, Chrysanthemums, Carnations, Auriculas, Tulips, or any other interesting class of plants. Furthermore, a very small garden would be sufficient to accommodate a fernery or Fern conservatory large enough to hold a very exhaustive collection of all that is choicest and best amongst British Ferns. It is no small boon to be able to do this in a suburb of London, but given plenty of light, without direct sunshine, and we believe they could be grown to great perfection even in the heart of this mighty metropolis with the aid of glass.

The Lady Fern in all its forms is truly deciduous and goes to rest in the autumn, whether grown in the open or under glass. The extreme beauty and variability of the species gives it an intense interest for cultivators. Mr. Druery has been the means of bringing it into the greatest prominence within comparatively recent years. The original plumose form, the parent of his strain, Athyrium Filix-foemina plumosum, was found at Axminster, in Devon. It has finely divided fronds which bear bulbils; and from it was raised another, named A. F.-f. plumosum elegans, which also bears bulbils, by which the variety may be propagated. Spores from it gave rise to two plants of the type, a large percentage of crested forms, and one of the best varieties, named A. F.-f. plumosum superbum. In two years' time this gave rise to a few spores, from which have arisen all Mr. Druery's lovely forms of the plumose type. Altogether he got quite twenty distinct varieties, which diverged in two different directions, one with crests to the pinnae and the other without. Of the non-crested Lady Ferns, A. F.-f. plumosum Druery is undoubtedly the finest. The fronds are light green, very decompound, and the ultimate segments are relatively long and narrow. The raiser is justly proud of this grand form. Another very finely divided form was A. F.-f. plumosum dissectum, the broad and much dissected pinnae of which are densely arranged. As A. F.-f. plumosum Druery is the finest of the plumose forms without crests, so A. F.-f. plumosum percristatum is the queen of the crested forms. The fronds are crested in four directions, to wit, the apex of the frond, and apex each of the pinnae, pinnules, and pinnulets. The tips remain of a pale greenish-white for a long time owing to their long continued growth, and in this condition resemble flowers. The pinnae of this grand form are always perfect. Another crested form of different origin is that named A. F.-f. percristatum Cousens. The fronds here are 4 ft. long,

and are never troubled with insects. It is a chance seedling which came up on a Mr. Cousen's establishment and has no other history. Quite of another character and aspect is A. F.-f. revolvens, one of Mr. Druery's wild finds at Blairquhosh, Strathblane, near Glasgow. The distinguishing feature is that all the pinnae are rolled backwards, more decidedly than an ostrich feather, and the whole frond arching. Remarkable as it may seem it comes true from spores, even the first tiny frond being folded over the prothallus. The best crested wild find was A. F.-f. cristatum Kilrush, a very fine Irish wilding. We also noted a piece of the original percruciate and heavily crested A. F.-f. Victoriae, picked up in a lane at Drymen, near Stirling. The pristine freshness of the Lady Ferns is now gone for a season, though the fronds are still perfect. Early summer, however, is the best time to see them in all their delicate and fragile beauty.

Only a few of the many Lastreas need be mentioned here, though a good many of them are of a highly ornamental character. The king of all the forms of the Male Fern is Lastrea Pseudo-mas cristata, of which a plant has been in the owner's care for the last twenty years. This plant stands 5 ft. high, and the erect caudex or trunk is 15 in. high, thus forming a good substitute for a British Tree Fern. It is the crested form of the golden Male Fern so handsome when throwing up its young fronds about the beginning of June in the wild state. L. Pseudo-mas polydactyla Wills is a very bold form, having fronds about 4½ ft. long, and 18 in. wide, with all the pinnae crested and the apex fingered. It was found wild in Dorset. L. Filix-mas Dadd's polydactyla is a fingered variety of the ordinary Male Fern, which was first picked up at Ilfracombe. When sheltered by glass some of the forms of the Male Fern become evergreen, particularly the golden one.

In our opinion the species and varieties of Polystichum are even more interesting, valuable, and ornamental owing to the fact that they are truly evergreen, and the plumose forms are equally as magnificent in their way, and as handsome as the corresponding forms of the Lady Fern. In speaking of the last named we have already referred to Athyrium Filix-foemina revolvens. Amongst the Polystichums it is matched exactly by P. angulare revolvens, and by Lastrea Filix-mas revolvens, as well as in Blechnum, although that is not so decided. Polystichum angulare plumosum densum, and Jones' densum are remarkably handsome, and the way that the plumy pinnae overlap one another is in all probability not surpassed by any other class of plants, as an extreme form of vegetative or leafy development. Another fine thing we noted was P. a. plumosum Grimmondii, which originally made its appearance at Dundee about thirty years ago, if we remember rightly. In any case a grand specimen 6 ft. through was exhibited at the Edinburgh Flower Show on the 13th and 14th September, 1899, by Mr. J. Bethel, gardener to Mrs. Walker, Westwood, Newport, Fife, just across the estuary of the Tay from Dundee. We cannot omit that beautiful plumose form of P. aculeatum, known as P. a. pulcherrimum, which emanated from the collection of Dr. Wills, near Chard, an enthusiastic Fern collector, who had thoroughly hunted his own district, or thought he had. One day a farm labourer brought in a large plant from a hedge near his house, and asked if there was anything in it! There is no more distinct form of the species. The fronds are very finely divided, always perfectly barren, and softer in texture than the usual form of P. aculeatum. This latter fact, and the much dissected character of the frond, gives one the suspicion at the first glance that it is P. angulare rather than P. aculeatum. It is perfectly evergreen, and makes a capital house plant, because it is easily kept clean and is always fresh and handsome in appearance. The large specimen we noted had actually been grown in Mr. Druery's house for a long time.

Light by this time failed us so that we made a very imperfect examination of the Ferns planted in the open garden. A bed is filled with a very varied collection, and under a large bell glass, freely ventilated at the bottom, is a choice and interesting lot of the small and dwarf British Aspleniums, thriving beautifully under this form of treatment. In a side border are several forms of the common Bracken (Pteris aquilina), including P. a. cristata, very regularly and beautifully crested. Another form curls, twists, and ties itself into curious knots as fast as it grows. Of course this form is more curious than beautiful, but the crested one is quite ornamental.

Roman Hyacinths, in flower, are now on the market.

Her Majesty the Queen, it is expected, will leave Balmoral on some date between November 9th and November 17th, when Her Majesty will proceed to Windsor.

Wedding of Mr. N. N. Sherwood's daughter.—The neighbourhood of Streatham Hill, S.E., was all agog on Tuesday, the 9th inst., on which date Miss May Sherwood, only daughter of N. N. Sherwood, Esq., of Dunedin, Streatham Hill, was married to Dr. J. William Campbell. Mr. Sherwood himself is so popular a gentleman that the wide circle of his own and his daughter's friends gathered themselves to form a huge assembly at Christ Church, where the ceremony took place. There is much of romance and something of tragedy in the fact that twenty-seven years ago on the same day and in the same place, Mr. Sherwood stood as bridegroom and the present bride's mother as bride, but who has long since "joined the choir invisible." The happy couple were deluged with all manner of beautiful presents, most of which were of silver. The honeymoon was spent at Prested Hall, Kelvedon, Essex, which is Mr. Sherwood's country seat.

Essex County School of Horticulture.—"The aim of this County School of Horticulture is to impart sound elementary instruction in the best methods of cultural treatment, based upon a knowledge of the structure and physiology of plants." There are four terms during the year; three which last three weeks each, and one lasting a month. In the intervals between the terms, the students are supposed to be engaging in gardening and putting into practice the principles taught at the school. As the upkeep of the school is supplied through the Technical Instruction Committee of the Essex County Council, it follows, of course, that the students must be residents within the county. Exceptional cases are, however, considered. The instruction is free and board and lodging is even provided for fifteen students (at discretion, in suitable cases) who fulfil the necessary conditions. At the end of each term a written and a practical examination takes place. Certificates and scholarships are open for competition. The autumn term begins in the course of a few days from now. Beginning at 9 o'clock in the morning, the study of botany is taken up and applied for three hours, such subjects being discussed as "Life history of a typical bulbous plant," "Study of buds as vegetative organs of reproduction," and the study of flowers, seeds and fruits. From one o'clock till four in the afternoon, such gardening operations as the methods of propagation, digging, draining, levelling, turfing and planting are taken in their turns. The evenings are devoted to a revision and study of the work accomplished during the day, while occasional exhibitions of wild flowers, twigs, &c., are also given. Gardens and nurseries are also visited for the sake of instruction. For further details of the scheme of work to be undertaken we would direct those who are interested to apply to the Secretary, County Offices, Chelmsford.

Greenhouse Repairs should now be completed as speedily as possible.

Newer Cannas.—In an American contemporary, Mr. Antoine Winizer describes a list of twenty-six newer Cannas, which have proved of exceptional merit in his garden.

Weather in London.—On the whole the weather during the week has been seasonable. There have been frosty mornings and biting cold days, such as on Saturday and Sunday. The cold, however, has given place to damper and milder conditions.

Acalypha Sanderi.—In its issue of the 1st inst., *Gardening* (American) describes a bed of Acalypha Sanderi as a very showy feature at Fairmount Park, Philadelphia, and showing conclusively the value of the plant for summer bedding. Gardeners and superintendents of parks in this country would do well to give it a thorough trial. We think it should prove very effective both in single specimens and in a mass.

Orchids at the Sale Rooms.—Cattleya labiata Peetersii made its appearance at the Sale Rooms of Messrs. Protheroe & Morris on the 19th inst., when 36 gs. were bidden for it, but the owner refused to part with it at that figure. The sepals, petals, and lip were of a rich, dark purple, splashed, spotted, and marbled with pale rose. The contrast of colours was striking. A variety of Odontoglossum crispum with white flowers, overlaid with a rosy tint, and spotted only on the lip, changed hands at 6 gs.

Death of a South Norwood Nurseryman.—We regret to record the death of Mr. Thomas Butcher, of Station Road, South Norwood, S.E. The event is all the more painful because it came unexpectedly, and while the deceased was fully engaged in his large and active business. Apoplexy was the immediate cause. Mr. Butcher had extensive Rose nurseries at Shirley, and besides the South Norwood establishment he had also a branch at South Croydon. It was in Croydon that the late florist first started business twenty-eight years ago. He was fifty-seven years of age. The interment took place at Saffron Walden, in Essex, on Monday, October 15th.

Bristol and District Gardeners' Mutual Improvement Association.—The above Association's syllabus of meetings during the period from October to March has been placed before us. The following is the list of the meetings: October 11th, Mr. F. W. E. Shrivell, F.L.S., Tonbridge, Kent, lectured on "Chemical Manures in the Garden"; on October 25th comes "The Culture of the Croton," by Mr. Shaddick, of Stoke Bishop; November 8th, "Fungi," by Mr. J. Phillips, Clifton; November 29th, "Grape Culture," by Mr. J. Kitley, Alvaston, Derby; December 13th, "The Hardy Fruit Garden," by Mr. Thos. Coomber, Hendre, Monmouth. On December 27th a public entertainment will be given, and a charge is made. On January 10th, 1901, the subject is "Six Good Vegetables and their Cultivation," by Mr. W. J. Hockey, Yatton; January 31st, "A Few Words About Leaves," by Mr. A. Moore Sara, Stoke Bishop; February 14th, "Insect Pests," by Mr. W. G. Smith, Knowle; February 28th, "First Prize Essay on Wall Fruit Trees"; March 14th, "The Fuchsia," by Mr. J. Julian, Hon. Sec. Cardiff Gardeners' Association; and on March 28th, "Hardy Shrubs," by Mr. G. Brook, Clifton. It may be noted that the meetings are held at St. John's Parish Room, Redland, on the second and last Thursdays of each month, at 7.30 p.m. Prizes are awarded at each meeting for small exhibits of fruits, flowers, and vegetables, as the case may be. The prizes at the first meeting are for six Plums and for six spring sown Onions; then October 25th, two Pitcher plants and twelve culinary Apples, three vars.; November 8th, six dessert Apples and six dessert Pears; November 29th, two bunches of Grapes; December 13th, six culinary Apples and six dessert Apples, each separate prizes, of course; December 29th, three plants in bloom, Orchids and bulbs excluded; January 10th, six crowns of Seakale; January 31st, two foliage plants; February 14th, two Cyclamens, pots not over 6 in. in diameter; February 28th, two pots of Narcissi; March 14th, three Hyacinths; and March 28th, two bouquets. The Hon. Secretary is Mr. W. Ellis Groves, to whom communications should be made.

Fruiterers at the Mansion House.—Of the many old customs still observed more or less reverently in the City of London, that of the annual presentation of fruit to the Lord Mayor, is one of the oldest, but ever one of the freshest. Time was when the fruiterers paid toll. But that became an irksome, not to say quarrelsome custom. So it was agreed that the fruiterers should every year present a peace-offering of fruit to the Chief Magistrate, and that he in turn should invite them to dinner. So it came to pass on Tuesday evening, the 16th inst., the present Lord Mayor received his annual handsome collection. Apples, Pears, Grapes, Melons, and Pineapples were furnished in liberal amount and were of first-rate quality. The presentation was made by Mr. J. Dawson, Master of the Fruiterers' Company. The Lord Mayor, in acknowledging the tributes, commented on the real good work accomplished by the Fruiterers' Company, and hoped the time would come when fruit-growing would be a great industry in the British Isles.

Utility Poultry Club.—The fourth annual general meeting was held on October 11th, in the Club Room of the Agricultural Hall, when there were present Rev. H. J. Whitmee (in the chair), Misses Wilson-Wilson and Edwards, Messrs. C. F. Elwes, J. W. Giles, M. Caley, R. Jamieson, L. Lamaison, A. Newport, J. Robinson, and B. W. Horne (Hon. Sec.), and the following business was transacted:—ELECTION OF OFFICERS: *President*—H. Holmes-Tarn, Esq.; *Vice-President*—Harrison Weir, Esq.; *Committee* (annual vacancies)—Messrs. J. W. A. Pedley and Simon Hunter; *Hon. Sec. and Treasurer*—B. W. Horne. The balance sheet was presented, and showed cash in hand, £13 8s. 3d.; 256 members have paid subscription, but a considerable number are yet outstanding, and it was decided to make a final appeal to these before removing their names. The secretary reported that 120 new members have joined during the year. Specials for table poultry or eggs have been granted to the following shows:—Dundee, Bradford-on-Avon, Winslow, Trockyrhiw, Swindon and West of England, the Dairy and the Crystal Palace, others being under consideration. The Advisory Board and the inclusion in the Year Book of the Register of Breeds, kept by members, both new features, have proved very successful, the members of the former being thanked. The satisfactory results of the last Laying Competition, and the club's efforts to secure recognition of poultry under the Agricultural Holdings Bill were reported. For the Laying Competition now in progress under the management of Mr. G. C. King, Manor Poultry Farm, Slough, thirty-five entries were received, and the following twenty pens were selected by ballot:—

1. Ermine Faverolles	11. Barred Rocks
2. Anconas	12. Brown Leghorns
3. Black Leghorns	13. Buff Wyandottes
4. Houdans	14. White Leghorns
5. Lincolnshire Buffs	15. Partridge Wyandottes
6. Brown Leghorns	16. White Leghorns
7. Black Orpingtons	17. Silver Wyandottes
8. Buff Leghorns	18. Black Minorcas
9. Buff Orpingtons	19. White Wyandottes
10. Buff Leghorns	20. Black Minorcas.

Votes of thanks were passed for donations (£4 7s.) and for special prizes, and to those who are inserting the club circular in their catalogues; also to the Hon. Sec., who, in replying, acknowledged the assistance received in his work from Messrs. Lamaison and Newport. It was agreed that new members joining before January 1st, 1901, be excused subscription for that year. By arrangement with the British Dairy Farmers' Association, the club was enabled to arrange a series of four lectures to be given at the Dairy Show. These were extremely popular, the total attendance being upwards of 400. The following was the programme:—

Wednesday, October 10th, 3.30 p.m.—"Poultry as an Adjunct to Farming," by Mr. G. A. Palmer.

Wednesday, October 10th, 6.30 p.m.—"Selection of Utility Breeds, Housing and Feeding," by Mr. G. A. Palmer.

Thursday, October 11th, 12 noon.—"Hatching and Rearing," by Mr. W. F. Snell.

Thursday, October 11th, 4 p.m.—"Killing, Shaping, and Marketing Poultry," by Mr. A. Newport.

A vote of thanks to the chair terminated the proceedings. Full copies of the report will be forwarded to each member, and others desirous of joining the club can obtain copies, rules, and all information from the Hon. Sec. and Treasurer—*Mr. B. W. Horne, 49, Gloucester Gardens, London, W.*

A Magnificent Show of Cattleyas.—One of our American exchanges mentions a collection of Cattleya labiata in full bloom "that cannot be equalled on this continent" (American). The collection consists of three houses, each 100 ft. in length, comprising 5,000 plants, belonging to Mr. Roches, Carlton Hill, N.J.

The Croydon and District Horticultural Mutual Improvement Society.—One of the largest attended meetings was held at the society's room, the Sunflower Temperance Hotel, on Tuesday, the 16th inst., when Mr. W. J. Simpson, The Gardens, Falkland Park, occupied the chair. Over sixty members and friends were present and seven new members were elected. There was a fine display of cut Chrysanthemums, fruit and plants on the tables. The usual business was disposed of. The chairman introduced Mr. M. E. Mills, who gave a most thoroughly practical and seasonable paper on "Chrysanthemums," "the queen of the autumn flowers," as Mr. Mills aptly termed them. Mr. Mills commenced his paper with the selection and preparation of the soil, manures, the preparation and propagation of the cuttings at the best time to suit the various classes, and their treatment until rooted. Potting was next dealt with, stopping and timing fully noted, summer treatment, tying and staking, syringing and water, received due attention. Mr. Mills gave an excellent diary of the cultivation of the "Mums." as practised by him at Coombe House. Insect pests, mildews, diseases, their cure and prevention, were skilfully handled. Housing of the plants and preparation for exhibition received special attention. The paper throughout proved Mr. Mills to be a master of the craft, and was listened to with the greatest attention, and at its close met with hearty applause. On the invitation of the chairman, a number of questions were put to Mr. Mills, to which he replied, and a most profitable and interesting discussion followed, in which a good many members took part; the Chrysanthemum rust, its prevention and cure, claiming a good share of attention. On the proposition of the chairman, seconded by Mr. W. Harris, a unanimous vote of thanks was given Mr. Mills. W. Wells & Co., Earlswood, exhibited about two dozen varieties of cut Chrysanthemums, including Miss Ruth Williams, Annie Bowman, Mdme. K. de Molmain, Mdme. Jacobi, Mdme. Aug. Konin, A. Becket, Charles Jolby, Market White, Doris Pets, and Orange Masse (a sport from Marie Masse); Mr. W. J. Simpson twelve varieties. Messrs. John Laing & Sons, Forest Hill, exhibited twenty-four dishes of Apples in excellent condition, also a table of plants. Messrs. John Peed & Son exhibited their new winter flowering Begonias, occupying two tables. The thanks of the society were voted to the exhibitors. The hon. secretary, Mr. J. Gregory, announced that the next meeting would be held on October 23rd, at the Lecture Hall, Croydon Central Library, when there would be an exhibition of horticultural and botanical books and a "Talk by Mr. John Weathers."

THE VEGETABLE CROPS,

GENERALLY speaking, have been good this season. Peas have turned out well, but required no end of water to keep them going. We are still gathering Autocrat, a grand late variety. Sutton's Queen is a bit backward, but am afraid I was a bit too late in sowing (July), though I have gathered some, and if the weather should keep mild hope to get several dishes yet. Beans, Broad and Runner, have been plentiful, and Marrows in quantity. The early summer Cauliflowers were poor owing to the drought, but Autumn Giant and Broccoli, self protecting, have been very good with plenty yet to come in. Brussels Sprouts are looking much better than last year, but Celery is again backward. Lettuces have been plentiful in spite of the heat, and so have Turnips, Snowball and Veitch's Red Globe, two varieties hard to beat for summer use, and the latter stands well for winter crop. Cabbage, Broccoli, Savoys, Borecole, &c., promise well. Onions are rather smaller than usual, but well ripened. Carrots, Parsnips, and Beet are satisfactory, and will be housed within a week or so.

And now a few words respecting the all important crop, Potatos. Little or no disease to record, I am thankful to write. Early garden crops very good, though below the average as to size. Webb's Surprise did best with us, while the main crop in the field, which has just been lifted, turned out fairly well, White Elephant taking the lead, closely followed by Imperator and Up-to-Date. I am not prepared to say, as some, that the last named is the best Potato grown. Magnum Bonum was a heavy crop, but included a lot of small ones. With such well harvested crops Potatos ought not to be dear this coming winter.—*J. Mayne, Bicton.*

TAXABLE GARDENERS.

DURING the past season, I have been much exercised in mind, and so have other gardeners and some proprietors, to know what really constitutes a "taxable" gardener. Both by writing and talking, I have had the points well discussed by the gentlemen whose vocation it is to collect taxes. I am sorry to admit that I am no wiser now than heretofore. I can understand the position a head gardener and a foreman holds as taxable employees, but journeymen (as they are called), young men working along with labourers, doing the same work, and having pay approximate to the latter, are taxed, while the labourer goes free! An apprentice, doing the same work along with one who is called a garden boy (the former, perhaps, less experienced and not so useful) is taxed while the latter is not. These are some of the cases I have had to deal with, and numbers of others situated similarly to myself are puzzled as to the qualifications of a taxable employee in a garden. It was most amusing—and, I may add, ludicrous—to listen to the tax-gatherer how he defined the work of the two classes of workmen.—*M. T., Carron, N.B.*

EARLY PEACH HOUSES.

EARLY Peach houses will now be clear of their leaves, and no time should be lost in getting them ready to start in the beginning of the new year. The houses should be thoroughly scrubbed down with soft soap and paraffin, and the walls white-washed. The trees when pruned should have a good wash with some approved insecticide, going over the trees three or four times to insure that no insects are left alive. The border should then be cleaned, and a good dressing of Thomson's Vine and plant manure lightly forked in, being careful not to disturb the roots more than can be helped. A mulching about an inch thick of spent mushroom dung will complete the border; this being well watered in will last the trees until they are safely through their stoning period. The trees can now be tied to the wires, leaving from 4 in. to 6 in. between each shoot. If shoots are tied too thickly they will not ripen their wood properly, and consequently success cannot be assured. The houses must be kept cool, with air on night and day at the top and bottom ventilators, except a very biting wind prevails; then it is advisable to drop the top ventilators. If the nights are still, a degree or two of frost does the trees no harm. I find Royal George, Violette Hative, and Belle De Doue, very reliable Peaches for early work, and also Nectarine Lord Napier.—*H. Willis, 42, Alexandra Road, Englefield Green, Egham.*

FORCING HYACINTHS FOR MARKET.

THE best variety to force for this, or, in fact, any other purpose is the White Roman, bulbs of which should be obtained in August, ready for the first batch to be boxed up towards the end of that month. The boxes used should be at least 4 in in depth, and the bulbs should be planted almost touching one another. A good soil to pot these bulbs in, consists of about equal proportions of strong loam, dry cow manure and road sweepings. Do not pot at all hard, so that the roots may ramify easily in the soil. A few days after the bulbs are boxed up, take them out into the open air, and stand the boxes in a shady position, away from the sun. When the boxes get full of roots take them indoors into a temperature of from 45° to 50° Fahr. for a week or so, then gradually increase the temperature, if necessary, up to as much as 65°, but never get the temperature above 70°. If any stimulant is required, give weak liquid manure water, prepared by soaking a bag of cow or horse manure in a tub of water, and then diluting the liquid with pure water to a pale straw colour. A good bulb will produce from four to six spikes of flower. Bulbs forced in this way are ready to cut in about five weeks. Another Hyacinth which may be forced profitably for spring use is Hyacinthus candicans.—*C. J. G.*

LATE PEAS.

WITH this short note I am sending a few pods of Veitch's Autocrat and St. Duthus Peas to let you see how good these are even now, October 19th. Some are borne in pairs, especially with St. Duthus. I consider these two varieties capital for late work, and though slightly mildewed, it seems of very little detriment to them as they are full of pods and still growing up the sticks. Of course we are having a most lovely autumn, no frost of any note yet to check their career; and on account of the dwarf habit of the Peas, all under 5 ft., the winds have done them no harm. Of course the rows have had heavy waterings every few days from the time they begin to run the sticks, and considering we have only had 1 in. 66° parts of rain since the end of August I think the produce is exceptionally good. Autocrat was sown June 19th; St. Duthns, July 9th. The flavour of both varieties leaves nothing to be desired. A row of Late Queen was also sown at the latter date, but failed to fill up as the first two. If it had been sown with Autocrat no doubt the results would have been better.—*J. Mayne, Bicton.*

[Both varieties were exceptionally fine and of a rich dark green colour, with no evidence of having been attacked by mildew or anything else. The pods of Autocrat were of the usual form, straight, and filled with six to eight seeds. Those of St. Duthus were more slender, curved, about 4 in. long, and contained seven to nine seeds, of good flavour as were those of Autocrat. ED.]

PEOPLE WE HAVE MET.

MR. JOHN EASTOR.

MR. JOHN EASTOR is head gardener to Lord and Lady St. Oswald, at Nostell Priory, Wakefield. We had the opportunity of briefly describing a few of the features of the gardens, park and grounds which stretch in amplitude from all sides of the high situated "Priory," about a year and a half ago in our pages. We at that time gave a fair idea of this ancient and renowned family residence, and since then Mr. Eastor himself has furnished some very practical and helpful articles to readers of THE GARDENING WORLD. The subject of our notice was born and brought up in Norfolk, a shire famous in the more dominant realm of agriculture, but which is not without its influence in horticulture. At the age of fifteen he was sent southward to the sister county of Suffolk, and for four years he pursued his avocation at a market garden establishment. The economical principles which governed the working of this market garden fixed themselves in the mind of the young gardener, and have been continuously practised during the whole of Mr. Eastor's subsequent experience.

But by "economical principles" we do not mean a policy of niggardliness in cultural routine, but the practice which makes the most of everything, tries to do the best for everything, and which has the word "carefulness" in strong letters always in view. Nostell, though favourably situated from an artistic point of view, is not hygienically favourable to the growth of crops and vegetation in general. Yet the records of the great Yorkshire Gala can prove many a famous fruit prize to have gone to the head gardener of Nostell Priory. He has carried out quite a series of experiments in the culture of hardy fruits. Their manuring from a scientific aspect has been tried, and his efforts we are pleased to learn from a recent letter, are an unqualified success. He writes:—"Apples here have improved immensely in colour these last few years. The Queen Apple a few years ago was perfectly green; now it is highly coloured, and this is the case with others. I think you are aware that I gave our trees an autumn dressing of soot and sulphate of iron, and in winter they get a top-dressing from our smother heap (wood ashes, charcoal, and burnt earth), and during the growing season they get an occasional dusting of phosphates. All this well repays for the trouble by giving us clean and well-coloured fruit for this smoky district." To emphasise the fact of the district being smoky and sulphurous, we may state that many of the large Ash trees are suffering severely from the effects, and one or two have succumbed.

But to continue the biography. From the market nursery Mr. Eastor removed to Somerleyton Hall in the same county, and from the gardens here he shifted to Broome Hall, Norfolk. After having learned what he could at these two places he determined to enter Mr. John Ewings' nursery at Eaton, Norwich. So after having spent three years at Broome Hall he agreed for a term of two years to become a nurseryman. He had the opportunity of working through the whole of the glass department, and at

MR. JOHN EASTOR.

that time this nursery was celebrated for hard-wooded plants. Ericas and New Holland plants were well represented, and a full collection of Camellias was also grown. The usual stock of stove plants was also included, together with pot Vines, Figs, Pears, and Roses, all under glass. These two years added greatly to his experience and abilities, and fitted him for the position of head gardener, which he unexpectedly was offered by Mr. Broadly, his chief when at Somerleyton Hall. His new and responsible appointment was to the charge of the gardens at Clippesley Hall. This position, however, was only temporary, and from this place he soon migrated to Laurels Court, in Kent, where he continued as head gardener till the death of his employer.

The next five years found Mr. Eastor busy at Stubton Hall, Newark, where wall fruits were more or less a feature. Owing to a reduction of the place a shift was again necessary, and for the next eighteen years he worked enthusiastically in reforming and improving the gardens at Rathdaire, in Ireland. Death overtook his employer, and three years later the mansion accidentally caught fire and was burned to the ground. A gardener was unnecessary under the circumstances, but arrangements were concluded by which Mr. Eastor was drafted to Nostell Priory, which charge he entered on in 1890.

As a gardener, and especially as a fruit-grower, Mr. Eastor has just claims to distinction. The large York shows are the only ones he now competes at, and he never exhibits without coming off creditably. Some of the berries, in bunches of Gros Colman and Gros Maroc Vines, this year measured over 1¼ in. in diameter, and were well finished in colour. (We should say two bites to the berry in this case!)

These two varieties, however, are condemned by Lord St. Oswald, and to take their place Vines with Muscat flavour have been worked upon them, the young rods being very vigorous. Bunches of Gros Guillaume scaled 10 lb. each; Mrs. Pearson yielded bunches weighing 5 lb., and Mrs. Pince Vine returned similar results. This speaks for itself. Orchids, more especially Cattleyas and Phalaenopsis, are a speciality, and few collections in the United Kingdom can surpass the Nostell array of Phalaenopsis.

As a personal friend Mr. Eastor is valued by all who have learned to know him. He is somewhat reserved, but can open out and spin many a hearty yarn about the days that have gone. He is hale and hearty, and though now "gaun down the hill," we hope to see him active for many years to come, and able to grow good Grapes, and tell other "hearty yarns"!

WALL CLIMBERS.

LOVERS of the beautiful generally like to have some of the favourite sorts of climbers on the walls of their mansions or villas. It is necessary, however, to prepare a border with suitable soil for them before planting, and, if possible, it ought to be made 2 ft. wide and the same deep. For Roses of sorts, Jasmine, Clematis of sorts, Cydonia japonica, Ribes fuchsioides, &c., a very suitable mixture is two parts rotten turf and one old cow manure. Variegated Ivies, Escallonias of sorts, Crataegus Pyracantha, Lonicera of sorts, Tropaeolum speciosum and the charming Ampelopsis Veitchii, all like a mixture of one part rotten turf, one old leaf soil, one peat and one of sand, putting a few inches of old lime riddlings in the bottom for drainage. It is a good idea to mulch them with short manure at the beginning of winter; besides keeping the frost from their roots, it helps to keep vigour in them, making the foliage and flowers larger and more attractive and pleasing. The best method of training them is to place diamond wire trellis, painted green up to the height wanted, tying the young growth in annually, unless for Ampelopsis which clings to the wall without any tying or nailing up. They ought to get a good soaking of water a few times during the summer months, especially the first summer after planting, as the rain seldom reaches the bottom of a wall owing to the roof projecting over.—*John C. Dick, Champfleurie, Linlithgow.*

GROWING STRAWBERRIES IN BARRELS.

SECURE empty paraffin casks, knock out one end, char the inside by burning, wash the outside with a strong solution of soda and water. Next bore holes, eighteen in number, 3 in. by 2 in., six to the circle, in three tiers, alternately. Paint the outsides of the casks two coats of a bright green colour, and make a few holes in the bottom for drainage. Compost for planting should consist of three parts loam, one part leaf soil, one part mellow manure, one part lime rubbish, and a 5-in. potful of bone meal to each barrow load of compost. Proceed to plant in March; place 3 in. of drainage in the bottom, fill with soil up to the level of the first tier of holes, make very firm, push the leaves of the plant through the holes, just leaving the crown clear of the inside of the barrel, spread out the roots and proceed to fill up to the next level, and repeat the process. Finish by planting three or four plants on the surface. Keep the soil well up to allow for settling. Water well, and stand in an open position. Occasionally syringe the plants to keep them free from insects. Allow all runners to grow in order to cover the barrels, removing them in winter. I find they fruit abundantly, colour and flavour being all that could be desired. They are easily protected from birds, and, in addition, a novel and pretty ornament. —*A. Manson.*

MALMAISONS.

TWELVE months ago our Malmaisons here were as sore looking objects as one could see in a day's journey. Just now, they are as healthy-looking a batch as could be seen in the same travel, and very simply done, too. We have no Carnation house here, but kept them all winter in a small, span-roofed greenhouse, with the temperature ranging between 50° and 55°. They were all badly diseased and pretty bad with greenfly. By continually fumigating, dipping in tar water, and dusting with lime and sulphur, we got them pretty well cleared of both. The flowers got from them in spring were nothing to speak of, and as soon as the layers were ready, they were layered in a cold frame. During the time they were there they were twice fumigated, then lifted and potted in 3-in. and 4-in. pots, and put on a shelf near the glass in a cool Rose house. This was on September 10th, and so well have they grown, that they will have to get a shift directly, a thing we did not intend doing till February or March. The compost used was pure loam, with a dash of sand, and potted very firm. For the second shift we will add a little bone meal. Some gardeners layer Malmaisons outside; but that is a mistake, especially in

Scotland. They require a frame. Pot them in the smallest possible pots. Look after them as regards watering (they are best kept on the dry side), fumigating and dusting, and there is no fear but that they will do well. We intended throwing out all our stock last spring, but thought of trying the experiment which has succeeded beyond our expectations.—*J. M. H., Valleyfield Gardens, Midlothian.*

SMILAX (MEDEOLA ASPARAGOIDES.)

THE usefulness of this charming climber is more apparent as the dark days of winter comes upon us, and decorative greenery becomes more scarce. There are various ways of growing Smilax; probably the best position for it is planted out in a border at the back of a warm greenhouse or vinery. Train the climbers up with black or green Azalea thread, fastened to pegs in the border, and to a wire under the roof. Failing a border they do very well in pots, and for pots there is nothing better than young plants every year. I find these grow stronger and more freely than old roots. Fresh seed should be got and sown now in pans about 1½ in. apart in nice sandy loam. Cover the seed nicely and water with a fine rose can. Place the pans in the propagator in stove or intermediate house. When the seedlings appear, place them on a shelf near the glass in stove; keep them just moist not to overwater. If, on the other hand, they suffer for want of water, red spider is sure to attack them and cripple the plants for next year. When the seedlings have made nice little stuff about 4 in. high, pot them off into well drained 4-in. pots in equal parts of good loam, sand and leaf mould. Keep them growing on steadily until about May, then pot on into permanent 6-in. pots. The compost I find suits them is good loam and a third of well decayed manure with plenty of sharp sand. Place the plants in a suitable place in the greenhouse or the back of the vineries. Run up thread for the Smilax to climb upon. Keep the syringe going all the summer and only let one shoot remain to a thread. A 6-in. pot will carry four or five of these. A succession of growth can be had by pinching the plants over until later in the summer.—*A. W.*

Kitchen Garden Calendar.

LATE PEAS.—Those sown towards the end of July, and have since been protected at night, are now giving some nice dishes of green Peas. The pods do not swell very fast, but where lights can be placed over at night, so long as the present weather continues, they will give some serviceable dishes. Air must be admitted freely in the daytime, but the lights should be put on before nightfall to prevent the temperature going too low.

FRENCH BEANS.—In sheltered places nice fresh pods may still be gathered from the open ground, but where these have been cut down by frost recourse must be had to frames. If a sowing was made as previously advised, the plants will now be turning into bearing. A steady heat must be maintained to keep the plants growing, or the pods will not swell satisfactorily. As space can be found another batch should be sown, that a constant supply may be forthcoming. Plants will not grow so fast now, and for the next four months, therefore due time must be allowed for them to fruit, or there will be blanks.

RHUBARB.—In most establishments this is asked for very early. If some roots are taken up now and exposed for a few days, this will give them a rest. They can then be taken to the forcing shed where a steady heat can be maintained. As they will not start into growth so readily now as they do in spring, a longer time will be needed to get this ready for use. Successional batches should be got ready as required.

GENERAL WORK.—At this time of the year there is always an untidy appearance about a place, owing to the falling leaves, decaying vegetables, &c. That the place may present as attractive an appearance as possible, see that all leaves are cleared up as they fall. Keep the walks free from weeds, and let the hoe be run through the soil between small growing crops. Asparagus beds must have the old growths cut down, the beds cleaned and made tidy. The plot of Cabbage that was planted last autumn should be dug under as soon as they cease to be of any profit. Have all vacant ground, such as that from which the roots were lifted, manured and turned up rough before winter sets in. Collect dung and prepare the same for making Mushroom beds. Where it is possible cut bracken, and when dry have this stacked. It is astonishing the warmth there is in this material when dry. It will ward off more frost than anything else of its kind. Plants of such things as Lettuce, Cauliflower, and Endive sown in the open, should now be transplanted in cold frames. Air must be freely admitted when the weather is favourable to keep them as sturdy as possible. Parsley for a winter supply should also be treated in like manner. Herbs, such as Thyme, Mint, Tarragon, and Sage, may be increased by dividing the roots or by means of cuttings. It is always well to have a good supply of these as they are generally in request.—*F. W. J.*

THE PLANT HOUSES.

MIGNONETTE which has been grown throughout the summer in cold frames ought now to be taken into the greenhouse. It is important to give Mignonette as much light as can be had. In darkened houses, or gloomy corners of houses, it does not succeed at all satisfactorily. Stout potfuls of Mignonette which have been exposed to much of the sun and air during the past month or six weeks, will be a splendid contribution to the greenhouse now, and if some of the potfuls are shifted on to a larger size and the plants are given an extra pinch, you will thus ensure a later batch which will be fresher in springtime than those plants in the smaller pots which shall have been flowering for some period prior to the larger specimens. While maintaining a genial temperature ranging between 58° and 63° Fahr., never at any time leave the air dry, or very close. Both have bad effects on the health of the plants. A slight damping between the pots furnishes the proper humidity which the plants delight in. On bright days at this time it is beneficial to dew the plants overhead; the house, of course, being freely ventilated at the time. Always have the foliage dry by nightfall.

BULBS.—All bulbs for forcing should by now be potted.

AZALEAS which are now being imported and may be had immediately from the nurserymen should be secured and at once placed in a warm, moist house. If treated in this way, they will not feel any check nor ill effect from the changes in their conditions. When they have plucked up again, a house kept at 65° as a minimum, to 70° during the day, should be accorded to any of the plants that may be wished in flower at Christmas. We can only reckon about eight more weeks till Christmas, so that there is no time to pander away.

VIOLETS.—The crop of Violets should be husbanded for the season when they will be in greatest demand. If they are wanted now use all means to shelter and encourage the plants. If Christmas would be better, retard the plants unless they are backward at the present time. If they are now in bloom, as most of the frame Violets will be, it is even advisable to keep the buds picked off for a while (at least from a batch of the plants) to allow them to develop further and gain greater vigour. Violets are always welcome. Pot Violets, like many other plants of a like nature, are often unsuccessfully grown until experience points out their needs. They like a comparatively mild and slightly moist temperature, and in their case especially, a position on a shelf within a few inches from the glass is absolutely necessary. Maintain a night temperature of 55° up to 60° or 63° with air on during the day. By all means keep them clean.

CALLAS.—Though these plants will have been housed in the majority of gardens, there may yet be some cases where they have not all been seen to. Now that the weather changes so suddenly, and when frost may be expected, it is hardly necessary to recommend attention in their direction. If it so happens that outdoor plants have not yet been lifted for potting, this operation should at once be performed.

STOVE PLANTS, such as Caladiums, Gloxinias and Achimenes will now be so far dried off that they can be moved to a slightly cooler temperature than that of a plant stove. Warmth to the condition of 62° to 65° must always be accorded; many failures with these plants are largely due to too cool conditions and probably to dampness.

SELAGINELLAS.—These, like the indoor Ferns, are apt to dwindle away (from the effects of a variety of causes) during the winter. To save them, or at least to obviate loss, prepare a number of pans filled with light soil and into these dibble small pieces of Selaginella. They will soon take root, even if the roots are not upon them when first pricked in. These small tufts should be inserted at spaces of a few inches apart so as to allow the freedom of air among them. Selaginellas planted on borders or upon covered walls, or the surface soil of pots, should all be treated in the same manner.—*J. H. D.*

Gleanings from the World of Science.

THE undermentioned subjects were received and dealt with during the recess by the Scientific Committee of the Royal Horticultural Society.

Asparagus diseased.—Specimens badly diseased were received from Mr. G. Croft Harris, Upton-on-Severn, and submitted to Dr. W. G. Smith, who reports as follows:—

"The plant of Asparagus received is badly attacked by the Asparagus rust fungus (Puccinia Asparagi *D.C.*). The stems are studded with dark spots, oval in shape, and some as long as one-eighth of an inch. Examination showed the characteristic two-celled teleutospores or winter resting spores with a thick dark brown coat; the spots seen on the stem are compact patches of these spores. The fungus filaments live inside the tissues of the Asparagus plant. The life history of this Puccinia agrees closely with that of Mint rust (Puccinia Menthae). The young shoots of Asparagus in early summer bear tiny cups, from which a form of spore (aecidiospore) is given off; later in the season brown spots on the plant give off a second form of spore (uredospore); in late summer or autumn appear the dark brown patches of teleutospores, as in the plant sent. In considering remedy it is important to bear in mind that these teleutospores rest through the winter, and next season infect young plants. Operations must therefore be directed towards gathering and burning all the old stems as soon as possible, and before the spores have time to be scattered about. At the same time all weeds or other matter likely to harbour the spores during winter may be gathered and burned. Quicklime might also profitably be dug into the upper soil in as large a quantity as may be considered safe for the crop; and while the plants are dormant, spraying with diluted Bordeaux mixture has been fairly successful as a check to the rust, but the delicate nature of Asparagus foliage makes this risky, and further experiments are required."

Asters diseased.—Examples were sent by Mrs. E. Daw of Nymett House, Nymett Rowland, Lapford, N. Devon, observing that "the whole bed looked in splendid condition, but one after another nearly every plant went off, and in only a very few hours seemed quite withered and dead. Another garden in this neighbourhood has suffered in the same way, and French Marigolds have also been similarly attacked." They appeared to be attacked by a worm described by Mr. Hilderic Friend (*Gardeners' Chronicle*, August 14th, 1897).

Willows attacked by Aphis.—Rev. H. C. Brewster of South Kelsey, Lincoln, sent specimens of Willow shoots infested with aphis. He observes that the Willow trees swarm with wasps. Mr. McLachlan reports that the insects on the Willows were a large species of aphid known as Lachnus viminalis. They secrete quantities of "sugar," which attracts innumerable wasps. It has actually been suggested in former times that this "sugar" might be utilised when the real article is scarce.

Oak leaf with spangles.—Some leaves, extraordinarily and thickly covered with spangles, were sent by Mr. Winkworth of Haughton Hall, Tarporley. Mr. McLachlan observes that nothing can be done, but tomtits devour them. They are not likely to cause any permanent injury. Pheasants are said to be fond of them.

Cystopteris bulbifera.—Specimens of the curious bud-like structures from the tips of the fronds of this Fern were sent by Mrs. W. Floyer of 4, Richmond Road, Basingstoke. They consist of two or three unequal sized thick and fleshy scales; the cells are green, but contain immense quantities of starch.

HINTS FOR AMATEURS.

Solanums.—Plants which have been recently lifted from the open ground will need to be kept close for a week or ten days, the atmosphere being at the same time moist. Solanums do remarkably well when they are planted out, and have free scope for development in an open air border during the warmer months of the year. The natural conditions of growth and the slight checks brought about when planting them favour their flowering, and if the weather is at all favourable they will set and ripen fruits as a matter of course. They are usually very free from insect pests when so grown, and if they should happen to fall a prey a vigorous use of the syringe soon remedies their condition. In the meantime some shade and a close, moist atmosphere will soon enable them to establish themselves in the fresh soil.

Euphorbia fulgens (jacquiniaeflora) should be kept close to the glass to make the plants more lasting when in flower. A stove temperature may be maintained, but on all favourable occasions do not omit to ventilate a little.

Chinese Primulas.—The earliest batch of these may now be transferred from the frames or pits to the stages of the greenhouse. They may require some manurial assistance, and when the flower spikes develop the slenderest of stakes may be placed in for their support.

Calceolarias.—The same hints apply to Calceolarias, only that they do not require to be staked, or ought not. For that matter the Primulas may not need to be supported, but Primulas are brittle and more open to breakage. Cinerarias should likewise be placed upon the shelves of the greenhouse. A little assistance from manure water will help them. Avoid in the case of all these plants too dry an atmosphere. Of course, this does not imply a damp condition of things.

Rhubarb and Seakale. — The active forcing operations commence about the end of this month. Nice forcing crowns of Seakale and Rhubarb should now be selected in preparation for an up-to-date start. Leaf mould is a very good material to use for placing the crowns in. But as fuller hints have previously been given it is not necessary to repeat them again.

Violets.—The frames which are to supply Violets during winter and spring will now be planted. The lights need only be placed over the plants on cold nights. But if the plants have but recently been removed from their summer quarters it will certainly help them on again if they are kept somewhat close in the meantime. Remove any decomposing or damp leaves.

Perennial Asters in Pots.—More as a novelty or for obtaining dwarf exhibition stuff, or for greenhouse adornment, the pot culture of Michaelmas Daisies is tried. Cuttings are taken from the old plants in spring, and are treated much in the same manner as for Chrysanthemums. When the young slips are rooted they may be potted off singly, or two or three may be potted together in a 5-in. or 6-in. pot. Their culture during the summer months is of the simplest. They are, indeed, generally plunged and otherwise are treated as though they were planted out. When the flowering period arrives they may be housed, and the blooms will open clean and pure. If the plants are fed during their later stage of growth the blooms are also increased in size and depth of colour. The pot culture tends to produce very bushy specimens.

Roses.—The long shoots of the wall Roses, and likewise of any others which are liable to be broken by winds or snows during the winter season should should now be shortened. The Rose garden, like other parts of the garden in general, should have a final clean up before the autumn tree planting or other operations are undertaken.

Roman Hyacinths.—The first batch of Roman Hyacinths will be ready for the greenhouse in a day or two, so that it will be necessary to make preparation for their removal from the ash bed. Wash the pots when they are taken in, and place them on a shelf within 2 ft. from the glass. They will require to be staked before the flower spikes develop. All other bulbs which were potted at the end of August will now be on the move. These must be seen to, and treated according to their needs. Freesias and early Paper White Narcissi should be gently coaxed on in a warm, moist house, the plants being placed in the position which will allow them most light.

Wood Ashes and Charred Refuse.—The value of wood ashes to light and medium soils is very generally appreciated. Wood ashes are not quite so beneficial to heavy clay soils, for these already contain as much potash as they require, and wood ashes principally add potash to a soil. In all but the heaviest clays the wood ashes tend to make the soil porous, so that an ordinary garden soil is also mechanically benefited. In very light soils, wood ashes would rather tend to solidify or weld such a body of material, for the soil would in this case be looser and less cohesive than itself. Wood ashes, with soot mixed, do at all times furnish a most valuable material to dress the land with. At no other time of the year is there so much rubbish and cumbersome stuff lying about as at this, the autumn time. All such useless matter should be collected and slowly burned. It is better to burn it slowly, for besides giving us an equally good residue, we get more of it by the charring process. Wood ashes are particularly good for Raspberries and Grapes and for Strawberries. Most root crops, such as Turnips, Carrots, &c., also require much potash. But for the matter of that, wood ashes should be given to all fruit trees, and on the land which is accorded to all fast growing crops. Those who have success with fruit trees in districts ill-adapted to give good results, often owe much of their returns to the judicious blending of the burned refuse, such as Cabbage stocks, Pea and Potato haulms, leaves and weeds, with vegetable mould and farmyard manure, and the addition, probably, of phosphates. The latter, however, may be given more advantageously during the season of growth So you see that this system of manuring and ordering of one's resources works on the facts that manuring is wise, and the special ingredients of manures which are mostly required are three in number, namely, nitrogen, potash and phosphates.

The Vinery.—The vinery is now almost at rest for this season. The temperature should be kept suitable for Chrysanthemums, as though I only indicate in this way that coolness is desirable it is known that most amateurs laid out their vineries to the use of the Chrysanthemums at this period. The falling leaves of the Vines must be gathered, and the bunches must be gathered now or very shortly. Where they have been backward a little artificial heat kept on the pipes will have helped the ripening considerably. But if the Chrysanthemums are now in possession the heat would not be very good for them. It would be better to cut the bunches and place them in bottles if they cannot be used immediately. They are cut with a short stalk, which may be inserted into the mouth of an ordinary pint bottle placed obliquely and filled with water for the use of the Grape bunch. The Peach houses should receive all the air possible, and so with Fig houses, where the crops have been gathered. With old fertile Fig trees it is sometimes necessary to make them go to rest by keeping them dry and airing freely. Otherwise they keep on fruiting eternally. The earliest vinery may now be prepared for forcing.

Trees and Shrubs.—Now that recent rains have prepared the soil for planting, this work should be done as soon as the necessary cleaning-up work has been mastered. Where there is much shifting or planting to do the cleaning may be deferred. Some think that it is improper to disturb trees before the leaves fall, but all our knowledge of science goes to prove that it is good for the plants to be shifted before the fall of the leaf.

Strawberries in pots will soon require to be placed in the cold frames. Before taking them to the frames, water them with lime water to expel the earthworms.

Fuchsias.—These will now be in process of "drying off." When all the leaves have fallen, prune the shoots. Plants which have been in the beds during the summer should be potted and should be placed away in some pit or greenhouse out of the reach of frost.

Ferns.—Those who would carry their Ferns through the winter with success must be careful at this period, lest by giving them too much water at the root or moisture above, they end in doing harm to the plants. Gymnogrammes and Cheilanthes are ticklish Ferns at such a time as this. Adiantums are also apt to damp off. But if the plants are kept on the dry side it seldom happens that they fail to any alarming extent.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Shrubs and Malmaison Carnations.—*"Row"*: The Malmaison Carnations are not considered hardy enough for the borders during winter. You should lift and pot the layers (as frequently advised lately) which are rooted. The plants with unrooted layers may be lifted from the borders and replanted within a frame which may possibly furnish the protection they demand. The pieces of shrubs you send are those of shrubby Veronicas, and are hardy except in very severe winters. No. 1 is Veronica anomala; No. 2 is V. pinquifolia.

Books for Market Grower.—*J. R.*: While you can study and learn much from the guidance of books, we trust you also mean to have some years of practical experience in market gardens. Get with the most successful men. Books which you will find of value are "Profitable Fruit Growing," by Mr. J. Wright, V.M.H., 1s. 2d. post free, from 12, Mitre Court Chambers, Fleet Street, E.C.; "Flower Cultivation for Market," paper covers, 3d.; cloth do., 8d.; "Culture of Vegetables," 8d.; both to be obtained from 1, Salisbury Court, Fleet Street, London. Another book full of useful notes is Mr. W. P. Wright's "Pictorial Practical Gardening," 1s. 2d., from Cassell & Co., Ludgate Hill, E.C. If you get these and study them you will find what you further need at a later date.

Planting Bush Apple Trees.—*A. G.*: Bush Apple trees on the Paradise Stock are usually planted 10 ft. to 15 ft. apart in the rows. If you wish to plant bush fruits between the rows of Apples, allow about 6 ft. between the bushes in their case. Among the best late keeping dessert Apples are—Sturmer Pippin, Winter Queening, Cockle Pippin and Lord Burghley. Late cooking Apples of worth are—Alfriston, Northern Greening, Norfolk Beefing and Blenheim Orange. You will find the following to be good varieties of Gooseberries—Lancashire Lad, Crown Bob, Warrington, Whitesmith, Early Sulphur, Hedgehog and Industry. Raby Castle and Chiswick Red are good Red Currants; Versailles (white), and Carter's Champion (black). These may suit your needs.

To Pickle Tomatos.—*Amateur*: The following receipt has been recommended for green Tomatos or Tomatos which have not ripened perfectly out of doors, and it may answer in your case for Tomatos which are still firm, though nearly ripe. Slice 10 lb. of full-grown Tomatos into an earthenware dish or bowl. The Tomatos are best if taken just before they turn red; small green ones, however, are useless as they have neither flavour nor juice. Sprinkle each layer of slices with salt and let them remain all night. The next day put into two quarts of vinegar, 2 lb. of brown vinegar and 1 lb. of sliced Onions (not Portugal Onions), three or four green pepper pods sliced, or half a teaspoonful of Cayenne pepper, a quarter an ounce each of cloves, cinnamon and peppercorns. Drain the sliced Tomatos from the salt and simmer it gently with the vinegar, sugar, Onions and spices till tender, then put the stuff into rather small jars, pasting paper over, or in pickle bottles and cork well, as it keeps better in small quantity. Store in a cool, dry place. We cannot say that the natural flavour is wholly preserved, but that cannot be helped.

Over-manured Land.—*J. F.*: All the characteristics described by you point out that your soil is too rich. After having buried all the dead fowls and animals which you make note of, besides otherwise manuring the land, the consequences could not be otherwise than to surcharge the soil, and, indeed, to poison it for the time being. This will account for the growth when first planted and for the great exuberance when the stronger plants became established. Dress the land heavily with quicklime and fork this in at any time from the present.

Peaches for Planting.—*Pomology*: Unless your garden is warm and sheltered and possesses south and west walls, the culture of Peach trees in the

open air in any part of the Midlands of England is not very satisfactory. They demand a deal of care during the time the trees are in bloom in spring. On the other hand if you have an old lean-to greenhouse or could erect such a structure against the wall this would furnish quite sufficient protection for late Peaches. In any case when you are planting provide a bottom layer of rough stones, broken bricks and rubble for drainage, and over this place turves with the grassy side downward. A compost of ordinary loam having a moderate percentage of fibre in it, and used at the rate of two parts to one of horse, cow or spent Mushroom-bed dung, and half a part of sifted lime rubble (old mortar), may be prepared for the benefit of the trees. It is well to spare no pains in the first making of the border and it may save much annoyance at a later date. Buy or otherwise secure the hardiest and healthiest trees possible, and plant them exactly at the level they have previously been planted at. Spread out the roots in all directions, always endeavouring to keep them well up. Work the soil in amongst them and ram it moderately firm. Do not spread the roots out all on one level, but have some raised at a higher tier than lower growing ones. If you are about to plant now it will lessen the effects of the check if the trees are damped by means of the syringe once or twice a day, and kept shaded for a week. For late fruiting and for the conditions under which yours will be grown we advise the varieties Dymond, Royal George, Bellegarde and Crimson Galande.

Pruning Flowering Shrubs.—*J. G.*: The best time to prune flowering shrubs is the period immediately after they have gone out of bloom. You then leave them the whole season in which to make their growth. We do not advise you to prune any but late flowering shrubs during winter, though evergreens may be operated upon. Hard pruning in most cases is advisable as by so doing very stout shoots develop and these are usually smothered with flower buds. Where space can be allowed for expansion, a little less pruning will still keep the trees in flowering condition.

Prevention of Fungus growth.—*A. J. L.*: It is sometimes very troublous to entirely eradicate such fungus growths from the soil, walks, lawns, &c., owing to the mode of fungus propagation. Such growths are a sure sign of a soil rich in decaying matter, and which is more or less damp. Dress as much of your ground as possible with quick lime, and fork it into the soil. This will overcome the fungus mycelium and "sweeten" the soil. As an alternative you could saturate the worst infested places with a solution of phenyle or with a liquid known in the trade as Jeyes' fluid; supplying these at the rate of one ounce to the gallon of rain water.

CARNATION DUCHESS OF FIFE AT DANKEITH.

The accompanying illustration of a border of Carnation Duchess of Fife will show, better than words can express, the perfection to which this variety is grown by Mr. Alexander Dewar, gardener to J. Mann Thomson, Esq., Dankeith, Symington, Kilmarnock, N.B. Mr. Dewar sent us a handful of flowers cut from the open border in the fourth week of September, and we have to admit they were very fine, even if they had been cut a month earlier. After the journey by post they kept well in water for some days, and several of the unopened buds expanded under that treatment.

The variety is a great favourite at Dankeith, and is kept flowering practically all the year round. For instance, a batch is layered about the end of July, and when rooted the layers are potted up for flowering in the Carnation house during winter and spring. The flower stems and buds of these young plants have been in evidence for some weeks past. In spring they are planted out in a Carnation border covered with glass. Here they develop into fine specimens, 4 ft. to 5 ft. high, and flower profusely. By and by they are followed by those in borders in the open air, such as the one here represented,

A Border of Carnation Duchess of Fife.

PUBLIC GARDENS AT BOURNEMOUTH.

To those who can remember this seaside resort from thirty to forty years ago, the change that has taken place is truly wonderful, and this the more so when it is viewed from a public garden point of view. Early in September, as I gazed on these from the centre of the place (namely, by the square), looking on, and looking back, I was induced to ask myself if anything could give greater enjoyment than the sight of the floral beauty to be seen here, which must be the means of bringing sunshine into many a life of the strong, as well as the invalid, and do much to diffuse a love for floriculture in many. I am not a lover of a formal garden, nor of a set flower garden; hence, gardens of this kind are in my way.

Amongst the many pleasing things I was charmed with was an edging of Viscaria (in several colours well blended) to a long border, allowed to grow in a natural way. The soil being high and dry had induced them to grow not too much, and not being tall they produced a glorious sight. In these irregular borders, many kinds and many light plants were used. Amongst them Malvas were associated with lower growing things around them, and these, too gave more bloom and less foliage from not having too rich a larder. Most effective was a group of African Marigolds, both yellow and orange, growing, side by side. Blue colour was given by groups of the branching Larkspur. Coloured Snapdragons, Mignonette, double Hollyhocks, and a host of other decorative plants, being grouped in an informal manner, produced a natural picture, showing what may be done with annuals and things from seed.

There were several combinations in beds that deserve notice, namely, one of Fuchsias, red, white and golden-leaved, with a groundwork of tuberous Begonias, well chosen as to colour, and an edging of Golden Harry Hieover Pelargonium. A dwarf, deep blue Heliotropium as an undergrowth to Malva was pleasing, although the latter had made a little too much growth. An old favourite I noticed in a large wide band of Gazania splendens variegata, and as the sun was shining, it was open, showing its large, rich orange-yellow flowers. In the centre and

on the turf is a large fountain. Round this was planted large masses of Begonia semperflorens Evening Glow, a mass of bloom. This was relieved by groups of white-leaved Centaureas of sorts, Iresine Lindenii, yellow-flowered Cannas and variegated Pelargoniums. Such grouping is most pleasing to the eye and gives colour. I must mention the groups of Tritomas, Dahlias, Malvas, and things of this kind arranged to colour among the shrubs, giving colour now that many of the latter are out of bloom. Here is to be found many choice kinds of shrubs, as the climate is adapted to them. At the time of my visit, Escallonias were covered with flowers, and are very precious things in a garden where the climate suits them.—*J. C., F., Chard.*

CYCLAMEN.

The present month is a good time for sowing seed for the main batch of these beautiful winter blooming plants. Although perhaps not so useful in a cut state as some other subjects—the flowers not lasting well in water—the length of time the plants remain in bloom, as well as the wide range of colour, make them well nigh indispensable for the conservatory and show house.

The seed should be sown in well-drained pans of light sandy soil, just covering the seed, sowing sufficiently thin to allow the young plants when they appear to remain until large enough to transfer to 72-size pots without the trouble of pricking out.

A square of glass should be placed over each pan, and the latter placed in a shady part of a warm house until germination takes place—usually some weeks, sometimes months—when they may be placed on a shelf or somewhere close to the glass in an intermediate temperature. The seed or plants either for that matter must never be allowed to get dry; but at the same time avoid getting the soil in a soddened state, which frequently happens when seed is a long time germinating, a condition, too, which is very detrimental to the little seedlings, seeing that several months may elapse between the time of sowing and the potting stage.

The young plants are usually ready for potting some time in January or early in February. They must be very carefully removed from the pans or the roots will be damaged. Use a similar compost to that used at the time of sowing, and pots scrupulously clean. Leave the top of the little corms just on a level with the soil; press the soil firmly about them. Keep direct sunshine from reaching them as Cyclamen are somewhat impatient of bright sunlight. The foliage must be frequently sprayed over on bright days or yellow thrip or red spider may get hold.

Cyclamen are by no means fast rooting plants and it may be the middle of April before they are ready for their next shift into 54-size pots, but even by the first week of the month, the plants can be transferred to a cool pit near the glass with a night temperature of 50°. Should the nights be frosty, mats must be placed on the lights to prevent the glass from being frosted over.

Many young growers err in giving Cyclamen too much warmth and insufficient air, which causes the leaves to lengthen in the stalk and fall about; at the same time they lack substance.

This condition will also be brought about where much eel worm is present in the soil, as when the roots are attacked by them it is impossible to keep the foliage fresh unless shading is used much heavier for a longer period than is good for the plants when in healthy condition. From my own experience I do not think any one can hope to grow Cyclamen really well, where the loam is infested with this troublesome pest, unless they possess better remedies than I am acquainted with.

The plants must be given their final potting some time during June, 32-size pots being large enough for all purposes.

The compost may consist of two parts, good rough fibrous loam, and one part good clean leaf soil, with sufficient coarse sand to render the whole porous. A little bone meal and soot may be added too; but I do not recommend the use of much manure in the soil. In potting, which should be firm, the corms should be left just level with the soil, as they are sure to rise as they increase in size.

After potting air should be given less freely for a time until it is seen that root action has commenced in the new soil, when much more must be given, and with warm nights the lights may be taken off altogether, but replaced again in the morning before the sun has much power. The syringe must be used freely overhead, and with the afternoon syringing the lights may be closed for a few hours. The foliage must never be wetted with any but soft water, and if possible the pots should be plunged.

When the latter are filled with roots weak manure water may be frequently given—sheep or deer for preference. Any flowers thrown up before the autumn should be *pulled* out and likewise the stalks of any decaying leaves. Only thin shading is necessary, and this can be removed at closing time.

Toward the end of September preparations must be made for housing the plants in a light airy house. No fire heat will be needed for some weeks, but the surroundings should be kept moist. As the flowers advance a night temperature of 50° to 55° will suit them with a somewhat drier atmosphere.—*Practical.*

TASTY BEDS IN LONDON PARKS.

(Concluded from p. 108.)

Regent's Park.

It so happens that generally when we make up our minds to visit Regent's Park the day turns out to be wet. And on a wet day one sinks quite half an inch in the wretchedly soft paths of this much frequented park. It would be a blessing if these paths could be hardened up, so that rain would have less effect on them.

But the beds were at their best. In all the more apparent bends and curves and stretches of the grounds, which are so beautifully furnished with shrubbery belts, one finds something attractive to admire. Well flowered Agapanthus are liberally set out on the grass, and contrast capitally with the equally well grown Hydrangea hortensis. The very handsome but lesser known H. paniculata grandiflora has been as freely placed about as the older species, and the plants which have been named, with others ornamental only in foliage, were employed effectively wherever taste had dictated that they were required. Fuchsia Scarcity, whose name is a burlesque on its flowering qualities, lends itself admirably as a standard plant either for beds or in groups out on the grass. Succulent beds have for long been in evidence as a feature of the park which Mr. Jordan superintends. Nothing in bedding surpasses the grandeur of a great mass of succulents, and such can be found in Regent's Park. On the other hand, a succulent bed of a few feet in diameter is generally an eyesore. At the corner points, where walks diverge and where the beds are seen most, some exceedingly fine compositions have been arranged. Beds filled with Palms, Cannas, Celosias, Fuchsia Golden Treasure, exceptionally fine specimen Asclepias curassavica, with Acalypha macafeeana brighter than ever we have before seen it, Hydrangea paniculata, Liliums in variety, Cordylines, and Araucarias were of much interest, as may be imagined.

Small round beds, filled with the yellow and crimson varieties of Celosia pyramidalis above a setting of Saxifraga caespitosa, were more than ordinarily attractive. Beds of named Fuchsias with an edging of Dactylis glomerata variegata, Saxifraga umbrosa, and a species of mossy Saxifraga are likewise good. Smart borders filled with Zinnias, Helenium grandicephalum striatum, and Montbretia crocosmiaeflora kept up the display of enlivening colours along the sides of all the paths. Amongst the best sights of all were those of the narrow borders planted with groups of beautiful Abutilon Thompsonii, between which were masses of crimson Celosias and Begonia semperflorens rosea.

A large oval bed of Nicotiana sylvestris with drooping white flowers, was edged with Heliotropes, the contrast being most pleasing. Complete beds of early flowering Chrysanthemums; and others filled with Lilium speciosum rubrum and L. s. album, were deservedly admired.

Few plants are handsomer than Colocasia (Caladium) esculenta, especially when it is grown above an underground of something bright, such as Chlorophytum, and having an edging of blue Lobelia. Other simple but pretty colour effects were got by using Acalypha macafeeana and Chlorophytum in the same bed. Both were highly coloured and appreciably bright. Dracaena congesta above a ground covering of Begonia Afterglow, edged with blue Lobelia, was quite charming, the Begonia being a small ruddy-flowered variety.

Banks of Begonia Corbeille de Feu furnished indeed a "sheet of fire." Groups of Stag's-horn Ferns on the brow of grassy slopes had a far finer beauty than ever they have when viewed in the conventional type of hot house. We further noticed a select collection of Gourds, grown for the sake of their ornamental foliage and supported on tall stakes. Huge specimen Phoenix with variegated Hops, and Canary Creepers trained around their stems, had more an air of natural luxuriance than of artificial conception. In the Water Lily pool the hybrid Nymphaeas were thriving. Day Lilies, Irises, Lythrum Salicaria, Arums, Buckthorns, Pontederia cordata, Polygonums, &c., were planted around the margin. The ground bordering the small pool could be easily adapted for the extension of this phase of gardening, and would be a feature somewhat unique in park scenery.

Victoria Embankment Gardens.

Stretching at intervals from the Inner Temple on the east side, nearly to Westminster on the west side, and divided from the River Thames only by the public roadway, are the much frequented Victoria Embankment Gardens. These gardens provide a number of quiet sanctums to which the working men resort for a quiet seat and "a puff o' tobacco," or to read the newspapers, have a chat, listen to the band (in summertime), or simply for an aimless stroll. Nursemaids with their young charges also find the patches of grass, the flowers and the shade of the trees more agreeable than the paved footpaths. Hardy, smoke-resisting shrubs and a long boulevard of London Plane trees—a feature of this part of the metropolis—are the prime objects which distinguish the Embankment and its gardens. In the principal section of these public grounds, the part bordering Charing Cross Station, the flower bedding is executed. Here the area expands broadly into winding lawns, and banks clothed with shrubs stretch backward to the base of the magnificent hotels, clubs and theatres which tower up and overlook the whole line of the Thames from Westminster to Blackfriars. At the widest end of this section there is a large bandstand, around which after allowing space for promenade and seats, there are level lawns with moderate-sized flower beds. The Embankment gardens have been under the superintendence of Mr. Wright (late foreman in Victoria Park) since May of this year. He has acquitted himself well. The beds were very tastefully filled and looked very sweet and smart all summer. From Charing Cross Station on the Underground (District) Railway hundreds, or it might be thousands, of business men pass through this garden every day, and, of course, unless things are tip-top, a critical whine would soon be raised. Specimen Yuccas with Ivy around their base are features here; and drooping Elms are also effective. The plan of having broad edging bands (rounded off and kept clipped, of course) along the walks is very commendable. Herbaceous plants and tender annuals are planted on the margin of all the shrubberies—and these are everywhere. The summer beds were tastefully filled with such plants as Abutilon Thompsonii, Acacia lophantha, Fuchsias, Iresines, Calceolarias, Petunias, bedding Pelargoniums, Verbena venosa, Echeverias, Cannas, Begonias, Zinnas, Lobelias, Pyrethrum Golden Feather, Ficus elastica, Phlox Drummondii, Ricinus in varieties. Eucalyptus, small Palms and many other subjects. The fact that the Victoria Embankment Gardens are appreciated is proved by the numbers who patronise them.

ALLOTMENT GARDENS IN CHICAGO.

During the present season this system will be tried on a larger scale than ever on the south side, where a large tract of ground has been secured for the purpose. One-third of an acre is allotted to each applicant, circulars being sent out first to former holders. This year also free seeds and tubers are supplied, while the fee of 4s. is charged to pay for ploughing, harrowing, and fertilising, as well as for the services of an experienced agriculturist, who instructs and supervises the tyros. A neighbourhood club is maintained in connection therewith, and frequent meetings are held.

The plots are separated by paths only, and strict order is maintained, a very necessary precaution in view of the polyglot population.

Anyone who neglects his patch or is noisy and turbulent forfeits it at once, and it is re-allotted to some waiting applicant, of whom there is always a crowd.

The women and children do most of the work, except on Sundays or occasionally of evenings, when the men also participate.

Not only enough for a family's needs can be raised, but also quite a quantity for sale. It is gratifying to find that this plan is growing in favour ever since its inception by Mayor Pingree, of Detroit, who was the first in America to advocate free Potato patches for the poor, and who has pushed it vigorously ever since.

Here in Chicago, in consideration of the straggling outskirts of the city, where land values are small, and vacant lots predominate, conditions are particularaly favourable for the development of such a philanthropic enterprise. I do not fancy that in Britain it would be entirely feasible, unless in certain districts. Still, much might be done by individual property owners to give their poorer brethren elbow-room, and also thereby help to solve the problems both of the survival of the fittest and that very conflicting one of how to dispose of the surplus population. Create a love of agriculture in a man's breast and there will be fewer congested labour centres, and fewer vacant farms all over the country. Here there are thousands of such.—*C. Macquarie, Chicago.*

LOWFIELD NURSERIES, CRAWLEY.

About the beginning of the month we had a turn through the extensive Lowfield Nurseries, of Messrs. J. Cheal & Sons, Crawley, Sussex. Dahlias, herbaceous plants, fruit trees, Roses and ornamental trees and shrubs may be regarded as the principal features of the place.

Dahlias.

Single Dahlias were in particularly fine condition considering the late period of the year, and the fact that there had been several frosty mornings. The growth of the single varieties is naturally wiry, and as there is no necessity for disbudding them, there was very little young or immature wood upon them, and these facts account for their immunity from frost. Show and fancy varieties grown along side of them had much young wood upon them owing to disbudding and thinning. As a consequence, they were much cut up by the frost. Amateurs and cultivators would do well to note this fact, as it tells upon the cut flower basket in autumn. The Messrs. Cheal have taken a leading place at shows with their single Dahlias for many years past. Those here given may be regarded as the cream of a large collection. Columbine is coppery-orange; Donna Cassilda, orange-magenta; Tommy, orange, striped crimson; Northern Star, crimson rays, edged yellow; Amos Perry, maroon, edged crimson; Lord Rosebery, orange, mottled and striped crimson; Mrs. Phillip Hoare, deep maroon, tipped white and very striking; Polly Eccles, orange-buff, with crimson zone, and very dwarf in habit; Beauty's Eye, mauve, with bright crimson zone; Shamrock, maroon, with purple tip; Duchess of Marlborough, white, edged crimson; Eric, orange, with crimson zone, 2 ft. high and bushy; and Formosa, a bright crimson, and still one of the finest and most striking of its class, although fourteen to fifteen years old. Miss Roberts is the best clear yellow. Puck is buff-orange, with crimson zone, and both darker and finer than Polly Eccles. The single Dahlias require very little or no attention beyond staking, and are better without feeding, except in very poor soils.

Single Cactus Dahlias are not forgotten, there being a collection of all the best of them. Marguerite, with long, twisted rays is the best white; Marmion is crimson; Sir Walter, rosy-pink, with orange base; Meg Merrilees, long, bright yellow rays; Pirate, maroon; Lady Rowena, buff-yellow, tipped purple; Ivanhoe, rosy-magenta, with crimson zone; Earl of Ravenswood, bronzy scarlet; and Alice Lee, a self, rosy-pink. For cut flowers in vases, the single Cactus varieties are even lighter, more graceful and far less formal than the ordinary, single sorts.

Show and Fancy Dahlias are grown in some quantity in all the finer and more popular forms. John Walker is still the best white. Chieftain is a purple of good shape; Diadem, maroon-crimson; Miss Cannell, light ground, edged crimson; Mrs. Gladstone, delicate blush, and still unbeaten; Pleasaunce, bright scarlet; William Powell, one of the best yellows; and T. W. Girdlestone, one of the best rich purple varieties for decorative purposes.

Cactus Dahlias, being in the height of their popularity, are represented by a large number of the leading types. Mrs. Cosmo Bonsor is a dwarf habited plant, with long, slender, orange florets; Cheal's white is a creamy white variety of good form. The tiny, pure white blooms of Venus, a pompon Cactus Dahlia, are exceedingly pretty and will be much in demand for cut flowers. It recently had a First-Class Certificate and an Award of Merit. Keynes' White is good in some soils, but does not always behave alike. Mrs. J. J. Crowe is a handsome bright yellow. Other good things are Britannia, pale salmon; Uncle Tom, blackish-maroon; Charles Woodbridge, crimson-scarlet; Debonaire, rich orange; and Countess of Lonsdale, rosy-salmon, and of the same habit as Britannia. Very pretty is Mrs. Holford, a rich, crimson-scarlet, pompon Cactus variety; and Profusion (purple) belongs to the same miniature type.

Pompon Dahlias.—For quantity of blossom and conspicuous appearance, none of the Dahlias will beat the single and pompon varieties. The pompons have been a mass of blossom till quite recently, at least. Rosebud is edged rose on a white ground; Mars, bright scarlet; Purity, white; Nerissa, clear uniform rose; Fabio, orange-scarlet; Emily Hopper, a fine yellow; Douglas, dark maroon; Dr. Jim, light ground, heavily edged rosy-crimson; Tommy Keith, red, tipped white: Bacchus, one of the best and prettiest scarlets; Madeline, yellow, with a rosy-lake edge; and Donovan, soft lavender.

Fruit and Fruit Trees.

The earlier fruits had been gathered and stored in the fruit room or otherwise disposed of; but a large proportion of the trees were still loaded with their ripening crops. Between the offices and the dwelling house are some trellises on which several kinds of fruit trees are grown. A trellis 12 ft. high was planted many years ago with single oblique cordon Pear trees, at 15 in. apart. Experience now shows that they should have been 18 in. to 24 in. apart. Many varieties can be grown in small space by this method. A number of the trees carried heavy crops. A similar trellis planted with single cordon Apples, trained obliquely, supported heavy crops of large fruits of Emperor Alexander, Peasgood's Nonsuch and others. Showy and interesting, as well as valuable, were the Apple and Pear trees trained over a long arch, covering a footpath, and showing what can be done in this way to economise space, and beautify the garden. They bore heavy crops, which were not subjected to the high gales of wind that were lashing the standard trees of Forge, Nanny and Cowan's Victoria, which were profusely loaded with fruit. All three were put into commerce by the Messrs. Cheal. Nanny was raised in Sussex, but the other two are Surrey Apples. These large trees are quite exceptional in height, for all the rest of the trees we noted were grown in the form of bushes, cordons, pyramids or other dwarf form.

The weather was too bolsterous with heavy falls of rain to permit of an inspection of the whole of these extensive nurseries, but we saw sufficient of the fruiting trees and the stock to be convinced of the fruitfulness of the former and the healthy character of the latter. Waltham Abbey Seedling is an immense cropper here. Lord Grosvenor is well suited for planting where the soil is heavy, with a clay subsoil, in place of Lord Suffield, which is so liable to canker, and other disease under those conditions. Colonel Vaughan is a small Apple, and Emperor Alexander a large one, but both agree in being beautifully coloured, and good croppers. Lane's Prince Albert and some trees of Schoolmaster never fail to fruit regularly as the seasons come round. Alfriston, The Queen, Prince Bismarck, Hoary Morning, and Ringer, were all heavily laden and quite interesting to behold. Warner's Seedling is a little known variety with the brisk flavour of Gravenstein, but smooth in outline and totally distinct in form from that. Atalanta, a November Apple, and a good cropper, was one of the many raised by Mr. C. Ross, of Welford Park. The fruits of Belle Pontoise are notable for their size. Jolly Miller is a red Apple about the size of Ribston Pippin, but remarkably clammy or viscid on the surface when ripe.

All of the above were bushes of some years' standing, but equally interesting were some quite young bushes, also bearing a crop. Bramley's Seedling, a popular cooking and market Apple, was notable for the short jointed and vigorous character of the wood. Sandringham is also a good cropper. Jubilee is amongst the latest trees to bloom in spring, thus escaping late frosts, and is a tremendous cropper. The fruits are large and yellow with a red side, solid and heavy. The stiff, short-jointed wood of Newton Wonder is also noticeable. Quite a picture were the young trees of Bismarck, carrying six to ten fruits each; they were two years old and only transplanted to their present position last spring. Cox's Orange is reputed to do well only on sandy soil, but here it carried a good crop of clean skinned fruits in the retentive loam and clay subsoil of the Lowfield Nurseries.

The fruit room shelves appeared to be filled to their utmost capacity even at this early date, and the only relief would naturally be the removal of the early ripening varieties to make room for the later ones. While the fruit room testifies to the harvest generally, it does not show the capabilities of the individual varieties. Nevertheless, the size of the fruits, their soundness, the clean skins of the same, and their rich and varied colouring, shows what can be done with hardy fruits in this part of the country.

Apples were well represented by Peasgood's Nonsuch, Emperor Alexander, Lane's Prince Albert, Stone's The Queen, Golden Noble, Bismarck, and Gascoigne's Scarlet Seedling, the latter being one of the most handsome varieties in cultivation when properly coloured. Chelmsford Wonder is also proving a good investment, judging from the applications for it. Cowan's Victoria takes after the bright colour of its parent, Forge, but is a larger fruit, and therefore useful for market purposes. Jubilee is a long conical Apple with a good bit of Mank's Codlin in it, but has a red cheek. Besides Atalanta, already mentioned, Mr. C. Ross raised other sorts, some of which we noted. Gospatrick is of brisk flavour, and was one of the first of his varieties put into commerce. Ross's Nonparell is a russet-coloured Apple, a good late variety for dessert purposes. Similar in colour, but strikingly different in form, is Armorel, flattened on the top, with the eye seated in a shallow basin. More attractive is the new sort named Paroquet, almost wholly of a dark crimson-red, and excellent in flavour. It received an Award of Merit from the R.H.S. last year.

A great many of the best and most popular Pears were present in great abundance; and though it is unnecessary to mention all the Apples or Pears that came under our observation, yet we may note a number that were in particularly fine condition. Most of them were well known kinds, including Glou Morceau, Easter Beurré, Van Mons. Léon Leclerc, Beurré Sterckmans, General Todtleben, Pitmaston Duchess, Duchesse de Nemours, Doyenné du Comice (the best Pear in cultivation for flavour), Beurré Rance, Beurré Hardy, Beurré Superfin (similar in growth to Doyenné du Comice), Josephine des Malines, Louis Goubalt (a turbinate, green Pear), and Marie Louise, and various other good standard varieties for any purpose.

GARDENING MISCELLANY.

BEGONIA PHOSPHORESCENS.

This is without doubt one of the best bedders I have seen, either by itself or as an edging to beds of larger growing and flowering varieties. I have quite recently met with it used in this way, and owing to its dwarf bushy habit, freeness of flowering and bright colour, a dazzling scarlet, it would be difficult to find anything to surpass it.—*W. B. G.*

BEGONIA CARMINATA.

Begonias as winter decorative plants are annually being more liberally grown, for their merits are so much more widely appreciated. The leaves of B. carminata are of medium size, sharply cut, green, and smooth. The flower trusses are pendent, being large and conspicuous, for besides being large they are a deep rosy-red in colour. The plant flowers freely when well treated, and the same culture that suits any of the other winter-flowering species is acceptable to this one.

BEGONIA HAAGEANA.

This fine, tall-growing, temperate house Begonia has

been the subject of a few kindly notices within the past month or two. It well deserves all the praise it receives. A very suitable place for it is in a narrow border or corner such as one often finds bordering the paths in conservatories and corridors. In a temperate corridor where the border soil is of good quality, B. haageana grows well and flowers well. It produces fine red stems, and lustrous, metallic, brownish foliage. In many respects it might be mistaken for B. incarnata which also bears the synonym, B. metallica. The latter is well worth close attention to produce a perfect pot specimen. B. haageana, however, is better than B. incarnata in this, that the trusses are of a deeper red, and are borne on longer stalks, thus making it more suitable for cutting.

AMARYLLIS BELLADONNA.

In a narrow open air border on the south-west side of the T range at Kew there is a very beautiful group of the above bulbous plant. They possess the true stock at Kew, and have managed to cultivate it with perfect success for years past in this same border. The flower-stalks are long, very stout, and the large, finely expanded and deeply coloured rose-pink flowers are equal to anything else in the garden at this season.

LIVERPOOL ROOT SHOW.

The eleventh annual exhibition of the above was held near the Haymarket on the 13th inst., and fully sustained its high position as the leading northern show. The number of entries for competition was 1,050, and twelve non-competitive. As usual the centre of interest was the fine display of Potatos, which numbered 441 entries, the tubers throughout being of high excellence. Mr. B. Ashton, Lathom Hall Gardens, Ormskirk, held a foremost position as an exhibitor in this division.

Early Sutton's Regent, Mr. John Halsall, Burscough, Mr. B. Ashton, Lathom Hall, and Mr. J. R. Newton were the prize takers.

For white early round, Mr. B. Ashton won with beautiful tubers of Sutton's A 1; Mr. W. L. Hutton, Aughton, Ormskirk, was second with Epicure. For white, second early Kidney, Mr. B. Ashton, with large tubers of The Dickson, and Mr. Thos. Percival, Warrington, with Prime Minister, were placed as named.

With white, round, second early, Mr. Thos. Alty, Ormskirk, secured the leading award and a special for a clean lot of Chester Favourite; Mr. B. Ashton followed with Snowball. For early or second early, any other shape, Mr. B. Ashton took the lead and the special prize for heavy specimens of Ideal. Mr. Thos. Percival, with Challenge, and Mr. J. Johnson, with Sutton's Seedling, came second and third.

For Snowdrop or Lord of the Isles, Mr. J. Halsall won with the latter variety. Messrs. Thos. Renson, Broomfield, Salop, and Mr. B. Ashton, took the remaining prizes with Snowdrop. For Lymm Grey the prize-winners were Messrs. J. Johnson, Scarisbrick, B. Ashton, and J. Halsall. For Reading Giant or Colossal, Mr. Jas. Parker, Irlam, Manchester, Mr. J. Johnson, and Mr. T. Alty, were placed as named, all staging giants.

For Sutton's Abundance, Messrs. E. Harrison, Preston, Jas. Johnson, and Geo. Roughley, were the prize takers. For Sutton's Satisfaction, Messrs. Ben Bowen, Ludlow, Geo. Ashley, and T. Renson, had the leading exhibits. For Up to-Date or General Roberts, Mr. W. Foster, Bloomfield, Salop, had the first and special; Mr. Thos. Benson, second, both showing the first named; Mr. B. Ashton taking the third with General Roberts. For Maincrop, Messrs. J. Halsall, Thos. Percival, and Thos. Rimmers, were placed as named, with medium sized tubers. For Langworthy, the winners were Messrs. J. Halsall, Thos. Percival, and John W. Howard, Melling.

Late Kidney, and late round, Mr. B. Ashton won with Motor and Monarch respectively. For red or coloured, early or second early round, Mr. G. Roughley, with Lathom Seedling.

Red or coloured, early or second early Kidney, Mr. Ashton scored. Red or coloured late Kidney, Mr. Ashton again was to the fore, also securing the special for Edgecot Purple.

Red or coloured late round, Mr. Thos. Alty, with Vicar of Laleham. For the heaviest, Mr. John Threlfall, Ormskirk, and Mr. T. Alty, received the leading awards.

Special prizes were offered for the best three distinct dishes, and Mr. B. Ashton led with Sutton's A 1, Abundance and Satisfaction.

Best dish bearing Messrs. Sutton's name, first, Mr. B. Ashton for Abundance; second, Mr. G. Roughley with the same variety. Messrs. E. Webb & Sons offered prizes for three dishes. Mr. J. R. Newton won with Motor, Industry, and Gold Finder; second, Mr. T. Renson; third, Mr. B. Ashton. For the best dish of Fidler's Maincrop or Favourite, prizes given by Messrs. Fidler & Sons, first, Mr. J. Halsall, with New Maincrop; second, Mr. John Halsall; third, Mr. Jas. Johnson. New Kidney varieties (prizes given by Mr. W. L. Hutton), first, Mr. John Halsall, with Sharp's Majestic; second, Mr. E. Druce, Holmes Chapel, Cheshire, with Green Top; third, Mr. T. Guy, with Kerr's Rival. New round, Mr. T. Guy, with large Kerr's Model; Mr. J. Halsall, with Advance; third, Mr. J. Wilson, Little Woolton, with Sidar, were the prize takers. Kerr's General French, Messrs. J. Halsall, James Johnson, and R. A. Mawdsley, were the winners of Messrs. Kerr's prizes in the two last classes. For the special prizes offered by Mr. J. Niven, Crieff, N.B., for Langworthy, Advance, or Sidar, Mr. Cuthbert Finch, Ormskirk, was the winner with Advance out of twenty-one exhibitors.

Fruit.

Six culinary Apples, first, Mr. J. Pigott, with Peasgood's Nonsuch; Mr. T. J. Salivey and Mr. B. Brown, second and third. Six dessert, Mr. J. R. Carter, with Ribston Pippin; Mr. J. Wynne and O. Roberts took the remaining prizes.

For six culinary Pears, Mr. G. A. Astall, with Grosse Calebasse; Mr. T. J. Salivey, and Mr. Thos. Guy, were the winners. Six dessert Pears, Mr. T. Guy, with Marie Louise; Messrs. G. Hammond, Hale, and W. Mackerall, took the prizes. Six culinary Apples, special prize, Mr. O. Roberts, with Peasgood's Nonsuch. Six dessert, Mr. J. Wynne. Six culinary Pears, Mr. R. Bennett, Speke, fine fruit. Six dessert, Mr. O. Roberts. Any other variety of fruit, Mr. B. Ashton won with Muscat of Alexandria Grapes; Mr. T. Guy, second with Peaches; Mr. J. Jump, third, with Black Hamburgh Grapes. The attendance was large in spite of the cold stormy weather.

The following exhibited not for competition:—Messrs. Dicksons, Chester; Messrs. Garton, Warrington; Mr. H. Middlehurst, Liverpool; Messrs. Dickson and Robinson, Manchester; Messrs. W. P. Kerr, Liverpool.

SOCIETIES.

ROYAL HORTICULTURAL.—*October 23rd.*

Chrysanthemums were a strong feature of the meeting on Tuesday last, but there were also fine collections or groups of Begonias, Ferns, Lilies, Lily of the Valley, Cannas, Pernettyas, early flowering Chysanthemums, hardy herbaceous plants and Orchids.

Orchid Committee.

Present.—Harry J. Veitch, Esq., in the chair, with Messrs. J. O'Brien, de B. Crawshay, H. Ballantine, H. Little, John T. Gabriel, H. J. Chapman, W. H. Young, J. Wilson Potter, H. A. Tracy, T. W. Bond, E. Hill, Jas. Douglas, T. Rochford, Walter Cobb, Jeremiah Colman, J. G. Fowler, and H. M. Pollett.

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, staged a group of Orchids amongst which Laeliocattleya Henry Greenwood, Lc. Maronii, Dendrobium Phalaenopsis schroderianum, D. formosum, D. leeanum atropurpureum, D. bigibbum, D. mooreanum, Laelia primula, and Stenoglottis longifolla, were very conspicuous. All of these were well flowered and gave the group a varied and bright appearance. Choice also were Cattleya howringiana Lady Wigan, Cypripedium allenianum, C. Helen, and C arthurianum, all very pretty in their respective ways. (Silver Flora Medal.)

Messrs. F. Sander & Co., St. Albans, staged a small group of Cattleya Loddigesii Harrisoniae, showing constderable variation in colour. They also had a finely blotched form of Odontoglossum crispum, Cypripedium crossianum aureum and some other hybrids.

Messrs. Heath & Sons, Cheltenham, showed a well coloured variety of Vanda caerulea, Dendrobium formosum giganteum, and flowers of Cattleya howringiana.

R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), Cambridge Lodge, Flodden Road, Camberwell, exhibited an interesting little group of Cypripediums, including C. Vidor, C. insigne Sanderae, C. Niobe, C. reginae, C. arthurianum, C. Mrs. F. L. Ames, C. Unxia, C. H. Ballantine, and C. Lachmee, making in all a very interesting lot. Particularly interesting were the forms derived from hybrids between C. fairieanum and some other parent. He also had a bloom of the original introduction of Phalaenopsis violacea, having the violet colour confined to the contiguous edges of the lateral sepals. (Silver Banksian Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, set up a group of Orchids, including fine pieces of Oncidium Forbesii, O. F. giganteum (with large and richly coloured flowers), O. varicosum, Cattleya bicolor, C. labiata, C. Portia, C. Loddigesii, Laeliocattleya exoniensis, Laelia pumila giganteum (a variety with remarkably large petals), and the curious Catasetum callosum (having long, brown segments and a green lip). (Silver Banksian Medal.)

A Cultural Commendation was accorded to Messrs. J. Veitch & Sons, Ltd., Chelsea, for a large and remarkably well-grown plant of Cattleya bowringiana Veitch's var. It had three spikes, carrying twenty, twenty-six, and thirty-three flowers respectively, or an aggregate of seventy-nine.

D. M. Grimsdale, Esq. (gardener, Mr. T. A. Hooker), Kent Lodge, Uxbridge, exhibited cut flowers of Oncidium Forbesii, Odontoglossum crispum, and Cypripedium Charlesworthii. Messrs. Charlesworth & Co., Heaton, Bradford, exhibited plants of Aerides Lawrenceae, Cattleya John Baguley, and the small but richly coloured bigeneric hybrid Sophrolaelia Eros (Laelia elegans Turneri × Sophronitis grandiflora). Sir James Miller, Bart. (gardener, Mr. J. Hamilton), Manderston, Duns., exhibited cut flowers of Cattleya maxima, C. bicolor, Laelia dayana, and others. Mr. T. Rochford, Turnford Hall Nurseries, Broxbourne, exhibited the beautifully blotched Odontoglossum crispum Maud Rochford. C. H. Feiling, Esq. (gardener, Mr. C. Stocking), Southgate House, Southgate, exhibited Cattleya hardyana Southgate House var., a natural hybrid. W. V. Appleton, Esq., Tyn-y-Coed, Weston-super-Mare, staged Cypripedium Lady Roberts, C. Sir Redvers Buller (C. Smithii × insigne), and Dendroblum Phalaenopsis Brilliancy. M. Jules Hye, Ghent, staged Cypripedium Maudiae, a hybrid between C. callosum Sanderae and C. lawrenceanum hyeanum.

Floral Committee.

Present.—W. Marshall, Esq., in the chair; with Messrs. Chas. T. Druery, R. Dean, G. Reuthe, Jas. Hudson, H. B. May, John Jennings, J. F. McLeod, Wm. Howe, J. D. Pawle, Geo. Gordon, Chas. E. Shea, James Walker, H. J. Jones, Wm. J. James, E. T. Cook, E. H. Jenkins. Geo. Paul, and J. Fraser.

Messrs. Barr & Sons, King Street, Covent Garden, W.C., exhibited early flowering decorative Chrysanthemums, of which Louise Lemaire, brilliant deep yellow; Roi des Precoces, crimson; Pride of the Market, crimson; Yellow Gem, Maud Pitcher, a lively bronze yellow; Anastasia, rose-purple, and such others were very superior. Lycesteria formosa was also seen. Kniphofia Triumph is a very large flowered variety. The beautiful Polygonum Sieboldii compactum, with its white flower trusses, was shown to perfection. Another fine Kniphofia was that named K. Leichtlini distachya, which is small in form, but very showy in colour. An extra early batch of white Roman Hyacinths was displayed in bowls. There was a wealth of other fine stuff in this exhibit. (Bronze Flora Medal.)

H. J. Elwes, Esq. (gardener, Mr. T. H. Beesley), Colesbourne, Andoversford, Gloucestershire, had a neat array of Nerines in pots, representing the older and well known types and various improvements from these.

Mr. R. Drost, Kew Nursery, Richmond, showed a white decorative variety of Chrysanthemum which we took to be Mdme. Gustave Henry. He also had a group of Soliel d'Octobre in pots. The plants were bushy and well flowered. It would be a great convenience to everybody if the names of all varieties were presented, so as to be easily seen. (Silver Flora Medal.)

Mr. W. J. Godfrey, Exmouth, Devon, showed a small group of bushy decorative Chrysanthemums in pots. The best of these were Ryecroft Scarlet and

Jolly Rose, both of which are new and distinct. He also showed Loveliness, a fine incurving Jap., of deep lemon colour; Sensation, a large flowered deep, shining old-gold colour, streaked with purple. J. R. Upton was also shown in exceedingly fine style. He had quite a large array. (Silver Flora Medal.)

Messrs. W. Cutbush & Son, Highgate, London, N., set up a collection of Ericaceous plants. Pernettya mucronata lilacina, P. m. purpurea, P. m. alba, and P. m. elegans were included in this group. Skimmia japonica, crowded with berries on every shoot, was another of the brilliant collection forming the exhibit. (Bronze Flora Medal.)

Mr. Norman Davis, Framfield, Sussex, had one of the finest displays of cut Chrysanthemum blooms in the hall. The arrangement was exceedingly tasty, including tall glasses, vases, and baskets, &c., each containing one variety of bloom, and the blooms were on the whole of high quality. The best of the yellows were W. Towers, President Nonin, and Soliel d'Octobre; Snowdrift was the best white, and Mrs. White Popham was the best pink. Among the showiest of the purely decorative varieties were Elaine, Roi des Precoces, Ryecroft Glory, and Miss Elise Dordan. Coloured foliage and dried Fern fronds were effectively employed amongst the flowers. (Silver Gilt Flora Medal.)

Messrs. Peed & Son, West Norwood, S.E., showed a table of Begonias of the semperflorens type, edged with samples of B. Gloire de Lorraine in small pots.

Mr. A. C. Pulling, Monkhams Nursery, Woodford, staged a bright group of Japanese exhibition Chrysanthemums, interspersed with Crotons and Ferns. Some fine blooms of Miss Alice Byron, Annie Provost, Mrs. A. H. Hall, Henry Weeks, Mrs. S. C. Probyn, &c., were seen on the plants staged. (Silver Gilt Banksian Medal.)

Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, set up a warm-coloured group of Begonia Gloire de Lorraine, relieved with Adiantum farleyense. This exhibit was as usual, meritorious. (Silver Flora Medal.)

Messrs H. Cannell & Sons, Swanley, had a large group of Cannas in 5-in. pots. The secret of success seems to be in potting the tubers into small pots, and thereafter to feed them. Apricot was rather striking, Mdme. Pichon, Auguste Chantin, Semaphore, Buttercup, Mdme. Berat, &c., were also of the first quality. They also showed a number of Japanese Chrysanthemum blooms, including the varieties Blanda, Mermaid, and Mrs. Gus Trollip. Mermaid is a fine new white sort; the other two are purple-magenta and light mauve respectively. Their new white Jap. named Princess Alice de Monaco, is exceptionally noteworthy. Violet Kaiser Wilhelm II. was represented by six sweet smelling bunches. (Silver Flora Medal.)

Mr. Thos. Rochford, Turnford Hall Nurseries, Broxbourne, Herts, set up a table of retarded Lily of the Valley shown in pots. Spiraeas and Lilium longifollum album, &c., were also included, as were plants of Azalea mollis, whose profusion of deeply coloured blooms were quite surprising. This is the first year that these Azaleas have been retarded for the sake of having them in bloom at this time, and apparently it is quite successful. Seakale is also treated in this way, and crowns can now be had all the year round. (Silver Gilt Flora Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, prove that they are as active as heretofore in setting new strains of florists' flowers on the market. On this occasion they exhibited their Hybrid Streptocarpi, and the excellence of them was the varied amount of colours which have been got into the newer seedlings. These range from pure white through pink to deep lake and amaranth, from pale lavender to violet, deep blue and purple-crimson. The "Cape Primroses" are destined to be amongst the foremost of garden flowers. They had also trusses of their Japanese Rhododendrons.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, N., showed three plants and a large vase of H. T. Rose Lady Battersea. It is a free-flowering, cerise-red variety, being remarkable in having small spines upon the flower stems right up to the bud. The new Sunrise and the American Rose Liberty, a strong, well-flowered crimson sort, were also included.

Mr. Geo. Prince, Rose Grower, Oxford, set up a very limited display of Tea Rose blooms. White Maman Cochet and the ordinary pink Maman Cochet were in strong evidence. (Silver Flora Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, S.W., made an exceedingly creditable exhibit of Japanese Chrysanthemums, including Phoebus, James Bidencope, Miss Nellie Pockett, Soliel d'Octobre, Little Nell, R. Hooper Pearson, Henry Weeks and such others of the first rank of merit. (Silver Gilt Banksian Medal.)

Messrs. W. Wells & Co., Ltd., Earlswood Nursery, Redhill, showed a collection of cut Japanese Chrysanthemum blooms. The quality was undoubtedly superior all round. Chief of the decorative sorts was Mytchett Beauty, yellow; Pres. Ed. Barre, Mr. Bournesien, pink; and Orange Marie Masse. The semi-double variety, Charming, ought to be in every grower's possession. It is a splendid yellow. (Silver Banksian Medal.)

Fruit and Vegetable Committee.

PRESENT:—Geo. Bunyard, Esq., in the chair; with Messrs. W. Wilks, H. Esling, James H. Veitch, A. H. Pearson, W. Gleeson, Wm. Pope, Alex. Dean, S. Mortimer, C. Herrin, W. Bates, H. Markham, Geo. Wythes, Geo. Woodward, James Smith, F. L. Lane, A. Reynolds, G. Norman, J. Cheal, and H. Somers Rivers.

Messrs. Geo. Bunyard & Co., of Maidstone, made a most wonderful display of Pears. The collection amounted to seventy-five dishes, including Beurré Clairgeau, Fondante de Thirriott, Doyenne du Comice, Directeur Hardy, Durondeau, Uvedale's St. Germain, Pitmaston Duchess, Beurré Jean Van Geert, Catillac, Gen. Todleben, Idaho, &c., &c., all of which created interested comment on their general high quality. Parrot was also good. Louise Bonne of Jersey, Pierre Cornielle, and such others were perfect of their kind. (Silver Gilt Knightian Medal.)

Mr. T. R. Cuckney, Cobham Hall, Gravesend, received a Cultural Commendation for a box of Coe's Golden Drop Plum.

Mrs. Maltby (gardener, Mr. J. Matthews), Botley, Hants, received a like award for a boxful of Beurré Diel Pear.

Messrs. Harrison & Sons, Seed Growers, Leicester, set up a varied and rather embracive collection of long-keeping Onions. Among these Danver's Yellow, Blood Red, Giant Zittau, Lord Keeper, Deptford, Banbury Cross, Up-to-Date, Cantell's Prize, and White Spanish, were all worthy of special notice. (Silver Knightian Medal.)

A collection of Gourds came from Dr. Bonavia, Westwood, Worthing.

Messrs. Orman & Co., Lewis, Iowa, U.S.A., presented Melon "Musk," pure Bread Squash.

Mr. Will Taylor, Osborn Nursery, Hampton, Middlesex, showed six bunches Reine Olga ripened out of doors. Though not quite finished, the flavour was piquant and palatable.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, showed a collection of sixteen dishes of Apples. These included Beauty of Stoke, Newton Wonder, Atalanta, Warner's Seedling, Ottershaw, Emily Childs, Hooper's Seedling, Roundaway Magnum, Jubilee, Cheal's Seedling, and the newer variety, Paroquet. Jubilee, Chelmsford Wonder, and Paroquet, were exceedingly fine.

W. Roupell, Esq., Harvey Lodge, Roupell Park, S.W., exhibited some remarkably well grown and highly-coloured Cox's Orange Pippin and Newton Wonder Apples, grown on bush trees on the Paradise Stock, within a five miles radius of Charing Cross. A Cultural Commendation was awarded in each case.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. A. Thatcher, Aldenham, Elstree, for his article on "Polygonums," p. 119. One or two competitors still overstep the limits to the number of words, thereby making themselves not eligible for winning the prize. Some of these long articles are of a high order of merit, and in some instances would win if within the 250 words.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

[*Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.*]

Strongly scented Fruit in Box.—*Ellen Parker*: The specimen you send is Maule's Quince or Pyrus Maulei. Like all other Quinces it is unfit for eating in the raw state; and if cooked by itself would probably be too strongly flavoured to suit the palate of most people. It is, nevertheless, stated by some to be used in the form of marmalade. Other Quinces are much esteemed with Apples in pies and tarts while in confectionery they are excellent as marmalade and syrup. It may therefore be turned to good account for the flavouring of stewed Apples and Pears. In order to ascertain how much of it to use with a pound of Apples or Pears, but particularly the former, you might make some experiments on a small scale till the flavour is sufficiently strong for your palate, after which you may go more extensively into the use of it. The scent of the fruit is also very strong, and might act as a potent factor in giving character to the preserves or pies. Whether it is agreeable to you will have to be tried by experiment as hinted above.

How to get good Asters.—*R.M.*: If the selection is left to others you might get what they considered good and showy varieties; but they might not be according to your liking. The best plan would be to see them growing and make a selection of those which might take your fancy most. They might not in all cases be correctly named; but you could get the correct names afterwards in the case of species and distinct and well-known varieties at least. We would be pleased to help you to the specific names and to some of the more distinct varieties. Garden forms could be made out in large collections where some attention is given to get the right names and keep the plants properly labelled.

Physalis Francheti.—*D. R.*: It may be propagated by division of the rootstock, but it does not increase so rapidly as P. Alkekengi. The best way, therefore, and the quickest to get up a stock is to raise it from seeds, which are produced freely enough in this country. The seedlings grow slowly at first until they get thoroughly established. The seeds should be sown in boxes or seed pans, transplanting them in the latter case into boxes when they have made some growth. The boxes may be kept in frames to encourage growth, so that when you finally transplant them to their permanent positions they will be of some size and able not only to take care of themselves, but to grow away vigorously. If grown with the aid of a frame in this way for a year you would save yourself a deal of trouble in looking after the young plants in the open, and which do not make much growth the first year, especially in heavy soils.

Leaves of the Black Poplar Stripped of Leaves.—*W. M.*: The leaves have been eaten by caterpillars of some of the Sawflies. It is probably too late now to attempt any remedy, unless it is to remove a few inches of the soil from above the roots of the trees affected. This soil should be smother burned or taken some distance from the trees and buried deeply so that the flies will be unable to get to the surface next year when they leave the pupa cases. Next year if the trees get attacked again they could be syringed with London Purple at the rate of 1 lb. to 200 or 300 gallons of water. The liquid should be thoroughly stirred all the time it is being used, to prevent the sediment from collecting in the bottom.

Names of Plants.—*A. M.*: 1, Ornithogalum longibracteatum; 2, Gasteria verrucosa; 3, Tradescantia zebrina; 4, Pelargonium Radula.—*T. B.*: 1, Ligustrum vulgare; 2, Cotoneaster frigida; 3, Pernettya mucronata; 4, Cotoneaster microphylla; 5, Sambucus racemosa.—*C. B. G.*: The Sedge is Carex paniculata; the garden plant is Hibiscus Trionum.—*A. J. B.*: 1, Aster Novae-Angliae ruber; 2, Aster ericoides; 3, Aster dumosus.—*H. C. S.*: 1, Helianthus cucumerifolius; 2, Solidago canadensis; 3, Colchicum autumnale flore pleno; 4, Fuchsia Riccartoni; 5, Cineraria maritima; 6, Artemisia pontica.—*W. B. D.*: 1, Tradescantia discolor; 2, Mentha Requieni; 3, Kleinia repens; 4, Kleinia tomentosa; 5, Saxifraga hirta; 6, Sempervivum calcareum.

Names of Fruits—*W. H.*: 1, Duck's Bill; 2, Royal Somerset.—*J. L. A.*: Apple Keddleston

Pippin.—*Ellen Parker*: The fruit of Pyrus Maulei or Maule's Quince.

Communications received.—D. McGregor.—W. Angus.—Omega (next week).—C. B. G.—M. Temple.—J. Miller.—T. D.—R. W.—H. A. B.—D. C.—R. D.—J. Proctor.—A. L.—J. W.—E. W.—J. R.—Wm. Craig.—H. G. C.

TRADE CATALOGUES RECEIVED.

J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex. — Catalogue of Ornamental Trees and Shrubs, Fruit Trees, American Plants, Roses, Forest Trees, Rhododendrons, &c.

Vilmorin - Andrieux et Cie, 4, Quai de la Mégisserie, Paris.—Special Catalogue of Gladioli; also Flowering Bulbs and Strawberries, and Seeds for Autumn Sowing.

Wm. Watson & Sons, Clontarf Nurseries, Dublin,—Fruit Trees, Roses, Evergreen Shrubs, Ornamental and Forest Trees, Hardy Climbers, &c.

SHOW FIXTURES FOR 1900.

CHRYSANTHEMUM SHOWS.

October.

31.—Exmouth, Torquay, Steyning (2 days); Penarth.

November.

1.—Horsham (2 days); Leyton (2 days); Newton-Abbot.
2.—Battersea (2 days).
6.—Truro (2 days); N.C.S. (3 days); Belfast (3 days.)
7.—Bideford; Bournemouth (2 days); Cardiff (2 days); Cheltenham (2 days); Doncaster (2 days); Ealing; Halifax (2 days); Hornsey (2 days); Isle of Thanet (2 days); Lowestoft (2 days); Manor Park (2 days); Newport (2 days); Sevenoaks (2 days); Walthamstow (2 days); Melton Mowbray (2 days)
8.—Bakewell (2 days); Beaminster; Cranbrook (2 days); Devon and Exeter (2 days); Penzance (2 days); Royal Jersey (2 days); Swansea (2 days); Windsor and Eton; Forest Gate and Stratford (3 days); St. Botolph's, Colchester.
9.—Derby (2 days); East of Fife (2 days); Highbury (2 days); Leicester (2 days); Hayes (Middlesex).
10.—Bacup; Nottingham (2 days); Stockport Chrysanthemum Society.
13.—Dulwich (2 days); Folkestone (2 days); Hartlepool (2 days); Ipswich (2 days); Longton (2 days); Southend-on-Sea (2 days); Wimbledon (2 days).
14.—Alsager (2 days); Banbury (2 days); Bristol (2 days); Caterham (2 days); Chesterfield (2 days); Faversham (2 days); Finchley (2 days); Hull (2 days); King's Lynn (2 days); Lewes and District (2 days); St. John's Sevenoaks (2 days); Sutton Coldfield (2 days); Sutton, Surrey (2 days); Tonbridge (2 days); Warlingham; York (3 days).
15.—Barnsley (2 days); Jersey Gardeners (2 days); Ludlow; Scottish Horticultural (3 days), probable.
16.—Blackburn (2 days); Bradford (2 days); Chorley (2 days).
17.—Burton-on-Trent; Batley.
22.—Dundee (3 days); Norfolk and Norwich (3 days).
23.—Cumberland.

December.

4.—N.C.S. (3 days).

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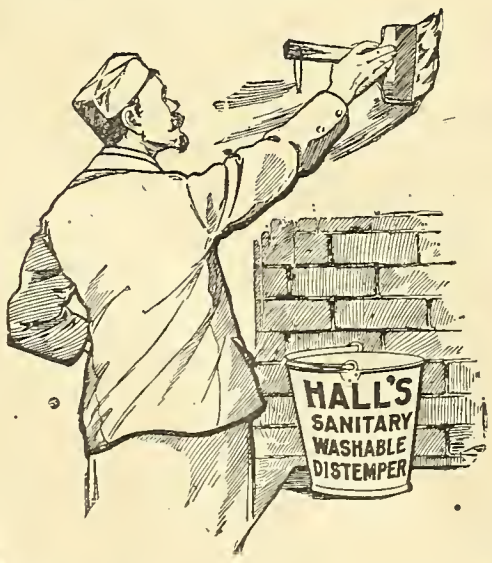

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Persons desirous of Tendering may obtain printed forms of Tender (which can only be received), containing full particulars and conditions, at the offices of Messrs. Newman & Newman, of 31, Tooley Street, S.E., between the hours of 11 a.m. and 2 p.m. daily (Sundays excepted), from November 5th to November 7th, 1900, by depositing a sum of £2 (cheques will not be accepted) which will be returned to persons sending in a bona-fide Tender in the manner and at the time specified.

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The contractors will have to undertake to pay all workmen employed by them in the performance of the contract, such rates and wages, and to observe such hours of labour as at the date thereof were recognised as fair by the several trades unions of the district where the work is to be done, and such conditions will form part of the contract.

Sealed tenders endorsed "Tender for Laying-out of Grounds, Ladywell," must be delivered to me personally at my office not later than 6 p.m. on November 15th, 1900, and the Tenders will be opened and considered at 7 p.m., at the meeting of the Guardians to be held on the same day.

The Guardians do not bind themselves to accept the lowest or any Tender.

By order,
E. PITTS FENTON,
Clerk.

Union Offices:
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MAIDENHEAD CHRYSANTHEMUM, FRUIT & VEGETABLE SOCIETY.—The Third Exhibition will be held in the Town Hall, Maidenhead, Thursday and Friday, November 15th and 16th. Entries close Saturday, 10th. For Schedules apply—J. W. STONE, Esq., Hon. Sec., Cookham Dene.

HULL.

The 17th Annual Chrysanthemum Show of the Hull and East Riding Chrysanthemum Society will be held in the Artillery Barracks, Hull, on Wednesday and Thursday,

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BROMLEY & DISTRICT CHRYSANTHEMUM SOCIETY.—The Nineteenth Annual Exhibition of Chrysanthemums, Fruit and Vegetables, will be held on November 7th and 8th, 1900, in the Grand Hall, Bromley, Kent. Entries close November 3rd. Schedules and particulars of the Hon. Sec., W. WEEKS, 29, Widmore Road, Bromley.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, NOVEMBER 3rd, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, November 6th.—Truro (2 days); N.C.S. (3 days); Belfast (2 days).

WEDNESDAY, November 7th.—Bideford; Bournemouth (2 days); Cardiff (2 days); Cheltenham (2 days); Doncaster (2 days); Ealing; Halifax (2 days); Hornsey (2 days); Isle of Thanet (2 days); Lowestoft (2 days); Manor Park (2 days); Newport (2 days); Sevenoaks (2 days); Waltham-stow (2 days); Melton Mowbray (2 days); Bromley and District (2 days).

THURSDAY, November 8th.—Bakewell (2 days); Beaminster; Cranbrook (2 days); Devon and Exeter (2 days); Penzance (2 days); Royal Jersey (2 days); Swansea (2 days); Windsor and Eton; Forest Gate and Stratford (3 days); St. Botolph's, Colchester.

FRIDAY, November 9th.—Derby (2 days); East of Fife (2 days); Hinkbury (2 days); Leicester (2 days); Hayes (Middlesex).

SATURDAY, November 10th.—Bacup; Nottingham (2 days); Stockport Chrysanthemum Society.

THE GARDENER'S ASSISTANT.* — The second divisional volume of this standard work on the art of horticulture takes up the story at p. 209, just where the previous one left off, and carries it on to p. 416. It fully sustains the interest of the first volume, and indeed, should prove more attractive to the general reader than the first one, owing to the fact that it deals with a vast number of plants, hardy and otherwise, though it must be confessed that the former have the preponderance. Besides many new and valuable illustrations interwoven with the text, and which the other did not possess, this volume also includes six full-page plates and six coloured plates, all of which are additional matter not included in the paging. The Himalayan House at Kew, though only a wing of the great Temperate House, and the largest plant house in the world shows the most recent of modern improvements in the way of large glass structures, admitting a maximum of light and therefore well adapted for plant culture. A view in the rock garden at Kew also serves to show one of the most pleasing features in connection with its formation, namely the isolation it enjoys from its flat and uninteresting, as well as inappropriate surroundings. This has been accomplished by sinking it below the level of the gardens and planting the high banks with shrubbery and trees. The view shows a wealth and variety of trees, but of course many of them are in the background, and were there before the rock garden was planned. These being at a distance from the rockery proper or mostly so, they form an appropriate background, while they do not unduly shade the rock plants. Had soil been dumped down upon the level and the rocks built up to it, the rockery would have been entirely out of keeping with the nature of the ground on the alluvial flats of the Thames Valley. The chapter on "Garden Structures" also gives a view of the fine modern conservatory at Sefton Park, Liverpool, of which we gave an illustration about the time it was built (see GARDENING WORLD, Vol. XIII. p. 25). The exterior and interior views of Bunyard's fruit-room also show how to maintain an equable temperature in a hardy fruitroom, while being entirely independent of walls, trees or other houses in order to secure shade, or a northern aspect—things which cannot readily be secured in every garden. Slight modifications of this plan of fruitroom are already being adopted in private gardens as we indicate in another column. Various forms of boilers and different methods of heating are also well illustrated in the same chapter.

The subject of propagation is dealt with at considerable length under the headings now familiar to most gardeners. Some very useful hints will, however, be found under the most familiar of headings, so that gardeners will find the time well spent in perusing the chapter, while the rising generation of gardeners or apprentices will find everything new, with much food for reflection, and much to put into practice when occasion occurs. Fresh light has been thrown upon, and new illustrations accompany the subject of transplanting, which deals chiefly with the operation of moving large trees by special machinery. The pruning or rather the lopping of large trees is illustrated by some examples of what to avoid. The example of a young tree that has never been pruned shows a specimen of somewhat erratic growth, which, perhaps, may be regarded as an exaggeration of reality in order to emphasise its unshapeliness in the eye of the young gardener. The young tree, kept in form by pruning, we hope is also an exaggeration of what should actually be done by the cultivator, because, if all the trees in the pleasure grounds of an estate were so pruned, the landscape would have a severely formal character on account of the uniformity of

*The Gardener's Assistant: a Practical and Scientific Exposition of the Art of Gardening in all its Branches. By Robert Thompson of the Royal Horticultural Society's Gardens, Chiswick. New Edition, revised and entirely remodelled under the Direction and General Editorship of William Watson, Assistant Curator, Royal Gardens, Kew. Divisional Vol. II. Price 8s. London: The Gresham Publishing Company, 25, Farringdon Avenue, E.C. 1900.

its cockney-looking trees. The natural habit of different trees varies, and we should prefer allowing them to assume their natural form, provided the form assumed, or any portion of it was not altogether erratic. For instance, if certain limbs were growing rampantly at the expense of others or to their detriment, such anomalous or unequal growth should be corrected, and the propriety of such proceedings ought to be apparent to every good gardener of taste and culture. Much bad pruning, however, is accomplished, and useful directions are here given in the text. The ringing of trees to make them fruitful finds an advocate, under certain circumstances, in L. H. Bailey, a well-known authority on American horticulture. It must, to a certain extent, be hurtful to the trees in the long run, and the writer's words upon it, remind one of the old saying that "desperate diseases need desperate cures." In any case it ought to be the last resort in order to render trees fruitful.

Much instruction is furnished by the chapter on "Flower-gardens and Pleasure grounds," for under this heading are grouped such varied phases of gardening as the formation of a garden, sub-Tropical garden, hardy perennial garden, rock-garden, rootery, rose garden, American garden, lawns, bowling greens, lawn-tennis grounds, ornamental water, &c. The varied activities of modern life have made many of the above features necessities, so to speak, since the last edition of this book was published; and gardeners everywhere are supposed to be able to construct and superintend them; hence, a number of them are practically new features or dependencies of gardening. But why not add cricket grounds to the gardener's domain, as well as bowling greens and lawn-tennis grounds? The first-named require considerable skill in formation, and particular attention to keep them in order.

The rock-garden is illustrated by a view of that in the gardens at Kew, as mentioned above; but with that exception, no other illustrations are given under the heading, and the subject, as a whole, has but little space devoted to it, though the hints given in general terms are suggestive enough. The idea of rockery building is so general in gardens throughout the country that more space might well have been devoted to the subject, and the pages furnished with views of various styles of building rockeries, due, on the one hand, to the exigencies of the situation, and on the other hand to the idiosyncracies of the builders or their copyists. A good hint is given concerning the introduction of water to rock scenery or gardens; but not every estate can command a supply of water from a natural stream, nor is it possible to secure a cascade or waterfall, without artificial means, in those districts that are flat and watered, it may be, by a sluggish stream or ditch. Nothing is more natural, however, than water in association with truly alpine plants, which often grow on the margins of perennial mountain rills, and in certain cases refuse to grow at a distance from the same owing to lack of shelter and moisture. The writer of the chapter says that "the primary object of a rock-garden should be to afford facilities for the cultivation of a beautiful and interesting class of plants." Besides being ornamental in itself, a rill of water in a rock garden would assist the cultivator by enabling him to grow alpines that die of heat and drought during an English summer, though the same plants might be hardy enough to defy the rigours of an arctic winter on a mountain top. A mile or two of a continuous silvery cascade or series of cascades glistening in the summer sunshine, such as often occur in a state of nature, are sufficient to make the rockery builder green with envy. Fairly plausible imitations are sometimes accomplished even where the supply of water has to come from the water company's main; and though the effect is pleasing enough, especially if the design is bold and natural in appearance, yet the channel of the stream is often allowed to run dry on account of the expense of keeping up a constant supply.

The chapter on "Hardy Ornamental Trees and Shrubs" will probably be amongst the longest in the work, as it runs from p. 283 to 340 inclusive. Without its "tall ancestral trees" every homestead would be bleak, and its lawns, borders and surroundings, bald and unadorned. Trees and shrubs are indispensable except to the smallest of cottage gardens and the allotment holders' plot of vegetable ground. Different kinds are necessary for clothing bare but fertile soil as well as dry, relatively barren and exposed positions, chalk soils, sea-side, and town gardens, as well as the wet margins of streams, ponds, lakes, and sheets of water generally such as the landscape gardener and planter may find ready to hand in various parts of the country. All have been provided for in this lengthy chapter. The vastly interesting family of Bamboos has been shown to be hardy in many parts of the British Isles, and many species and varieties have been included in this work, but which were scarcely dreamt of when the last edition was published. Other trees and shrubs in great numbers have been added to those briefly described in the previous edition, and are accompanied by numerous well-executed illustrations. The names best known in gardens have been consistently followed as far as they are compatible with correctness; but a few synonyms have been given to keep the reader correctly informed, where he might otherwise go astray. Trees and shrubs as well as Conifers, which are kept in a division by themselves, have been dealt with by Mr. W. J. Bean, of the Royal Gardens, Kew.

Hardy herbaceous plants, the alpine garden, wild garden, aquatics and bog plants come from the pen of F. W. Burbidge, Esq., M.A., of the Trinity College Botanic Garden, Dublin, and needless to say he has done justice to his favourite classes of plants. Lists of these plants suitable for various purposes are given, but herbaceous and alpine plants are described together in one alphabetical list. Some illustrations furnish plain hints for the guidance of those who would imitate nature by planting alpines in fissures of rocks, with reasonable hope of success. Very interesting are the illustrations of hardy and half-hardy aquatics; but while, in this country, we may be able to imitate the Nymphaea pond at Glasnevin, it will hardly be possible without artificially heated water to grow Nelumbium speciosum and Victoria regia as seen in the pictures given. The long list of Nymphaeas which has been placed at the disposal of the cultivator since the last edition was published, constitutes a new and pleasing feature of this, and should encourage the more general formation of ponds (where such are possible) and the planting of existing ones. Bog plants proper receive separate attention. "Popular Hardy Plants" follow the chapter on annuals, and include such varied subjects as Achimenas, Anemones, Asters, Auriculas, Azalea indica, Begonias, Bouvardias, Caladiums, Camellias, &c. The second volume is thus fraught with interest for the gardener from end to end, and every gardener should strive to possess the work, for it is an encyclopaedia in itself. Paper, printing, the type, and the editing are alike excellent.

Chrysanthemums seem to be as late in America as they are with us this year.

Mr. A. Russell, who is leaving Lord Delamere, at Vale Royal, Northwich, is succeeded by his foreman, Mr. William Butler.

Mr. R. McAndie, for the last eight years head gardener to W. E. O. Rutherford, Esq., of Edgerston, Roxburgshire, has been appointed head gardener to Sir A. Berkley Milne, Bart., Inveresk Gate, Musselburgh.

Mr. Richard Wilson, for the past five years head gardener to Lady Holmpatrick, Ahbotstown, Castleknock, Co. Dublin, has secured the important appointment as head gardener to Sir Archibald Edmonstone, Bart., Duntreath Castle, Blanefield, Stirlingshire.

Royal Horticultural Society of Ireland.—A meeting of the above was held at Dawson Street, on Tuesday, 23rd ult. Various communications were read and dealt with, amongst them being one from Messrs. R. Hartland & Son, The Lough Nurseries, Cork, offering a Challenge Cup, value £6, for a competition of Begonias of thirty-six blooms, distinct, which was graciously acknowledged. The Duke of Leinster was elected a life member. Final arrangements were made for holding the Chrysanthemum and fruit show at Ball's Bridge on November 6th and 7th.

Royal Gardeners' Orphan Fund.—It will be gratifying to the many personal friends of the late Mr. James Martin, so long the respected manager of Messrs. Sutton & Sons' nursery at Reading, to know that as a result of the appeal made by the executive of the Reading and District Gardeners' Mutual Improvement Association for subscriptions towards a "James Martin Memorial," the sum of £135 has been raised and handed over to the Royal Gardeners' Orphan Fund, the committee of which institution acknowledge its receipt with grateful thanks, and will apply the sum placed at their disposal strictly in accordance with the object for which the memorial was raised. At a meeting of the committee, held on the 26th ult., it was arranged that there should be an election of candidates at the annual meeting, which will take place on February 15th next, and nominations for the same will be received by the secretary up to December 21st.

The Garden and its Worth.—This was the subject of an interesting lecture delivered by Mr. H. Cannell, sen., at the usual meeting of the St. John's (Sevenoaks) Gardeners' Society, on the 25th ult. The chair was taken by the president, Mr. Alfred A. Clark, who was supported on the platform by Mr. Arthur C. Bailey, one of the vice-presidents. The lecturer illustrated his remarks by a special collection of very fine fruit and vegetables, including Onions of enormous size (some weighing 3 lbs.), Parsnips about 3 ft. long, Cauliflower, Cabbage, Beet, Leeks, Carrots, &c. Mr. Cannell, who is a vegetarian, pleaded for vegetables to have the first place at a meal, instead of the secondary place as at present in most English homes, and gave it as his firm conviction, grounded on experience, that we should all enjoy better health if we ate more vegetables and fruit instead of meat. To show the value of some kinds of vegetables in the winter, Mr. Cannell brought with him a dish of cooked Beans, the variety called "the Czar," a white Runner Bean. These are much larger than the Haricot and can be grown by anyone who has a garden, however small. He also brought a dish of cooked Gourd, the American Squash. Both these dishes were handed round for the audience to taste, and the general opinion was that they were excellent. Mr. Cannell spoke for about an hour and a half, and at the close, after answering several questions, was accorded a unanimous and hearty vote of thanks. The secretary of the society, Mr. E. Greenway, then proposed a very hearty vote of thanks to the chairman and vice-chairman, which was seconded by Mr. Shewbridge, and carried unanimously and heartily. Both gentlemen responded, saying what pleasure it had given them to be present, and the meeting then terminated.

Pompon Dahlias.—Some growers in America recommenn poor soil as best for the growth of Pompon Dahlias.

The Florists of Galveston.—In an estimate of losses caused by the great hurricane, published in one of the New York trade papers, we observe the amount totals up to $18,100. This is the amount incurred by only ten firms.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, November 6th, in the Drill Hall, James Street, Westminster, 1-4 p.m. A lecture on "Insecticides, Spraying for Fungi, &c," will be given by Mr. R. Newstead, F.E.S., at 3 o'clock.

Mildew.—Most gardeners get troubled with this parasite or fungus, whichever it may be, at some season of the year; and flowers of sulphur are generally resorted to to stamp it out, especially in the vinery where fruit abounds. Where a liquid can be used I would like to call attention to "Weltonia," a first-class preparation by Mr. G. W. Cummins, of Welton, Lincoln. I used it on a Marechal Niel Rose in the greenhouse, and on two or three Chrysanthemums that were affected, the former badly. On examining the plants next morning I found the germs had been effectually dislodged with only one dose. It is also certain death to that great pest, red spider.—*J. Mayne, Bicton, Devon.*

The Gardeners' Royal Benevolent Institution.—The second annual concert in aid of the funds of the above society is being organised at Chertsey, Surrey, by Mr. A. J. Brown, of the School of Handicrafts, at Chertsey. The said concert will be held on Thursday, November 8th, 1900, in the Constitutional Hall, when Harry J. Veitch, Esq., is expected to take the chair. A high-class musical programme, to be executed by popular artistes, has been drawn up, and all that now is needed is enthusiasm and support to carry the business through. The Gardeners' Royal Benevolent Institution is one the support of which should be part of every gardener's creed. Tickets—reserved and numbered, price 3s., or 4 for 10s.; reserved, 2s.; back seats, 1s.—can be had, together with any further information, from the local hon. secretary, Mr. A. J. Brown, whose private address is Jessamine Cottage, Eastworth, Chertsey.

Reading and District Gardeners' Mutual Association.—"Fruit trees in pots" was the subject of a paper read by Mr. James Hudson, V.M.H., of Gunnersbury House, before the members of the above association at their fortnightly meeting on Monday, the 22nd ult. It is hardly necessary to say, when remembering the great success achieved by Mr. Hudson in the pot culture of fruits in orchard houses, that the paper was of the most practical description. The subject was placed before the members in a very clear but comprehensive manner under the following headings, enabling each one to understand the routine of work, which brings success, from the purchasing of the trees to the gathering of the fruits:—Construction of houses; forcing and non-forcing; pot culture *versus* planted out trees; the longevity of trees in pots; when to purchase; what to purchase; when to pot; potting; soils; pots and sizes; watering; manures; ventilation; temperature; pruning; thinning the crop; gathering; insects; outdoor treatment; varieties. Many questions were asked, and an interesting discussion ensued, in which Messrs. J. B. Parfitt, J.P., Barnes, Baskett, Cretchley, Townsend, Lever, Neve, Fry, and Wilson, took part. A beautiful exhibit of flowers cut from the open was put up by Mr. Wm. Townsend, Sandhurst Lodge Gardens, comprising thirty-eight varieties, including Fuchsias (fifteen varieties), Pelargonium, Salvia, Habrothamnus, Solanum, Abutilons, Hydrangea, Lobelia cardinalis, Verbena, Jacobea, Petunias, &c, &c. Mr. E. S. Pigg, The Gardens, "Samoa," Reading, staged a very nice lot of Caladiums, whilst Mr. Hudson showed four varieties of Apples. and four varieties of Pears, grown under the treatment he described. A hearty vote of thanks was accorded to the lecturer and to the exhibitors. Mr. D. Ager, The Gardens, Downs House, Reading, was awarded the association's Certificate for Cultural Merit for two plants of Chrysanthemum "Mrs. Coombes." Six new members were elected.

Weather in London.—Dull and showery has been the state of the weather during the past week. Occasionally it has been cold, though on the whole mildness has predominated.

The Increase of Canada's Export Trade with the United Kingdom is certainly a very important subject with Canadian producers of food products. We learn of a company that is being organised to work for the extension of this trade on safe lines, to be known as The Canadian Industries and Food Supply Association.

A Happy Gathering of the Ladywell, Lewisham and District Cottagers' Horticultural Society met at the Parish Hall to celebrate their seventeenth annual dinner and distribution of prizes, on Wednesday the 24th inst. The company, which included many ladies, had a delightful evening. During the splendidly served dinner the Metzner Band played a number of pleasing airs. The vocal arrangements were excellent and performed admirably. Mr. H. J. Jones, of Ryecroft Nursery, the president of the society, was in the chair, with Mr. T. White in the vice-chair. Dr. Toogood gave the toast of the evening, "The Society and its Officers." He remarked that the society had existed for eighteen years, and that it owed its existence to a competition between two gentlemen as to the relative merits of two Vegetable Marrows. How they decided their dispute history was silent. At this year's show held in the beautiful grounds of J. Wallis, Esq., Riversdale, Lewisham, it is interesting to know that the exhibits numbered 700; that they had 400 members, in addition to 155 allotment holders, and what was most important, they had a balance of £50 at the bank on the right side. To have such a thriving horticultural society so near London was pleasant to know, and that the spaces of land had not all been taken into hand by the builders. The prize list this year reached the handsome figure of £80, in money and goods, which, for a society of allotment holders and amateur gardeners, is exceedingly good. A representative of the Canary Guano Co. distributed cigarettes to the gentlemen which were highly appreciated.—*W. L.*

Beckenham Horticultural Society.—On Friday, the 26th of October, Mr. Harris of Croydon, read a paper on "Bulbs," the popular class of bulbs such as Hyacinths, Tulips, Narcissus, &c., being specially dealt with. He laid down practical and concise rules that should be observed in the planting of these bulbs in the flower garden if the best result is to be obtained. First, the soil should be of a rich and friable nature, well worked, and if manure is used at the time of planting it should be well decomposed. All bulbs should be planted at a uniform depth. Perhaps the best plan is to remove 4 in. of soil from the bed, then place the bulbs at equal distances over the surface, then return the soil again to the bed. This plan was recommended in preference to the planting of them with a dibber. Mr. Harris also gave some sound advice respecting the pot culture of these popular favourites. After describing the compost suitable for potting, and the need of potting early in September or October, he condemned the practice of placing the bulbs under ashes as is so often done, pointing out that serious injury often results from the use of ashes, and recommended that fine leaf mould or light soil be used for this purpose—not tan. Another hint was given that care should be taken in exposing the bulbs to the light after removal from their covering. They should be placed in a frame covered with a mat or have inverted flower pots placed over the bulbs for a week or two and so gradually inure them to the light. By neglecting these simple precautions, poor spikes of bloom were often the result. A very interesting discussion followed, many questions being asked and answered satisfactorily. A hearty vote of thanks was accorded Mr. Harris for the able manner in which he treated his subject, and he in reply said his best thanks consisted in the close attention paid by the members to the reading of his paper, there being over fifty present. The best thanks of the meeting was accorded to Messrs. Peed & Son, for a fine display of pot Begonias; also to Mrs. Link for a basket of Lily of the Valley; also to H. F. Simonds, Esq. (Gardener, Mr. E. Day), for some fine spikes of Phalaenopsis schroderiana, Laelia praestans, and Vanda caerulea.

Apples.—Many of the best Apples are now sent to market in boxes instead of barrels. This is progress.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting was held at St. John's Parish Room, Redland, on Thursday, October 25th, Mr. G. Brook presiding. The lecture was given by Mr. Shaddick of Stoke Bishop, on "Croton Culture." He claimed at the outset that for decoration, hardly any plant equalled the Croton, it being equally valuable for table, room, or conservatory decoration. He dealt very clearly with the cultivation, showing the various methods of propagation, urging the necessity of a light house, well heated, both for striking cuttings, and for after treatment, giving also many useful hints as to potting, &c. He enumerated the many insect pests to which Crotons were liable, and described his plan of getting rid of them, concluding with a list of the varieties he thought the most useful. A good discussion followed, and Mr. Shaddick was heartily thanked for his lecture, on the motion of the chairman. Prizes for twelve culinary Apples were awarded Messrs. Poole, Atwell, and Ross; for two Pitcher Plants to Mr. White. Certificates of Merit went to Mr. Raikes for Croton; Mr. Poole for collection of vegetables; and Mr. Newberry for Odontoglossum grande. The judges also recommended a Certificate of Special Merit to Mr. White for Pitcher Plant.

Observations of the weather for 1899.—Edward Mawley, Esq., F.R.H.S., is strong in statistics. He has just published, in convenient and systematic form, his phenological observations for 1899. The records show that the winter of 1898-99 was on the whole, very mild. The rainfall was unequally distributed, and was in nearly every district in excess of the average. But so dry had the land become through the prolonged drought of the previous summer and autumn, that it was not until nearly the end of January that sufficient rain had fallen to saturate the heavy soils. It is also stated in the report that bedding Pelargoniums and Heliotropes in many places remained in bloom throughout the winter. On all hands the season at this period was an early one. The Coltsfoot and Hazel came into flower two days and three days earlier, respectively, than usual. The song-thrush began singing ten days sooner, while the honey-bee was started a week in advance of the year previous. But the spring was cold. April was a wet month; March and May were "seasonable." During this quarter the infrequent but rather sharp frosts did considerable damage to the Plum, Peach, Pear, and Apple blossoms. The spring flowers were about a week late all round, and the same remark applies to the coming of migratory birds. And now for the summer. "Throughout the whole of the British Isles each of the summer months was unseasonably warm, the warmest of the three being August." Besides being hot it was also remarkably dry. "All but Ireland, north; England, north-east; and Scotland, south and west, exceeded the mean by more than 100 hours of sunshine; while in the south and south-west of England the excess amounted to over 200 hours." As the season advanced everywhere became more and more patched and bare; grass and cereal crops were stunted and suffered considerably. In *The Times* agricultural report for August the deterioration of Potatos during that month was estimated at 8 per cent.; of root crops, 13 per cent.; of grass, 15 per cent. It is singular to know that greenfly did little harm, and wasps were scarce. The autumn too was hot. November proved a particularly warm month in all parts of the country. Sufficient rain fell in the early part of that month to refresh the fields, and these were greener at the end of November than they had been since June. The welcome rains greatly benefited the winter supply of vegetables; the flower borders too continued gay. It may be said then that the year experienced one long continuous drought lasting from June till the end of October. The swallows are said to have been less numerous, and left a few days before their usual time. The larvae of the small and large white butterflies were singularly abundant. "The autumn tints were, as a rule, remarkably fine, and in many parts of the country deciduous trees here and there retained their foliage until nearly the end of the year.

Snow in Germany.—The weather in Germany changed suddenly during last week. The first snow fell in the Giant Mountains in Silesia, on the Brocken, and in the Harz Mountains last Sunday, October 28th, though the thermometer registered four degrees Celsius.

A Thrifty Scotch Gardener.—Mr. James Howie, a Scotch gardener, died at New Rochelle, N.Y., on October 5th, leaving a fortune of about $90,000. His rate of living was not to spend more than ten cents. for a meal. One Apple was his usual supper! His latest will leaves everything to his sister, Mary Scott, Kelso, N.B.

Gardeners' wages in America.—Though the wages throughout "the States" are not uniform, it may interest some of our readers to notice that the gardeners of the New York City parks are paid as follows:—Foreman, 100 dols. per month; journeymen, 75 dols. per month. These figures are a clue to the wages of head gardeners in the Eastern States.

Primroses and Violets are now flowering more or less plentifully at Stroud. The flowering of Primroses in autumn is due to the favourable nature of the weather, the warmth of the ground, and the vigour of the second growth brought on by the autumn rains. Violets flowering in autumn without artificial aid, while due to the same causes as the above, appear to have this feature more accentuated in the new large-leaved and large-flowered varieties such as California and Princess of Wales.

Devon and Exeter Gardeners' Association.—An excellent syllabus has been arranged for the autumn session of the above association. The subjects and the dates of their delivery are:—October 31st, "Studies in Plant Life," by Mr. Allen H. Ware (Ph. Ch), illustrated; November 14th, "Herbaceous Flowers for Exhibition," by Mr. H. Hemsley; November 28th, "Spraying Potatos and other Plants with Chemicals to Prevent Disease," by Mr. Geo. Ryce, B.A.; and December 12th, "Malmaison and Tree Carnations," by Mr. T. Slade, Poltimore Park Gardens. All meetings will be held at the Guildhall, Exeter, commencing punctually at 8 o'clock. The Hon. Secretary is Mr. Andrew Hope.

Agricultural Education.—Essex enjoys almost a greater prominence than any other county in the matter of agricultural education. There are many reasons to account for this, and one of the chief of these is that the County Council are fortunate in having the services of able men in their several and respective capacities. The scheme of the Essex County Council in the matter of agricultural education is to provide, by means of schools and laboratories, instruction in the sciences upon which agricultural depends. The complete course of instruction comprises three three-weeks' courses, the subjects being (1) the soil, (2) farm crops, and (3) farm stock. Lectures are also given upon agricultural biology and chemistry. But we need not further exploit the schemes here. By application to J. H. Nicholas, Esq., of the County Technical Laboratories at Chelmsford, full information may be obtained. It may be mentioned that a very complete School of Horticulture is another of the institutions of the County Council.

Railway Station Gardens.—The Great Western Railway Company, with a view to encouraging their staff to make the most of the garden ground available at the stations for the cultivation of flowers, shrubs, &c., have each year, for nearly a quarter of a century past, given, in deserving cases, money prizes of from £5 to 10s. each—the aggregate value of such prizes being £250 per annum. The result has been that since the company first began to offer these prizes the number of stations on the Great Western line which have been improved by the addition of attractive and well-cultivated gardens has considerably increased. In awarding the prizes regard is had to the maintenance of a uniform standard of excellence throughout the season, the progress made compared with former years, climate and other special circumstances, and the neatness and cleanliness of the station generally—the results being considered by the company at the termination of the season, and the prizes distributed at Christmas.—*Times*

A Heavy Wind Storm of the 11th and 12th ult. committed terrific havoc with the fruit orchards of Ontario, and indeed those of a large part of the Apple belt of Canada. Immense quantities of Pears and Apples were blown down, but the larger part of these were found to be wormy and defective.

A Register of Nurseries, market gardens, farms, florists' seed businesses, and partnerships to be let or sold has been published by Messrs. Protheroe & Morris, 67 and 68, Cheapside, London, E.C. How frequently this Register is published we cannot say. Descriptions of the properties and businesses to be let or sold are fully detailed in this publication, the county in every case being mentioned first. For copies of this publication we would refer any who are interested to apply to the firm at the above address.

The Scale Pest in California.—Hundreds of Orange trees in the western part of the city are being cut down to avoid the necessity of fumigation, says the *Weekly Times*, of San Francisco. The householders are thus destroying their trees to avoid complying with the fumigation regulations of the horticultural commissioners, who are making a house to house investigation to ascertain the state of the trees. It costs 75 cents (3s. 1½d.) to fumigate a tree, and in a back yard this is not worth the cost. The commissioners usually find men to cut down the trees, recouping themselves with the wood, and thus saving the householders the trouble. If the householder refuses to fumigate his trees within a reasonable time, the commissioners have it done and charge the expenses against the owner.

Essex Farmers' Visit to Denmark.—In order to enable Essex dairy farmers and ladies engaged in dairying to gain an insight into agricultural education and the organisation and practice of the agricultural industries of Denmark, arrangements were made for a visit to that country by the Essex Technical Instruction Committee. The party, consisting of thirty-one persons, started from Harwich on May 26th and spent the following six days in Denmark. Among other places visited were the Danish Co-operative Butter Factory at Esbjerg, Ladelund Agricultural School, the Field Experiment Station at Askor, High School at Ascov, Margarine Factory at Vejen, and some other noteworthy places and centres. At every place they visited they received the most cordial entertainment, and even at some of the railway stations bunting was displayed in their honour. The full report of what was seen and learned by the visit is compiled in a pamphlet by Mr. T. S. Dymond.

Preservation of Unfermented Grape-must.—"The use of unfermented Grape juice or 'must' as a beverage, both in health and sickness, has been common in Vine growing countries from time immemorial." But until lately this unfermented must has been restricted to the Vine growing regions owing to its ill-keeping properties. The juice soon spoils unless artificially preserved. A bulletin, issued by the University of California Agricultural Experiment Station, shows how this agreeable and medicinal beverage can be preserved. The chemical composition of Grape-must is given in a table, and a sentence is added pointing out that if other than these constituents are found in Grape-must it is impure. The process of fermentation by means of the micro-organisms, which are everywhere present in the air, is explained, and the means of preventing the wine from being infested with these minute bodies, and thus preserving it unfermented, is explained. The means adopted to prevent fermentation are divisible into two groups—chemical and physical. By adding germ poisons or antiseptics the microscopic organisms can be killed or permanently checked. For this purpose boracic acid, saccarbin, and formalin are employed. These matters are injurious to digestion, and on these lines they are as well avoided. The physical means employed are (1) to destroy the germs by heat, cold, electricity, or (2) to remove them by some mechanical means such as a filter or a centrifugal apparatus. The heating method seems to be the safest and best. A heating to 60° C. (140 F.) in fifteen minutes, and thereafter allowing the sterilised must to cool slowly, has been found to answer all needs. The bottles and corks must be sterilised before being used. The experiments in this connection were executed by Mr. F. T. Bioletti and Mr. A. M. dal Paz.

Pecan Nuts.—The growing of Pecan Nuts is a steadily growing industry in the Southern United States.

The Apple Market.—As with English growers, they in America who depend on the culture of fruit for their living, are grumbling at the low prices this year. The Apple crop in the United States and Canada has been unusually heavy and prices are correspondingly low. But it is a significant sign when one hears of the speculators buying up all the Apples they can secure. Speculators do not buy on a falling market. Prof. Waugh, of Vermont Experiment Station, thinks that the crops have been overestimated while the market has been underestimated.

Gardeners in Petticoats.—In answering a question concerning lady gardeners, the horticultural editor of *The Queen* newspaper writes: "In fact, so many ladies are now aware of the great advantage of a knowledge of practical horticulture (in directing their gardeners in their own homes, where not required to earn their living) that Swanley is crowded with pupils. For practical work in a private garden the teaching under a lady gardener may suit." We fancy some of our readers will smile when they read the clauses between the brackets; others may possibly feel angered. All the same we think that good gardeners of the male persuasion will always hold their own in public or private gardens worth the holding.

Devon and Exeter Gardeners' Association.—One of the surest ways of spreading knowledge by an association such as the above, is by means of printed digests of the papers which the various specialists are good enough to read at the fortnightly or monthly meetings, as the case may be. The Devon and Exeter gardeners have taken a step in this direction by having had Mr. F. W. E. Shrivell's lecture on "Chemical Manures and Garden Crops," printed for their perusal. Mr. Shrivell, F.L.S., lectured before this association last year, and we remember the wish which was at that time expressed about its being printed. It shows an up-to-date policy on the part of this southern society to have preserved to themselves this scientific yet very practical lecture.

Scotch Florists and Gardeners in America.—In the *Scottish-American*, New York, of September 26th, J. Arnot Penman, popularly known in the trade as "Jim the Penman," of Dictionary of Gardening fame, furnishes an article on the above subject, in which is given a list of Scotchmen, past and present, engaged in the florist and seed industries in America, together with a similar list of Scotch private gardeners and superintendents of parks. The list, though unavoidably incomplete, is a very extensive one, and includes the names of many of the best known men in the floricultural world in this country, a glance at which will demonstrate the important part played in the management and development of the industries in question by the men who hail from the "Land o' Cakes." The writer has also mentioned the birthplace of the majority of the parties named, as well as their present position and location. The article should prove of much interest, especially to those whom it more particularly concerns.—*The Florists' Exchange.*

DAHLIAS GROWING IN HARD SOIL.

To those who grow these for garden ornamentation it is most disappointing to see the blooms hidden by the foliage. Some kinds are so prone to this that they are scarcely worth growing. Others throw their blooms well out of the leafage. The Cactus types, many of them, have this tendency; amongst them Countess of Radnor may be named, Juarezi, and many others. So disappointed was I some years ago that I resolved to try growing them in somewhat poor, hard soil, and not feeding them with liquid manure. The results justified the change, and now many kinds that formerly were disappointing are most attractive. Charming Bride, Annie Harvey, and others, are a mass of bloom, and well above the foliage. Some of the nice pompon kinds have the same drawback. Kinds like Ernest Cannell, Matchless, &c., are the types for garden decoration, and raisers should work in this direction. Some may say I do not get large blooms. I do not plant them for exhibition; I prefer a mass of nice even blooms, and they are far more useful for cutting.—*J. C., F., Chard.*

A GREENHOUSE IN NOVEMBER.

During this month Chrysanthemums will be in full beauty, and if proper varieties have been selected a grand display should be made. The Japanese are the prettiest and most effective. Plants that have been grown as bushes are the best for greenhouse decoration, being dwarfer in habit, and the flowers more light and feathery than large blooms grown for show purposes. Among the varieties most suitable for bushes are Annie Clibran, C. Davis, Florence Percy, Mrs. C. E. Shea, Souvenir de P. Amie, Source d'Or, and V. Morel. Single varieties and pompons are also very pretty as bush plants. Plants which have been cut back in May, and allowed to carry a dozen blooms each, are indispensable for grouping purposes. Cuttings struck in March and April, and grown in 32's, one bloom on a plant, are exceedingly useful for dotting among other plants in the greenhouse. Winter flowering Pelargoniums, Solanums, and a few plants of Salvia splendens grandiflora will add much to the brightness of the house. Bouvardias now coming to their best and grown as bushes are very effective. A batch of Roman Hyacinths, Lilies of the Valley, Azalea Indica, Deutsche Perle, &c., should be ready towards the middle of the month to come in from the forcing house or pit. Plants intended for forcing, such as Azalea mollis, A. indica, Prunus sinensis flore pleno, and Deutzias, with a few Imantophyllums (Clivias) should now be introduced to the forcing house for use later on.—*John Botley, Blythewood Gardens, Maidenhead.*

AUTUMN FOLIAGE.

A fine autumn with its many tints of lovely colour is to my mind the most beautiful season of the year; and to those who may not be well acquainted with the best varieties of trees and shrubs to produce the much admired and effective foliage, I will endeavour to mention some of the best. One would not expect to see those splendid shrubs, the Japanese Maples, colouring in the autumn, but they do, and may be placed among the first. It would be difficult to imagine a more beautiful sight at present than Acer japonicum filicifolium, and many of the others follow closely behind. Populus canadensis aurea is a mass of gold, and should be planted sparingly. Amelanchiers are red and gold; Liquidambar, crimson and gold; and Berberis Thunbergii, red. The various kinds of Cornus are more remarkable for their coloured bark. Cornus florida rubra develops deep purplish brown foliage. Rhus Toxicodendron is hard to excel, and so are R. coralline and R. typhina, the Stag's-horn Sumach. Euonymus alatus americanus and Euonymus atropurpureus are fine just now. Quercus coccinea, "Waterer's Variety," is not surpassed in colour by any shrub that I know. Very fine also are Q. americana aurea, americana coccinea, Ribes floridum, Rosa alpina, R. rugosa, Stephanandra flexuosa, Stuartia grandiflora, Vaccinium corymbosum, and Photinia villosa. The most brightly coloured should not be planted in too close proximity. —*A. E. Thatcher, Aldenham, Elstree.*

PERMANENT BEDDING.

It might safely be said of the majority of gardens in the country that the extent of "bedding out" carried on is often done under difficulties, more or less, and to some extent in many cases to the great loss in other departments, especially the fruit tree section. From April until the middle of June the labour of attending to pricking out, hardening off, planting out, and watering bedding plants fills up the most of the time of the assistance given. More attention could be given to wall trees in the way of mulching and watering at a time they very much require it, besides other needful work, if a proportion of the beds was filled with hardy plants and bulbs such as Hydrangea paniculata, Lilliums of sorts, some of the perennials such as Agrostemma Coronaria, Lobelia cardinalis, Geum coccineum, Malva moschata alba, Pentstemons, dwarf early Chrysanthemums, Duchess of Fife and Raby Castle Carnations, &c. With a little skill and taste in the way of harmony and colour, the beds could be made bright in a permanent manner, instead of filling them with things that are generally planted, which make a blaze for a few weeks, but come to grief with the first appearance of John Frost. Those latter also require much care and attention to keep them throughout the winter. —*John C. Dick, Champfleurie, Linlithgow.*

TREE PRUNER AND FRUIT GATHERER.

I would like to call the attention of those of my fellow amateur gardeners who have not yet noticed it, to the handiness of the long tree pruner over the old method of knife or short shears with a ladder, and the probability of the amateur being turned out. It is well suited for all sorts of tall tree pruning, either shrubs or fruit, with far less labour than any other method I know of. The appearance after is much more symmetrical than is possible when a ladder is used, and it really makes a somewhat difficult job very easy.

I have this year added yet another use to the pruner without the knife. I made a very simple arrangement with the help of a stout piece of wire and a small net with which I was able to gather Apples, &c., off tall and ungetatable trees without a ladder, and without either bruising the fruit or breaking branches. I think others would find it as handy as I have, and I have seen nothing of the sort on sale. This must be my apology for troubling you in so small a matter.—*P. C. M.*

MISTLETO.

There is a peculiar attraction about parasitic plants in general, and it is surprising how seldom we see in respectable gardens the charming example, Mistleto, the culture of which is extremely simple. Ripe or mature berries in a fresh state are essential, but unobtainable until April or May. These are taken singly between the tips of the thumb and first two fingers of the right hand, the detached portion being outward, which portion should be rubbed gently on that branch or stem where desired. It is important to leave the exposed skin of the berry unbroken and uninjured by finger pressure. The Mistleto takes freely to the following trees as hosts:—Apple, Pear, Thorn, Lime, and Sycamore. I have failed after many attempts on the Oak, but shall try again as I have lots of berries annually from self-grown plants. Apart from its mystic and romantic history the Mistleto is very interesting and beautiful at all seasons. Nature has endowed it with many charms which are displayed in its little clusters of yellowish flowers from June to August, after which time the tiny berries appear and seem to love to flourish when others fall or die. Its uses for Christmas decoration are well known, after which season its berries grow larger and clearer among its own pretty foliage, while the plant on which it lives stands naked. I should have said where thrushes are numerous the berries when planted should be protected with stout muslin or gauze.—*Henry H. Gibson, The Gardens, Glencairn, Belfast.*

SALVIA SPLENDENS GRANDIFLORA.

For brilliancy of effect when in flower few plants can equal this charming Sage for the autumn decoration of the conservatory. The plant is easily cultivated, and is increased from seeds and cuttings. If from seed, sow in light, sandy soil in pans in March. Plunge in gentle bottom heat, and when the seedlings are large enough to handle conveniently plant them separately in 2½-in. pots. Keep close to the light in a growing atmosphere, pinch and re pot as they require it until the beginning of June, when they should be finally shifted into 8-in. pots in a compost of loam, leaf soil, and sand. Place them in a cold frame until they become established, when they may thereafter be put in a sunny position out of doors. Here the plants will remain during the summer, and until the approach of cold weather necessitates their removal to an airy light position under glass. Dwarf, compact little plants can be obtained by taking cuttings of the leading shoots of the large plants in the beginning of August. Put three cuttings each in 3-in. pots, and place in a close frame until well rooted, when they may be shifted into 5-in. pots, in which they bloom simultaneously with the larger plants, and will be found most useful for intermixing with Primulas, &c., on the side stages of the conservatory. Maintain a warm, buoyant atmosphere when in flower, and give occasional applications of liquid manure.—*Maharg.*

New Names for an old Friend.—It is strange how names get shifted from one plant to another. We recently had specimens of Pentstemon barbatus given or sent us under different names, and asking us what we considered it to be. In one case it was named Tecoma, and in the other Zauschneria californica. The resemblance of either to any other seems a little far fetched.

GARDENERS' GRIEVANCES.

A spirited discussion has taken place recently in the columns of a contemporary, *The People's Journal*, on the above. A short summing up of it may interest readers of The Gardening World. One of the points on which nearly everyone seemed to agree, was the very low wages paid to thoroughly qualified men. It seems to be clearly proved that a large number of really skilled gardeners are paid the magnificent sum of £1 weekly. I think I am safe in saying that 50 per cent. receive no better remuneration than that. This is surely a scandalous business, and ought to be remedied. Another complaint attested by practically everyone, is that, for the sake of cheapness, the employers engage men who have never served a regular apprenticeship, who have in fact only laboured in a garden for a few years. This it must be admitted is very unfair to the real gardener, but the difficulty is to find a remedy for this crying evil. One other of the points raised is perhaps more annoying than almost any other. I refer to the growing inclination of many employers to make the gardener jack-of-all-trades. In too many places a gardener is expected to be ready to turn his hand to anything, from cutting down timber to feeding pigs. I am not exaggerating in the least. This is where the labourer-gardener comes in handy to the employer, and thus undersells the duly qualified practical gardener.—*Black Watch.*

The Orchid Growers' Calendar.

Cattleya bowringiana.—The individual flowers of this lovely autumn-flowering Cattleya being small do not compare very favourably with the C. labiata section, but they make up for any deficiency in this respect by producing a large quantity of flowers to a spike. These make up well into buttonhole bouquets and are on that account very acceptable as the colour shows up well. The flowers very closely resemble those of Cattleya Skinnerii, but the plant is more robust, making pseudobulbs from 2 ft. to 3 ft. high and having as many as seventeen or eighteen flowers on a scape. The bulbs being soft and luscous they require careful watering in the early stages of their growth or they are liable to damp off but when they are well up they must be kept well supplied. They seem to enjoy plenty of rooting room, and a larger proportion of peat than moss.

Miltonia spectabilis moreliana.—This does well suspended near the glass on the shady side of the Cattleya house and produces a charming effect when the scapes are allowed to hang naturally. Shallow pans are best suited to their requirements, affording plenty of drainage, as they require plenty of moisture at the roots when growing. The compost should be the usual fibrous peat and sphagnum moss in about equal parts, it being a plant that has small roots. The material should be pressed rather firmly about them. This should be a fine thing for the hybridist to work upon. What price a cross between this and O. crispum? if it could be effected. I am afraid they are too far apart although their construction is similar.

Work in the Houses.—We are taking advantage of the wet weather by going through the houses, cleaning down the stages, washing green pots, elevating plants so that they get all the light possible during the dull winter months, putting neat stakes to the spikes of Laelia anceps so that when the flowers open they will all face one way, standing those down that are up too near the glass, &c.

Fire Heat.—Autumn like spring is a time when the heating apparatus requires careful handling. Some days it is quite mild requiring but very little fire heat, whilst in a few hours the temperature will fall many degrees. We like to get the fires on soon after mid-day, for it is much easier and safer to steady them should the night prove mild than to leave the damper out and the fire going.

Temperatures.—We shall gradually lower the night temperatures as the weather becomes colder, but at present we maintain the following:—Warm division, 65° to 68°; Cattleya, 60°; Cool house, 50°. —*S. C.*

HINTS FOR AMATEURS.

Forced *versus* **Retarded Seakale.**—When Mr. Jannoch, of Dersingham, first displayed Lily of the Valley in bloom in October and November, everybody wondered how it was done. The flowers and foliage were too strong and healthy to have been subjected to hard forcing, yet there they were. The solution soon came to be known, and the simple method of retarding the crowns through all the summer was then explained. This retarding business has now been practiced on nearly all the plants which were formerly subjected to a brisk heat which forced their growth. It must be a paying system else it would not be kept up. Seakale has lately been treated in the same way as Lily of the Valley, Spiraeas, Liliums and Azaleas.

The crowns are stored away in underground refrigerators that are kept cold by means of ice. It seems as though the crowns would have to be frequently looked over to obviate the liability to damping. After being taken from the refrigerator and placed in a warm house, the crowns develop in a fortnight. But for a little while yet it is possible that the old forcing system will be upheld. If coals continue at a high price, however, this circumstance may be the means of causing gardeners to build and prepare cold storage rooms instead of forcing houses.

Growing Cress during Winter.—The seedling Cress that is used as a salad is quite different from the Water Cress sold during summer. When a supply of the seedling Cress is desired during winter the cold storing process is here unavailable and the semi-forcing conditions have to be followed out. Prepare very shallow boxes—mere trays, indeed—filling them with light soil, which should be pressed moderately firm. Scatter the seeds evenly and not too sparsely over the surface, thereafter inverting another box upon the sown one. The soil should be damp, to dispense with the need of watering when the seeds have been sown. A temperature of 60° is suitable. The boxes may be placed on the shelves or borders, but at all times care must be taken to prevent damping amongst the seedlings.

Ventilation of Forced Crops.—It is necessary to regulate the temperatures of the forcing houses and pits, but this can be done without an inrush of fresh and generally cold air. The atmosphere must be occasionally dried. The conditions of heat and moisture can be so controlled that very little ventilation is necessary. In such structures as forcing houses the ventilators for admitting fresh air should be small, and they should be placed so that the ingoing air has to pass over the hot-water pipes if possible. When ventilation has to be given from any other part, as the top for instance, it should only be given by the ventilators on the lee side of the wind.

Pentstemons.—These beautiful flowering plants are still in very good condition but it may happen that they will soon be nipped off. A word, therefore, not to cut down the flowering stems, may be in place. The dead stems are the best means of protecting the undergrowth of young shoots, that can be employed; and it is simply for this purpose that they should be left. Only where a bed or border must necessarily be made and kept as prim and tidy as possible, should the old stems be removed, and when they are taken away it is advisable to protect the basal growths and roots by surrounding them with rough, half-decomposed leaves.

Chrysanthemums.—Now that the 'Mums are in flower, a drier state of the atmosphere must be maintained. Mildew is a very frequent complaint, but growers often have themselves to blame. The house in which Chrysanthemums are placed should be aired freely so long as the outside temperature is not lower than 40°. If lower, then very little air need be admitted. Then when watering, some plantsmen are not at all particular about keeping the stages and the floors dry. It demands care and some extra time to save spilling, but if the plants are to be kept clean and healthy, every attention must be paid. It is even advisable to run on some heat when the weather is damp and dull. The blooms then open quickly and remain good for a long time.

Hardy Rhododendrons.—We all envy the gardens which possess the fine Rhododendron dells, and may, during the flowering season, resolve to add to our own collections of this beautiful hardy shrub. The planting season is now on, so that those who have still the desire to secure and plant Rhododendrons should do so at their earliest convenience. The plants must have a deeply worked soil. It need not be humic, that is, composed of peat, and a large percentage of other decomposing vegetable matter, but a good sound loam which is fairly permeable to the fibrous roots will do well. At the same time we have always found the best Rhododendron gardens to be those situated on damp and typically humic soils. The slopes of dells and banks at the base of higher lying ground are also very suitable, as is proved by the luxuriant growth upon them in many West of Scotland estates.

Roses.—I went somewhat fully into the subject of Rose gardens when Roses were at the height of their loveliness in the summer. Those who noticed the remarks on the formation of a Rose dell may now take the hint to carry the precepts into practice. Wherever a suitable gully (if I may be allowed to use a rather ugly word) exists, this is just the sort of spot to plan out as a Rose dell. Old tree roots and stumps are got together and when these are effectively disposed to construct artificial heights or projections they can be filled and packed between with soil, and besides furnishing the rooting area, the stumps will afford support for the long shoots of the Roses. These should principally be Briers and climbing Roses, the latter including many of the so-called decorative section. They should be planted so as to produce a mass of one colour of bloom, not a confusion of many colours spread over the whole spot. As a rule they need not be pruned, or if pruned, this should only be very slight. It might better be called a thinning out.

Root Pruning of Apple and other fruit trees should be continued. Plums and other stone fruit trees delight to have lime added to the soil. Young trees should be firmly staked, but must be saved from rubbing against their support by placing rubber or cloth bands between them and that to which they are tied. The head growths at the time of root pruning should also be shortened.

Cissus (Vitus) discolor.—Being of the nature of a Vine, this lovely climbing plant must have a rest during the winter. By gradually withholding water the plants will go naturally to rest. Whether this Cissus is grown in pots or is planted out in borders there are few plants to compare with it. The long shoots should be cut back to the portions which is best ripened. The young shoots in spring will thus be stronger.

Azaleas.—For immediate forcing, the Indian Azaleas should now be secured and put into order. For decorative purposes the untrained specimens are preferable to the rigid samples one gets from the continental growers. A close moist atmosphere brings them on rapidly.

Bouvardias.—The earlier batches of these popular flowers are now in bloom. Other lots coming into flower must be kept clean by fumigating. In no case be neglectful in the watering of them, for they soon suffer. Neat ties should be made to the shoots, the ties being fastened to a central stake.

Herbaceous Borders.—Though a general re-arrangement of the borders cannot very well be undertaken at this time, especially in those borders where bulbs are planted, the present is still an opportune occasion for making some alterations. The exact height or character of the hardy plants are seen at this time, and changes which would make for improvement can the better be judged.

Asparagus.—Cut the now dead or dying shoots and dry them. They will provide protective material for horizontal cordon Apple or other fruit trees when they are flowering in the spring. The beds may be dressed with salt, and seaweed may be used to cover them with if it is procurable; otherwise leaf mould to the depth of about a foot should be placed over them. Make up the edges of the beds and otherwise square them off.

Winter Cucumbers.—Let the Cucumbers make a profusion of growth so long as they are in vigour. This growth will yield its crop, and some of the minor branches may be cut completely out to allow others to take their place. Always endeavour to supply a quantity of young wood or shoots in place of the old ones. It is the young shoots which keep up the yield. A steady temperature of 65° at night and 70° during the day should be upheld. Moisture in liberal amount is also a *sine qua non*. When top dressing the plants see that the compost is always warmed before being spread over the roots.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Coleus for Cottage Windows—*Jane Wallace*; Coleuses of a bushy structure or form, with hard stems and undersized but very brilliant foliage, are often at most garden markets and florists' shops at the present time of year. Such plants as these would endure the conditions of a cottage window for a month or two. These market plants have been grown hard, specially to fit them for cold and changes. Old and naked Coleuses may be propagated from cuttings made from the tips of the shoots. These should be struck in pans containing light soil, and placed in a propagating pit or case, with a temperature ranging from 60° to 65°. Ventilate very slightly.

Parsnips and the Frost.—*R. J.*: It is the usual practice in large private gardens to lift a batch of all the root crops so soon as one or two sharp frosts have been experienced, especially if other frosts are expected. The crops are stored to tide over the frosty period. When the frost breaks, the thaw is made use of to get all the others up, or at least the best part of them. Parsnips may be left in the soil and will take no harm, even after 15° or more of frost. So long as the roots are healthy and show any signs of growth it is best to leave them unlifted. Try to get them dry before storing them. In the storing operation, place them flat on a level floor or boarding, and build them up in stacks, layer upon layer, and between each tier introduce a heavy sprinkling of dry sand. This helps to preserve them from the air and the dampness. Carrots, Beetroot, Salsify, Scorzonera, Parsnips, and other root vegetables are treated thus. Be careful when lifting any crop, Beet especially, else they may be bruised and "bleed," that is, drained of their sap; and this makes them tough and unpalatable. Do not shorten the length of any of the roots, but neatly and cleanly cut off the foliage at the top. Beet should be dressed slantingly upward from the crown, not straight across. A frost-proof cellar should be chosen. Potatos may be pitted, being covered over with straw and about 2 ft. of soil.

Pale foliage—*Experimenter*: The leaves sent have apparently not been drawn upon by any kind of insect at all. The signs all point to a deficiency of iron in your soil. We would advise you to use sulphate of iron as being the most efficient compound, using it at the rate of 100 lbs. per acre; or 1 oz. to 3 sq. yds. after rain. Iron aids the chlorophyll of the leaves.

Caustic Lime.—*Experimenter*: Caustic lime is prepared by burning the carbonate of lime in kilns. The carbonic acid is driven off, and caustic lime remains. This is the kind of lime required for very heavy or very rich land.

Tomatos ripening.—*W. J.*: Cut all the fruit and hang them up in bunches in a scullery, or better still, a warm plant house. They will not be so fine in flavour thus ripened, but they will be useful for cooking purposes, with seasoning added.

Marechal Niel Rose.—*A. B. Johnson*: It is hard to say why your plant has failed to flower. Probably being a young plant, and having free root room in good soil, the vigour was carried off entirely into wood growth. The dull summer also must have told against it. To keep the soil on the dry side, and to prune the shoots back to firm wood would seem to be the best policy. Allow all the light possible, and do not force it this year.

Chrysanthemums Infested.—*Grower*: The buds seem to have been injured by earwigs. Place pieces of cotton wool around the stems below the buds. This generally retards the earwigs. Pieces of Cabbage leaves folded or pieces of brown paper

likewise folded may be set upon the surface soil of the pots. In these the earwigs congregate and can be caught. The maggots which are infesting the leaves can only be overcome by squeezing them between the fingers. This may damage the leaves, but it will do less harm than the maggots would. You cannot help the plants which have rooted into the ash bed; sever the roots and shade them for a few days, gently feeding the while.

Zephyranthes Hardy?—*Xmas*: Yes, some of them are hardy nearly everywhere. Z. candida is much employed for edging walks and small borders. It grows neatly and close. Plant the bulbs now if you choose, selecting good land which should be freely drained and well worked.

AN ALLOTMENT HOLDER'S EXHIBIT.

A SPIRITED contest is kept up annually by the Harrow and Roxeth Allotment Society, the last show being recorded by us on October 6th. On this occasion we wish to refer to the fine exhibit made by Mr. James Smith, the hon. secretary, 3, Alma Road, Roxeth, Harrow-on-the-Hill. He had four dozen dishes on his stand, including fourteen dishes of Potatos, three each of Carrots and Pumpkins, two each of Kale (in two varieties), Onions, Marrows (green and white), Turnips, Cresses and Scarlet Runners. He also had a dish each of Beet, Cauliflower, Tomatos, Cucumbers, Shallots, Brussels Sprouts, Red Cabbage, White Cabbage, Savoys, Celery, Leeks, Radish, Lettuce, Endive, and Parsnips. The above is a good record for an allotment holder, and shows what can be done by a diligent and industrious worker, even after having concluded his duties for the day.

Mr. Smith cultivates his own 15-pole plot in the evening and other spare time, after ten hours in a workshop. He has no idea of his work being laborious; indeed, he calls it very fine recreation, especially the spade exercise which is coming on very shortly. The accompanying illustration shows some of the results of this form of recreation. The finely curled Kales, Cabbages, etc., form a fine back ground to shapely Potatos, Onions, Carrots, Parsnips, Celery, Leeks, and other things of that sort. The two framed certificates shown in the photograph were gained by Mr. Smith on previous occasions for collections of vegetables, and commented upon by us some years ago.

AN ALLOTMENT HOLDER'S EXHIBIT.

MISTAKES IN ORCHARD MANAGEMENT.

AT the Drill Hall, on Tuesday, October 23rd, Mr. J. Ettle, lecturer on horticulture to the Somerset County Council, delivered an address under the above title. The lecture was illustrated by lime-light views. The alpha and omega of the lecture was to show up mistakes that are frequently made in orchard management. He had gathered together a fine series for his purpose, and having had them presented all within an hour the audience may not have been impressed with the west country system of cultivation. The chairman's hope that Mr. Ettle had to go far and near to find his subjects, found response in each listener. He first showed a tree badly infested by American Blight, which had been introduced beneath the grafting wax on a young tree brought from a nursery. This was a serious fault on the nurseryman's part, and such cases were generally to be found in understaffed nurseries.

As a dressing to overcome American Blight, the following solutions were recommended:—2 ozs. of shag tobacco to a gallon of water; petroleum at the rate of one or two wine glassfuls, and 2 ozs. to 3 ozs. of soft soap per gallon of water; and Gishurst Compound. These when prepared should be either brushed hard in, or forcibly directed on the infested parts by means of a syringe. The latter method was strongly advised. Speaking of the attitudes of certain landlords to their tenants, and *vice-versa*, the landlords are known to say that they will not buy any more trees for farmer So-and-So because of the latter's careless method of cultivation. The landlord blames his farmer tenant for not maintaining the fences in good condition, and for taking insufficient pains to stake, prune or manure the trees. The farmer on his side asserts that wood for fencing or staking is often too high priced, and altogether he finds things too dear. That is the case as it stands. No doubt there are some failings on both sides, but it is very evident that the farmers (who are the fruit growers), and perhaps the landlords too, do not make proper use of the means at their hand. There seems a deadly lack of initiative, broad-mindedness and energy. The tenant wants to feel himself more secure before he will expend money on the returns from which he cannot have a guarantee.

Coming to practice, however, the second pronounced mistake which seems peculiar among western cultivators, is their custom of "thorning" the trees. Young orchard fruit trees are supported, and supposed to be at the same time protected, from horned stock and vermin, by placing thorn branches close around their young stems. The practice, to say the least, is absurd. The thorns do not sufficently support the trees, and by their chafing and friction, they give rise to dozens of wounds which are just the sort of places in which the dreaded "Blight" harbours.

In Somerset and along the West, a custom prevails of growing trees for half-a-dozen years, only to take off the head it may have formed, and insert grafts of a different variety in place thereof. It is estimated that in one way and another from ten to a dozen years pass before a crop is gathered. Other common mistakes in orchard management was shown in the cramping methods of planting; the lack of mulching or even of keeping the surface soil clean and free from weeds; the pronounced negligence in the matter of staking young trees, and in pruning them. All the various faults in these features of culture were emphasised by means of Mr. Ettle's lime-light views from negatives taken by himself at different places. One or two tables of the cost of trees, cost of making holes, staking etc., were given. The trees usually cost about 3s. each, digging the holes, 7d.; stake, 8d.; wire, 3½d.; staples and labels just over a penny each. By the use of railway sleepers and old barrel staves, a cheap means of fencing is found.

The lecture was most satisfactory. It is to be hoped that Mr. Ettle will be the means of bringing about many improvements in western orchard management.

A Coming Country.—When we say that Queensland, Australia, is "a coming country" some may be tempted to say "it has come!" But in its fruit-productive capacities the country has yet greatly to develop. It has an immense capacity for fruit production. *The Fruit Grower* shows the year's out-put in Bananas, which comprise 435,620,820 (bunches or fingers?); 4 820,316 Pineapples; 17,045,268 Oranges, and 2,292,888 Mangoes. In addition there were 80,000 bushels of Cape Gooseberries; 57,432 Cocoanuts; 331,800 Lemons, and 17,156 lbs. of Peanuts. In various parts of the colony Strawberries, Pears, Peaches, Guaves, Limes, Persimmons and edible

Passion-flower fruits are successfully grown. Queensland is also a fine country for bees, as nearly all the forest trees bear conspicuous flowers and provide large supplies of honey and pollen.

FRUIT AT BUCKLEBURY PLACE.

Much of the heavy crops of fruit for which 1900 will be remembered has now been safely garnered, and, according to report, a great deal has been allowed to go to waste on the ground, particularly Plums. This latter is only in market gardens where they have not yet learned to make provision against a glut which cannot find a ready sale in the market. In private gardens provision is generally made for storing those things not intended for immediate consumption. A fruit room, on modern principles, has been built at Bucklebury Place, Woolhampton, Berks, the residence of Arthur W. Sutton, Esq. It stands in a fully exposed position, yet is built so as to be cool in summer and warm in winter. Strong Fir posts support the roof, and the wooden sides are double walled so as to maintain an equable temperature within. The roof is covered with straw to a great depth, and above this is a layer of heather. This will explain what we mean by keeping the house cool in summer and warm in winter.

The Apples and Pears were mostly upon the trees when we saw them, but will by this time be stored with few, if any exceptions. There was a good crop of various kinds of fruit in the orchard, but we were particularly interested in the bush trees surrounding the vegetable quarters. Cox's Orange Pippin and other Apples carried very good crops, but there was no comparison between them and the Pears, which, in many cases, were hanging like ropes of Onions and bearing down the branches with their weight. This was particularly the case with Beurré Clairgeau, a large and handsome Pear. Scarcely less heavily weighted were the trees of Baronne de Melo, General Todtleben, Pitmaston Duchess and Verulam.

Handsome and bountiful crops were also borne by Marie Louise, Comte de Lamy, Fondante d'Autome, Josephine des Malines, Easter Beurré, Bergamotte d'Esperen, Chaumontel, Jersey Gratioli, Knight's Monarch, Beurré Diel, Deux Soeurs and others. Strange to say, a heavy crop was not so general upon the walls as on bush trees in the open; but there were well cropped wall trees of Zephirin Gregoire, Durondeau and Mdme. Treyve.

The Vines, having received careful treatment and attention by Mr. A. Wright, the gardener, are now in clean, healthy, robust health and carry a heavy crop of Grapes.

NOTES FROM NEWQUAY.

(*Continued from p.* 124.)

Having recovered from the effects of the perturbation recorded in the last chapter, we will continue our ramble along the seashore, but in an opposite direction, and start where the River Gannel broadens out to sea, and meets the dancing, onward rush of the sunlit waves. Here we shall not require to search for some plants—they lie before us. Such are the Sea Blight (Suaeda maritima) and the Marsh Samphire, or Glasswort (Salicornia herbacea), for they occupy a considerable amount of space in the estuary. The former is a low, straggling plant, with short, fleshy, semi-cylindrical foliage and inconspicuous flowers; while the latter appears to have no foliage, but to be composed of jointed, fleshy, horn-shaped branches. It takes its name, in fact, from *sal*, salt, and *cornu*, a horn, and abounds in an alkaline salt, and is said to make a good pickle. Its flowers are also inconspicuous. Here, too, is the Oyster plant (Mertensia maritima), which has wandered away from its Arctic home and lost itself on Cornwall's rocky shores. Another interesting plant is the Sea Milkwort (Glaux maritima). It grows about 3 in. or 4 in. high, in thick patches, and has—like most marine plants—fleshy leaves. It has small pink flowers, which are destitute of calyx. The only British Aster, or Starwort (Aster Tripolium), is abundant here, not only in the salt marshes, but on the cliffs. This plant, also, has fleshy leaves, but is quite handsome in the matter of flowers, which are freely produced in corymbs of purple and yellow. It is, in many respects, the counterpart of our small, dwarf Michaelmas Daisies. Culinary plants are, also, pretty well distributed, and in sufficient quantity to set the vegetable gardener problem-making, for here—

> In economics he might win,
> Or trace the garden's origin.

The Fennel (Foeniculum vulgare) he could not mistake. The Sea Carrot (Daucus maritimus) is not far removed from the wild one (D. Carota), which in flavour and scent resembles the garden one. The Celery plant (Apium graveolens), too, is not to be despised, for it is undoubtedly the origin of those tasty "sticks" which lend to bread and cheese a flavour full and unmistakable.

In the latter case, however, *cultivation* is a *sine qua non*, and renders a plant that is otherwise inedible a most wholesome vegetable. One other member of this great umbelliferous order, viz., the Wild Parsley, or the Parsley wild (Petroselinum sativum), for this plant is said not to be really indigenous, has here taken up its permanent abode; and, although it will not vie with, say, Dobbie's Champion Moss-Curled, it possesses an odour and an individuality all its own. It is also rather curious, as a matter of derivation, that the Greek *selinon* should be the root word for Celery as well as Parsley.

Beet and Thyme cannot be dispensed with in a well-ordered garden, and, although we are unable to beat time, we can at least time our Beet—for the exhibition table. Both grow here. One is known as Beta maritima, and the other as Thymus Serpyllum. One affects the seashore, the other the breezy sea-cliffs. Nepeta Cataria, the aromatic Catmint, affects the hedge-banks of the river. It is chronicled as peculiarly grateful to those feline creatures of suburban gardens. Would it were!—they should have a bed all to themselves! The other Nepeta (N. Glechoma) is hardly recognisable on the Downs; it is no larger than the Cornish Moneywort, about which more anon. Erica cinerea, too, is so dwarf on those wind-swept Downs that it is with difficulty one can find a stalk to the flowers. And so with other subjects on Pentire Point—they have to adapt themselves to their ventilated environments or retire from the struggle. Notwithstanding the exposure, however, a good many plants still persist. Some of these are Arenaria rubra, the Purple Sandwort; Sedum acre, the Biting Stonecrop; Gentiana campestris and G. Amarella, the field and the autumnal species respectively, the principal distinction being the four-cleft corolla in the one case and the five-cleft corolla in the other. The fact that both were fully expanded is sufficient to indicate the brilliance of the weather. To Erythraea Centaurium, the common Centaury, and E. littoralis the same remarks apply. Ononis arvensis, the Rest Harrow; Erodium cicutarium, the Hemlock Stork's-bill, with white as well as lilac flowers; Bartsia Odontites; the curious little Neottia spiralis, or Lady's Tresses; the Anthyllis Vulneraria, or Lady's Fingers, dwarf and stunted, but varying considerably in colour—white, cream, orange, rose, crimson or purple. With regard to the popular name—which is somewhat remote—I could not help perpetrating a joke on my unsuspecting landlady. She was quite alarmed to hear that ladies' fingers had been found on the cliffs—she had not heard of a catastrophe!

On Towan Head—a veritable wild garden as well as a rocky promontory—many interesting plants are to be found, as well as a number of common ones. The short, turfy covering seems to be full of them. Scilla verna and S. autumnalis must be classed among the former. I discovered the Vernal Squill—at least, I hope so—in digging for the autumnal one. Time will show. The Autumn Squill occurs here in large patches, is of a purple colour, but very dwarf owing to its exposure. I came across a white variety. Narcissus biflorus is said to be much in evidence in the spring. This alone would be worth a journey to Newquay at that interesting period. The fact, however, of the two Squills being found in juxtaposition, and yet flowering at different seasons, shows how little we know of the occult forces of Nature!

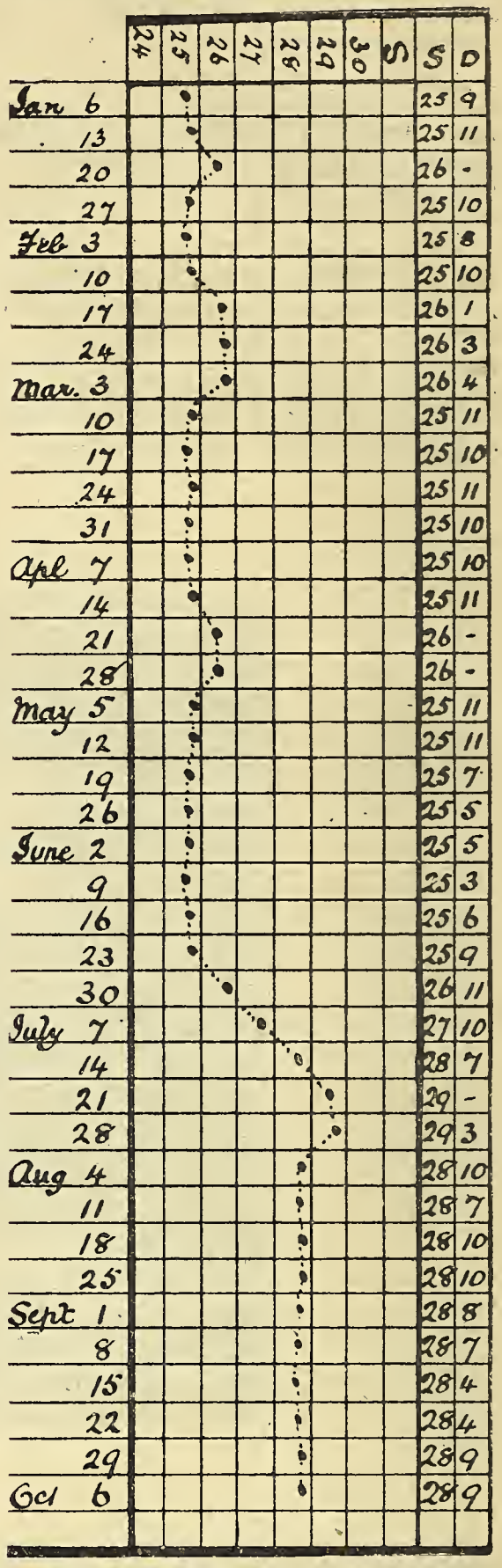
> Say what impels the Vernal Squill to blow
> When spring's aglow;
> And keeps the other back till autumn's power
> Restores the flower?

For answer we get echo only; but, although there are many problems unsolvable in our present state of knowledge, the lover of Nature, even if he cannot explain the reason why, can always admire the wonderful processes—the outward and visible signs—of Nature's handiwork.

As, however, there are other interesting plants in Cornwall to be noted, I must, perforce, suggest another chapter.—*C. B. G.*

THE PRICES OF WHEAT.

The subjoined diagram shows the weekly fluctuation in the price of wheat during the present year. The dates are given on the left, and the price on the right, the figures at the top of the diagram being only the approximate price in shillings.



EXHIBITING TABLES OF PLANTS.

The exhibiting of plants on tables of given size at flower shows is very common, and in the majority of cases is a leading feature of the exhibitions. How many exhibitors defeat the object in view by crowding their plants together it is difficult to understand. Schedules are, in the main, very definite on this point of arrangement being a speciality. Excellent plants in best of health are often huddled together as if they were on a stall for sale in the market. Dracaenas, for instance (plants always strong in evidence at exhibitions), are too often so cramped that their beautiful outlines cannot be seen. The same may be said of Aralias (always telling on tables) placed so that their elegant foliage is hid by Palms, Ferns, Crotons and others. The finest tables seen at northern shows, and among the winning lots, have been arranged with graceful and richly-coloured foliage and flowering plants stood on a carpet of dwarf Ferns and others of suitable character for clothing the surface of the table. The pots are hid in the foliage; the small specimens stand clear of each other. They are fairly balanced all over the table and quite free from the clipped and formal appearance of many, and such attract the censors.—*M. T., Carron, N.B.*

PLANTS RECENTLY CERTIFICATED.

THE following awards were made by the National Chrysanthemum Society at the committee meeting held at the Royal Aquarium on Monday, October 22nd. The system of deciding awards goes by points from this time henceforth, these points (in exhibition blooms) to be judged according to breadth, depth, form, solidity, colour and finish. This gives the flower every chance and inferior varieties find their proper level. First-class Certificates, Awards of Merit and Commendations are the three standards of excellence now formulated, and these are won by the number of points gained. Each feature has a maximum of three points; fifteen and over obtains a First-class Certificate; twelve, an Award of Merit; and ten, a Commendation. The system does not seem to be very popular.

JAPANESE CHRYSANTHEMUMS: MATTHEW SMITH.—Rather a ragged flower, with breadth of form and wide petals. The reverse side is old gold in colour, and the upper side a shade of faded crimson. (Commendation.) No name.

LILY MOUNTFORD.—A fine, broad and well-built flower, having a pretty blush centre and becoming pale mauve toward the lower edge. The tips of the petals curve upward. The blooms are of enormous size. The variety obtained the maximum of points, (First-class Certificate.) Mr. Gleeson, Warren House, Stanmore.

MR. J. L. MCKELLAR.—This is a handsome, deep pink variety with reflexed petals which recurve at the tips. The build and finish, however, are inferior. (Commendation.) Mr. J. L. McKellar, Durrow Castle Gardens, Durrow, Queen's County, Ireland.

ERNEST BETTSWORTH.—A large, strong flower, of great depth and good substance; of a rich, warm amaranth, with pale or gray reverse. (Commendation.) Mr. D. Phillips, The Gardens, Knighthorn, Buckhurstbill.

THE PRINCESS.—An elegant, well-built and finely finished flower, with a pale cream or bleached straw-coloured centre, becoming deeper below. (First-class Certificate.) Mr. W. J. Godfrey, Exmouth, Devon.

SYDNEY BRUNNING.—Rather a ragged bloom whose main merit lies in its colours. These are old gold beneath and reddish brown above. (Commendation.) Mr. W. J. Godfrey.

VICAR OF LEATHERHEAD.—An exceedingly handsome variety, with broad petals of much substance, and coloured a glowing canary yellow. The petals twist and intermingle in a way that adds much charm and interest to the bloom. (First-class Certificate.) Mr. W. J. Godfrey.

MRS. GRAY SMITH.—Almost orange-yellow in colour, and having broad petals. A good sort. (Award of Merit.) Mr. W. J. Godfrey.

REV. DOUGLAS.—A beautiful bright lemon yellow variety, with broad, curving petals, well finished and good in every respect. (First-class Certificate.) Mr. Henry Weeks, The Gardens, Thrumpton Hall, Derby.

GENERAL BULLER.—An incurved Japanese variety with exceedingly broad and somewhat fluted petals. The centre is rather low, but the substance of the blooms is good. The colour is bronzy-yellow. (Award of Merit.) Mr. C. Penford, Farnham.

MASTER E. SEYMOUR.—A strong and fairly well finished bloom, with broad, stout petals, that slightly incurve. The colour is old gold beneath and crimson above. (First-class Certificate.) Mr. H. Perkins, The Gardens, Greenlands, Henley-on-Thames.

DECORATIVE VARIETY, MISS DORRIS.—A variety of very bushy habit, which branches freely, produces enormous quantities of large, single white flowers, having a prominent yellow disc. (Award of Merit.) Messrs. H. Cannell & Sons, Swanley, Kent.

The undermentioned awards were made by the Royal Horticultural Society, on the 23rd October.

Orchid Committee.

CYPRIPEDIUM VIDOR.—The parents of this hybrid were C. Charles Canham × harrisianum superbum. The dorsal sepal is roundly ovate, concave on the inner face, and of a rich brown with a white edge. The petals are purple on the upper longitudinal half, and pale purple on the lower half. The lip is large and deep purple. The flower is bold and intermediate between the parents. (Award of Merit.) R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), Cambridge Lodge, Flodden Road, Camberwell.

DENDROBIUM MOOREANUM.—The dwarf habit of this plant and the pretty white flowers in erect racemes remind one of D. kingianum album. (Botanical Certificate.) Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

DENDROBIUM LEEANUM ATROPURPUREUM.—This tall habited plant bears racemes of medium sized flowers, having rosy sepals and darker petals, half twisted round in the middle. The lip is wholly dark purple, with a maroon disc. (Award of Merit) Sir Frederick Wigan.

SOPHROLAELIA EROS.—The parentage of this bigeneric hybrid was Laelia elegans Turneri × Sophronites grandiflora, the flowers being nearer the latter in size and colour than to the former. The oblong sepals and obovate petals are deep crimson-red. The lip is darker crimson with yellow lines in the throat, as well as on the exterior of the tube. (First-class Certificate.) Messrs. Charlesworth & Co., Heaton, Bradford.

ODONTOGLOSSUM CRISPUM MAUD ROCHFORD.—The flowers of this beautiful variety are circular in shape, and adorned with small, dark chocolate blotches on all the segments. (Award of Merit.) Mr. T. Rochford, Turnford Hall Nurseries, Broxbourne.

Floral Committee.

VERONICA DIAMANT.—The leaves of this garden form of shrubby Veronica are oblong-elliptic, 3 in. to 4 in. long, and evergreen. The flowers are relatively large, dark purple-red, very handsome and produced in spikes 3 in. to 5 in. long. (Award of Merit.) Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton.

SCOLOPENDRIUM VULGARE STANSFIELDI.—This handsome form of the Hart's-tongue Fern belongs to the cristatum fimbriatum type, being heavily crested, fimbriated and frilled. The apex continues to grow for a long time, forming long segments which develop prothalli when laid down upon damp soil. It is perfectly barren of spores, but reproduces itself by apospory, and originated in that way itself. (Award of Merit.) Chas. T. Druery, Esq, 11, Shaa Road, Acton, W.

CHRYSANTHEMUM MASTER E. SEYMOUR.—See above for description. (Award of Merit) Mr. H. Perkins, The Gardens, Greenlands, Henley-on-Thames.

CHRYSANTHEMUM EARL OF ARRAN is a Japanese variety with long drooping florets, more or less twisted, of good breadth and substance and light yellow in hue. (Award of Merit.) Mr. H. Perkins.

ROSE LADY BATTERSEA.—The blooms of this hybrid Tea Rose are of good average size, conical in the centre, with several of the outer petals spreading, and of a rich, dark orange-rose (rose orangée as the French would say). They are freely produced, handsome and fragrant. (Award of Merit.) Messrs. Paul & Son, Cheshunt.

CHRYSANTHEMUM MISS S. FRYETT.—A Japanese variety of great depth, with much material in it, deep magenta-crimson and very distinct. The florets are recurved and narrow. (Award of Merit.) Wm. Seward, Esq., The Firs, Hanwell, Middlesex.

CHRYSANTHEMUM MRS. EMMA FOX.—The florets of this Japanese variety are recurved, interlaced with one another, and crimson. The blooms are about 7 in. in diameter, and deep. The leaves are large and leathery. (Award of Merit.) Wm. Seward, Esq.

CHRYSANTHEMUM MATTHEW RUSSELL.—This is a Chinese or true incurved variety, with globular heads and broad, blunt florets of a bronzy-gold on the reverse. (Award of Merit.) Mr. H. J. Jones, Ryecroft Nursery, Hithergreen, Lewisham.

CHRYSANTHEMUM LILY MOUNTFORD. — For description see above. (Award of Merit.) Mr. M. Gleeson, Warren House, Stanmore, Middlesex.

CHRYSANTHEMUM CHARLES LONGLEY.—A handsome Japanese variety of a rich crimson-red, with a rosy-silver reverse to the florets, which are broad, and curled at the tips. (Award of Merit.) Messrs. W. Wells & Co., Earlsfield Nurseries, Earlsfield, Redhill, Surrey.

CHRYSANTHEMUM J. R. UPTON.—The clear, shining yellow florets of this Japanese variety are much interlaced, curled, of great length, and make a massive bloom of great beauty. (Award of Merit.) Mr. W. J. Godfrey, Exmouth, Devon.

CHRYSANTHEMUM MRS. F. GRAY SMITH.—For description see above. (Award of Merit) Mr. W. J. Godfrey.

CHRYSANTHEMUM MRS. COOMBES.—The blooms of this Japanese variety are 7 in. to 8 in. across, of great depth, with much material in them, and of a soft rosy lilac. The florets are narrow. (Award of Merit.) Mr. W. J. Godfrey.

Fruit and Vegetable Committee.

PEAR GLASTONBURY.—The pyriform fruits are of large size with a clear yellow skin when mature, and a white, melting, sweet and richly aromatic flesh. (First-class Certificate.) C. C. Tudway, Esq. (gardener, Mr. O. J. Fewtrell), The Cedars, Wells, Somersetshire.

MELON ROYALTY.—The white flesh of this variety is of great depth, melting, and of good flavour. (Award of Merit.) Lord Windsor (gardener, Mr. H. A. Pettigrew), St. Fagan Castle, Cardiff.

At a committee meeting of the National Chrysanthemum Society, held at the Royal Aquarium on Monday, October 29th, the following Chrysanthemums were certificated:—

MISS EVELYN DOUGLAS.—A well-finished bloom, having rather narrow petals of lilac-mauve colour; form good. (F.C.C.) Mr. H. Weeks, Thrumpton Hall, Derby.

SCOTTISH CHIEF.—A beautiful canary-yellow sort, the centre being more deeply coloured than the outer and lower petals. Good form, size, and finish. (F.C.C.) Mr. H. Weeks.

MISS MILLIERS RICHARDSON.—A Jap. incurved variety of large size and good substance, but lacking finish; colour silvery-lilac reverse, mauve-magenta above. (A.M.) Mr. C. W. Richardson, Ware.

CALVAT, 1899.—A Japanese incurved variety with plenty of substance, as here shown, of a lilac-pink and silvery shade, the inner centres of the petals white. (A.M.) Mr. W. J. Godfrey, Exmouth, Devon.

MRS. GEO. MILEHAM.—Another good Jap. with an incurving tendency, thus showing its silvery-lilac reverse more than the mauve upper surface. (F.C.C.) Mr. Geo. Mileham.

MRS. J. B. BRYANT.—A fair sized Japanese purple variety with splendid centre and altogether good form. (F.C.C.) Mr. H. Perkins.

CHRYSANTHEMUM NOTES.

LIVERPOOL.

Now that the many exhibitions are close upon us, some few notes of the general condition of plants and flowers may be interesting. The season promises generally to be fully up to the average, especially amongst the Japanese, many of the varieties promising to eclipse anything previously seen. To give any detailed account of the many growers for exhibition would take up too much space and the accounts would only be repeated later on when the exhibits have passed the critical eyes of the judges; but as the Corporation exhibits will not undergo this ordeal but perhaps a stronger one, that of many thousands of the citizens, a few brief notes may not be out of place.

SEFTON PARK.

IN the specially constructed house are arranged some 1,300 plants, 500 for large blooms, the rest in bush form. Mr. H. Herbert and his successful workers may be congratulated upon a good display with clean foliage and in a dwarf form, which sets the flowers well within the scope of vision. The collection consists mainly of older varieties, but amongst the newer kinds we noted Chatsworth, Jane Molyneux, Nellie Pockett, Mrs. J. W. Barks, Mychett's White, Pride of Mychett, Nellie Threlfall, &c. The show was opened to the public on the 27th ult. and will remain open some few weeks.

BOTANIC GARDENS.

MR. JAMES GUTTRIDGE, the curator, has now settled down in his new position, and the inmates of the houses generally give every evidence of careful and proper treatment. A special item of interest is a nice group of Cattleya labiata autumnalis and Dendrobium Phalaenopsis arranged on a bank of Ferns. But our visit was the "Mums," and a fine lot they are, certainly the best yet seen in these gardens. The flowers are somewhat earlier than those at Sefton Park; the plants are of medium height with fine, large leathery foliage; many

the varieties are carrying fine flowers, Mdme. E. Roger coming in for considerable notice from the visitors. Other varieties worthy of special notice include Jane Molyneux, Master H. Tucker, Mrs. T. Carrington, Pride of Madford, Mdme. G. Bruant, Chatsworth, &c. A large number of Piercy's seedling are grown for decoration which lends itself to this work. A selection of late struck plants, grown with one flower on a single stem, promises to be useful. Some hundreds of plants of single varieties will follow the general display. The grower is entitled to much credit for his successful work.

RYECROFT NURSERY, LEWISHAM.

THE 28th ult., was Chrysanthemum Sunday at Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E. The display of Chrysanthemums in flower will of course extend for perhaps two more Sundays, and is also free to inspection on any week-day from 2.30 p.m. till 5.30. Among the finer blooms in the advanced collection which comprises some thousands of plants, special attention was attracted by those of Mrs. White Popham of which there are some excellent blooms. This variety is one of the best of the more recent introductions, and one which may be relied on to do well. Soleil d'Octobre is a general favourite as a canary yellow sort, its great depth also adding much to its value. R. Hooper Pearson, of which we spoke so highly last year as the best of the deep yellows, does not seem to bear out the earlier expectations formed of it. To be colloquial there is not enough in it. W. Seward, a splendid rich crimson variety, is very fine indeed. Rivers H. Langton, a sport from Mrs. W. H. Lees, is of moderate size, the bronzy-gold tints being well developed. Lady Audrey Buller one of the newer yellows, comes rather too early to be thoroughly useful for general exhibitors. Colette takes after the Raynor type, having narrow petals like the latter. The colour, however, is pale pink-lavender and white. Mrs. A. H. Hole carries some of the best blooms seen in the exhibition, and is of a beautiful bronze-gold combination from a second crown bud, but comes darker when another bud is chosen. The lovely white Lili Boutroy is not up to the mark this year, but our old favourite Mutual Friend is. Of this latter white variety there is a splendid stock. Jane Molyneux has come good from every bud. Undoubtedly this is one of the finest of the white Japs. Mdme. Dupore a white French variety, is spoken of as an improvement on Simplicity, and promises well. Lady Hanham is of good colour for the time of year. Four splendid pink varieties which are well represented at Ryecroft include Emily Towers, Emily Barkley, Mrs. Barkley, and Mrs. Coomber. As a useful variety for the smaller sized pots, Mrs. Geo. Stanton may be referred to. It beats Royal Standard, and so far all the buds have opened satisfactorily. Miss Alice Byron, Mrs. A. J. Miller, and Mrs. E. Fox were amongst others of the first merit. The newly certificated variety, Matthew Russell, was also pointed out.

DOVER HOUSE, ROEHAMPTON.

AMONG the private growers around the outskirts of London who make Chrysanthemum growing a special feature of their gardens, but who do not grow merely for the sake of capturing prizes, we may include Mr. J. F. McLeod, who directs the gardens of J. Pierpont Morgan, Esq., at Dover House, Roehampton, W. His most advanced, and we should say his best plants, are now displaying an abundance of uncommonly fine blooms. From the appearances of Chrysanthemums in various quarters this year—in the London district, at least—we do not hesitate to say that very few places can, or will show a better all-round collection than that to be seen in this very interesting garden. The plants are strong, healthy, and clean, and the blooms in nearly every instance are typical of what they should be at their best. Within the limits at our disposal only the best varieties of the collection can be noticed. And we would present a very old friend for first attention, the beautiful Sunflower. Happily, it is grown in even the most up-to-date collections, because there is nothing better, of this special type of flower. Phoebus is another favourite yellow variety; and the softly pretty Soleil d'Octobre (October Sunshine) is represented by large, beautifully coloured, and well finished blooms. Mutual Friend is superb, to say the least; and so is N.C.S. Jubilee, which good sort is, however, now supposed to be eclipsed. The deep mauve Mr. T. Carrington is well up to the exhibition standard and serves to show up some fine samples of Oceana, Pres. Borel, and Lady Hanham, the latter being a recent and promising golden rosy-cerise sort. Lady Crawshay, pearly white; Mdme. P. Rivoire, also a superior white; Pride of Madford, shown here to perfection, being large without being clumsy, well filled out and deeply coloured, are all good. The upward turning petals of the latter are gray-lilac on the reverse side, and deep amaranth above. Mrs. E. Coombes, a deep and lovely pink variety, compares well with any other of its class. Mrs. White Popham, however, wins even greater admiration, for what silvery or frosted pink is there to beat it when well grown? The broad curling petals and the build of the flower are altogether charming. Mrs. N. Molyneux furnishes a snow-white flower which is not unlike the foregoing in form. Lionel Humphrey is another of last year's introductions, and if it could always be guaranteed to do so well as they have managed it at Dover House, it would be a popular and lasting favourite. G. W. Palmer, of an old gold and crimson combination, has turned out well, and at present furnishes about the best blooms obtainable of this type. We might have mentioned how grand Mrs. W. Cursham is when referring to the lighter coloured Mrs. White Popham. These are two grand sorts, and usually develop very large and well finished flowers. One other sort will have exhausted this list of the elite, that is, sweet Ella Curtis, the charming, large-sized, incurved yellow. It is always fine, and has come true with Mr. McLeod. If another variety *might* be squeezed in (though it is not a Jap. but a decorative Chrysanthemum) we would select Mrs. Wingfield, a delightful pink sort which produces clusters of pretty flowers for cut bloom supply. Messrs. R. and G. Cuthbert introduced it last year, and a figure was reproduced in THE GARDENING WORLD for November 11th, 1899.

KEEPING QUALITIES OF CARNATIONS.

"How long should a flower keep?" asked Walter S Heffron, of Chicago, in a recent issue of *The Weekly Florists' Review*, and he proceeded to make his observations. The answer to the question is that we have absolutely no standard, and from the very nature of the case we never can have. Conditions and methods of culture, as well as the handling after cutting, are important essentials in determining the quality of bloom.

Character of soil, ventilation, watering, age, nourishment, the need of each supplied as the want appears—and the variety counts for little. Those who handle and sell shiploads of certain varieties from special growers learn that each variety has an individuality. Certain sorts may arrive fresh and as fine as possible to look at, and yet to the experienced dealer some of these varieties have to be disposed of as soon as possible to prevent total loss. On the other hand, there is the grower whose stock always keeps. His stock is not rushed off, but is carefully placed away to fill orders of particular customers who pay a fair price for a good article and will have it. In a general way, it may be said that varieties which are not "croppers" are keepers; those of slow growth, maturing late, being the best, but no general rule can be deduced. Some varieties, such as White Cloud, keep best during the winter; Flora Hill, on the other hand, is an indifferent keeper during winter. Lizzie McGowan, owing to its white colour, keeps well, or at least looks well. Tidal Wave is very good. Ethel Crocker has its qualities; and the variety, America, stands a lot of handling without deteriorating. On general principles, stock that is of rank growth, long jointed, also stock that is past first freshness, should not have stems re-cut, and should only have shallow water. To give a fresh cut and more water will only hasten development and the end. Stock that is cut tight (that is firm) of any condition of growth; also short-jointed, hard wooded stock, evidently cool and dry grown, should go deep in the water. Such may have their stems often re-cut, especially if rapid development is desired, and will keep best in a temperature of 8 to 10 lower than the first mentioned class, say 45° to 48°, as against 52° to 55°.

The ice box, or cooling room, should be as nearly free as possible from moisture, and should be ventilated. Never have too great a difference between the outside and inside temperatures. The box should be run many degrees higher in summer than in winter, grading to suit the season.

SOIL PRODUCTS AT THE PARIS EXHIBITION.

WHEN one sees the Paris exhibition the truth dawns upon us that man appears to have exploited this planet to pretty good purpose. He has right royally slaughtered the beasts of the fields and the fowls of the air; he has also gleaned many fishes of the sea, and from the surface soil the evidence of his gains are also great. Almost every pavilion of the exhibition, from the Palace of Tobacco (near the Champ de Mars) to the isolated boxes of spices and samples of Tea, Coffee, sugar, and Vanilla, &c., in the tropical and sub-tropical annexes. Spices are particularly interesting in this connection, for we hardly associate them in these days of wonderful distribution with the life-and-death struggles between rival nations; yet such a cause of strife they undoubtedly have been, particularly the Clove, which in the fight for the Moluccas brought Spain and Portugal into continual warfare. Pepper, too, says a *Morning Leader* correspondent, is here from all the pepper countries; from the Malabar coast, where it is nourished with rain water brought by Ghauts, from Siam and Penang, and from Liberia. Ginger from Malabar, Cinnamon from the same region as well as from Ceylon and Mauritius, Nutmegs from Reunion, Amboyna, and Singapore are among the other spice exhibits. Tea and Coffee form some attractive exhibits in these Asiatic as in some other annexes, and the migrations of the latter can be traced in the many little colonial buildings at the foot of the Trocadero. Sugar, too, has a specially fine exhibit in the Mauritius section. Spain turns out more sugar annually than she can consume, and the Beetroot supplants the Cane. The Tobacco exhibits, and that of timber, cork, and corn are all wonderfully interesting and instructive. In the Algerian annexe some fine forest scenes with Pines, black game and all, as a sunrise vision, are to be seen. Fruits and vegetables of all kinds are shown in the various pavilions. Much may be learned of the geographical distribution of vegetable products, and of the political developments that have led to their falling into the hands of certain races.

THE RED SPIDER.

A MITE almost indiscernible, making no noise, no apparent stir, so silent and yet so assiduous in its destructive work, a work which, like nature's work, evolves slowly, but yet with such apparent steadfastness. Such a mite is the red spider, both the Tetranychus telarius and T. cucumeris, the species which devotes its destructive attention to Cucurbitaceae. Given favourable conditions it reproduces its kind all the year round. But out of doors it is only in the warm weather that it can live and propagate. The eggs are abundantly laid along the ribs of the foliage, generally or always on the under sides. They are secured by means of threads. In a week or so the mites hatch out and start to suck the juices. The leaf becomes yellow or whitish and finally falls, taking many of the spiders downwards, whence they hide themselves under the surface. Others that are left on the plants or stems, say of fruit trees, find their way into cracks and hiding places there to pass the winter. This is why we scrape the loose bark from vines, and afterwards paint the stems with different washes; and also why we ought to remove some of the surface soil of the border.

To prevent and also eradicate the use of water, both in syringing the foliage and stems, and in moistening the stages and borders, &c., is one of the surest antidotes to check and suppress red spiders that anyone need try. Fumigation does little or no good, at least it hardly ever kills the whole stock, owing to the protecting webs and their nimbleness to hide away. "Sulphuring" the hot water pipes of plant houses is well known as a very effectua remedial measure. The foliage at the time of thi operation must be dry. Wash the pipes with frothy sulphur, and heat the pipes to a high degree. When the power of one application has been lost renew the painting. Syringing with a paraffin emulsion is a very good means of checking and clearing them off. It can be made from 6 lbs. of soft soap, 7 gallons of paraffin, with 100 gallons of soft water. Of course

the whole mixture must be kept churned up, and the soap dissolved before mixing begins. Sulphide of potassium at the rate of 2½ lbs. per 100 gallons of water in which it readily dissolves, may also be advantageously used. It looses its strength unless applied when fresh. Other washes and solutions could be employed, but these will, one or other, be found safe and effective agents.—*J. D.*

SOME PRETTY FLORAL DESIGNS.

THE ordinary circular wreath of flowers is susceptible to great variety in its make-up, in originality of conception, pleasing unions of colour, and bold conjoining of forms. Perhaps nowhere could those interested in the floral art go to better than, say, some of the finest of the West End London flower shops. Covent Garden is also a leading light upon which the played-out gardener, who possibly tries almost vainly to find something fresh in his decorative arrangements, may turn and receive, perhaps, slight help from which to build new ideas. For instance, in the making of crosses how many adopt the use of the dry, gray, Siberian or reindeer moss as a grounding, upon which nothing more than a central radiating bunch of half-expanded Rose buds may be arranged? This, when properly completed, requires no adding to, no deducting from, and a prettier combination is not often seen. For very important occasions Gardenias, Pancratiums, Azaleas, Liliums, &c., above a broad, compact grounding of white Chrysanthemums, such as L. Canning, may be made.

Pink Rose buds, interspersed with Lily of the Valley, and placed distinctly above a white, broad grounding, have at all times a very tasty effect. What seemed unique to me at first was the arrangements where a compact, even groundwork without any relieving material forms, say, three parts of a circle, the other third being occupied by a bold, upraised shower of flowers, having an altogether contrasting form and colour, but which gives sublimity to what might otherwise be puny, if not absolutely ludicrous. Dark brown Mahonia leaves as a groundwork, with one of the bunches as noted above, composed of broad yellow Croton leaves, pink flowered Chrysanthemums, Eucharis, and Roman Hyacinths form a capital arrangement. Then the following may be taken as nice in their way:—A very broad, circular frame, even to the breadth of five flowers of pure white or cream coloured Chrysanthemums as a grounding; on the left-hand side a "knot" formed of a single, large bloom of Eucharis with a few upstanding spikes of Roman Hyacinths; then on the right side of the wreath and running round nearly a third of its circuit Lily of the Valley spikes, Eucharis blooms, and dark green, red veined Croton leaves interspersed.

The design of a cross is prettily worked out from a white groundwork of Chrysanthemums, and just at the juncture in the centre where the framework crosses, a raised bunch of pink Rose buds and Lily of the Valley spikes are used.

For a "memoriam" cushion, a four-cornered framework, having concave sides (a square with hollowed sides), may be designed. Azaleas or whatever large and compact flowers were in season should be used to raise a convex or cushion-shaped front. Over this grounding the words AT REST, when traced out in Violets, have a simple yet lovely effect. Very small doves of stucco or marble, as the case demands, placed at each two opposite corners (those at right angles to the words made in Violets) adds yet more tenderness. For an elaborate column with a well balanced base, Gardenias would be the most compact and pliable flowers to form the column with, and also the lower-most stance forming the base. This latter should slope smartly and regularly on all sides outward from the column, the column itself being about 6 in. thick, and high in proportion. The Violet The Czar and the lighter coloured one, De Parme, should form alternate layers in the composition of the spreading base. A twining string of Violets may be slung around the white column.—*H.*

A warning against Blood Oranges. — *The Vegetarian Messenger* draws attention to a case of poisoning in Berlin from a person having eaten Blood Oranges. The doctor certified a case of aniline poisoning. There has been a strong suspicion for some time that Blood oranges are often artificially made by the injection of red aniline dye.

GARDENING MISCELLANY.

IRIS VARTANI AND I. PERSICA.

THE first species, a native of Palestine, is now flowering at Kew, and has pale violet or lavender flowers. In many repects I. Vartani resembles I. persica. The flowers are about the same size, but differ slightly in colour. The former presents a combination of gray and pale blue when fresh, with streaks of orange below the stigmatic centre. It is now in flower in an open border of the herbaceous grounds at Kew.

HELICHRYSUMS.

IN some of the more exposed situations these lovely everlasting flowers are beginning to go past their best. It is therefore necessary that they should be cut and dried as soon as possible, unless their purpose has been quite fulfilled already. The whole plants may be pulled up and hung head downward, in a dry airy shed.

THUNBERGIA GRANDIFLORA.

A GOOD plant of the above and another, say of Allamanda Hendersonii, in flower in a stove or corridor during the winter are a great boon to all who have a need for blooms for decorations, or who may wish to maintain a gay display during these dull days. To add a third colour a plant of Bougainvillea trained to the roof of such warm structures as are mentioned could likewise be chosen. The Thunbergia makes long and strong growth when planted out in a narrow but rich and warm border against any of the sides of the warmer structures. The light violet-blue Allamanda-shaped flowers are exceedingly lovely, as indeed the whole growth of the plant is. As a rule, cuttings are employed as the means of propagation, and during growth it is only necessary to keep the shoots sparsely regulated.

BEGONIA INGRAMII.

THIS exceedingly graceful winter-flowering stove Begonia deserves a word or two of attention quite as much as do the other Begonias, which have recently been noticed in your columns. It is one of the best known of the old hybrids, yet since the newer hybrid Begonias have been appearing B. Ingramii has been less seen. If the newer varieties are improvements or so much in advance on such old types as the above, it is right that the best should survive. But a well grown plant of B. Ingramii compares with the best of the other winter-flowering sorts. Begonias have for long been the centre of a great deal of attention, and even now there seems to be much new enthusiasm in their favour. The older favourites are being "spotted" like something quite new, and altogether the signs are good. The hybrid under note was raised nearly fifty years ago at Frogmore, its parents being B. fuchsioides and B. nitida. It partakes of the elegant character of the former and the larger flowers of the latter. The blossoms are deep pink and of a smart and clean-cut form. The ordinary (Begonia) mode of treatment suits this variety.—*D. K.*

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. A. Manson, Moreton Hall, Lancashire, for his article on "Growing Strawberries in Barrels," p. 134.

QUESTIONS AND ANSWERS.

**** Will our friends who send us news apers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

[Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Succulent Plant Supposed to be an Annual.—*James Thurstan*: You are right in supposing the plant to be an annual; and the fact of its flowering this year although only sown in the open border in April last would suggest this. A few plants do, however, flower the first year from seed although they are not truly annuals. The specimens you sent were Cerinthe retorta, a native of Greece, and by no means common in this country. You did not state whether your friend had the seeds sent him from abroad or only from some other source in this country. That would have been interesting to us as showing how plants get brought to this country. The species belongs to the same natural order as the Forget-me-Not and the Borage. If you desire to have it again next year you must collect seeds as they ripen.

Red Spider on Violets.—*Omega*: There was evidence on the leaves you sent that red spider had been at work upon the plants at one time or another, by the eggs and dead ones upon the leaves. If there were live ones upon the leaves when you sent them they must either have died or crawled away elsewhere when they found the leaves drying up. We presume the Violets had been growing in the open ground before you put them in the pit, and, if so, they had got established upon the plants during the dry weather. Your best plan would have been to have given them a good syringing with soft soap and water in strong solution, or with Gishurst Compound, before you put them in the pit, as you would have got at them more easily then. They lodge chiefly on the under side of the leaves, which should be thoroughly wetted with the insecticides named. You might give them a good syringing where they are. A boy could turn up the under side of the leaves while another syringes the plants thoroughly. Do this in the morning, so that the moisture will be dried up before nightfall. If the pit is not heated by hotwater pipes the moisture from the soil, which should be kept fairly damp, will prevent the spread of the red spider.

Bait and Traps for Ground Mice.—*Omega*: The perpetual mouse trap baited with cheese should catch numbers of the field mice, but they are wary creatures and often fight shy of traps after a time. A plan that has been found very successful with this kind of vermin is to get some old zinc pails or similar vessels. Dig holes in the ground so that the rim of the pails will be on a level with the soil or slightly under it. Put 4 in. to 6 in. of water in the pails and grease the edges. These vessels should be sunk in places and runs frequented by the vermin, and when rambling about at night they fall into the vessels in great numbers, if plentiful, and are unable to get out again. Sometimes deep holes are dug in the ground, wider at the bottom than at the top, so that when field mice or voles fall into them they can readily be destroyed before they can make their escape. Of course this is more suitable for woods and forests than for gardens. The sunk pails would answer your purpose better. You might also encourage owls about the place if there is any shelter for them.

Colours of Lilium dalhansoni.—*C. T.*: The reason why the flowers of this Lily vary so much in colour and form is because it consists of seedlings that have been raised by hybridising L. Martagon dalmaticum and L. Hansoni. The small dark flowers take after the former, and the large and more or less yellow ones take after L. Hansoni. The name is formed from dalmaticum by adding Hansoni to *dal.*

Phlox Drummondii to Flower Early.—*B. Davis.*: The safer plan with this plant and its varieties is to sow seeds in February in heat. As soon as the seedlings are up keep them close to the glass to prevent them getting drawn. At the same time you must gradually inure them to a lower temperature. When the first rough leaf has been made transfer the seedlings to boxes about 2 in. apart each way, and stand the boxes in a pit or frame just sufficiently heated to keep frost out. Air must be freely given on all favourable occasions to keep the plants dwarf and sturdy. Full exposure to light and freedom from crowding will also encourage a bushy, branching habit. Harden them off and transfer them to the open ground in April, if the weather is favourable.

Names of Plants.—*A. J. B.*: 1, Cornus sanguinea; 2, Clematis Vitalba; 3, Lycium barbarum.—*T. M.*: 1, Chrysanthemum segetum; 2, Chrysanthemum frutescens var.; 3, Chrysanthemum uliginosum; 4, Helianthus argyrophyllus; 5, Physalis Alkekengi; 6, Erodium Manescavii.—*J. Thurstan*: Cerinthe retorta.—*R. M.*: 1, Aster versicolor; 2, Aster turbinellus.—*H. J.*: 1, Salvia patens; 2, Salvia azurea grandiflora; 3, Liquidambar styraciflua; 4, Salvia acuminata Bethelli.—*D. C.*: 1, Fuchsia procumbens; 2, Aponogeton distachyon; 3, Polygonum cuspidatum; 4, Cotoneaster congesta; 5, Symphoricarpus racemosus; 6, Berberis Wallichi.—*Western*: 1, Escallonia macrantha; 2, Euonymus latifolius albus; 3, Leycesteria formosa; 4, Ligustrum vulgare.—

A. L.: 1, Eupatorium riparium; 2, Eulalia japonica variegata; 3, Carex brunnea variegata; 4, Calathea zebrina; 5, Selaginella Martensi variegata.—*E.C.H.D.*; Andromeda polifolia, or Wild Rosemary.—*Adam Burnett*: 1, Aster versicolor; 2, A. Novi-Belgii; 3, A. Nova-Angliae pulchellus; 4, A. Novi-Belgii densus; 5, A. vimineus; 6, A. Novi-Belgii laevigatus.

Communications Received.—Wm. Seward.—John Green.—W. Mease.—J. T. Hick.—R. Laird.—J. H. S.—Chas. Kay.—P. D.—A. M.—T. H. D.—R. G. W.—Stanley, Ashton & Co.—Nemo.—A. G. B. W. M.—J. S.—H. D.

TRADE CATALOGUES RECEIVED.

PAPE AND BERGMANN, Quedlinburg, Germany.—Novelties for 1901, of Flower and Vegetable Seeds.

LITTLE AND BALLANTYNE, Carlisle.—Trees: Forest and Ornamental, Evergreen Shrubs, Roses, Clematis, Rhododendrons, &c.

JAMES COCKER & SONS, Aberdeen.—Descriptive Catalogue in Three Parts: (1) Roses, (2) Hardy Herbaceous Plants, (3) Shrubs, Fruit Trees, Bushes, Climbing Plants, &c.

J. C. SCHMIDT, Erfurt, Germany.—Novelties for 1901.

W. WELLS & Co., LTD., Earlswood, Redhill, Surrey.—Descriptive Catalogue of Chrysanthemums.

SHOW FIXTURES FOR 1900.

CHRYSANTHEMUM SHOWS.

NOVEMBER.

6.—Truro (2 days); N.C.S. (3 days).

7.—Bideford; Bournemouth (2 days); Cardiff (2 days); Cheltenham (2 days); Doncaster (2 days); Ealing; Halifax (2 days); Hornsey (2 days); Isle of Thanet (2 days); Lowestoft (2 days); Manor Park (2 days); Newport (2 days); Sevenoaks (2 days); Walthamstow (2 days); Melton Mowbray (2 days); Bromley and District (2 days).

8.—Bakewell (2 days); Beaminster; Cranbrook (2 days); Devon and Exeter (2 days); Penzance (2 days); Royal Jersey (2 days); Swansea (2 days); Windsor and Eton; Forest Gate and Stratford (3 days); St. Botolph's, Colchester.

9.—Derby (2 days); East of Fife (2 days); Highbury (2 days); Leicester (2 days); Hayes (Middlesex).

10.—Bacup; Nottingham (2 days); Stockport Chrysanthemum Society.

13.—Dulwich (2 days); Folkestone (2 days); Hartlepool (2 days); Ipswich (2 days); Longton (2 days); Southend-on-Sea (2 days); Wimbledon (2 days); Chester Paxton (2 days); Belfast (2 days.)

14.—Alsager (2 days); Banbury (2 days); Bristol (2 days); Caterham (2 days); Chesterfield (2 days); Faversham (2 days); Finchley (2 days); Hull (2 days); King's Lynn (2 days); Lewes and District (2 days); St. John's Sevenoaks (2 days); Sutton Coldfield (2 days); Sutton, Surrey (2 days); Tonbridge (2 days); Warlingham; York (3 days).

15.—Barnsley (2 days); Jersey Gardeners (2 days); Ludlow; Scottish Horticultural (3 days); Stockport and District (2 days); Potters Bar; Maidenhead (2 days).

16.—Blackburn (2 days); Bradford (2 days); Chorley (2 days).

17.—Burton-on-Trent; Batley.

22.—Dundee (3 days); Norfolk and Norwich (3 days).

23.—Cumberland; Aberdeen (2 days).

DECEMBER.

4.—N.C.S. (3 days).

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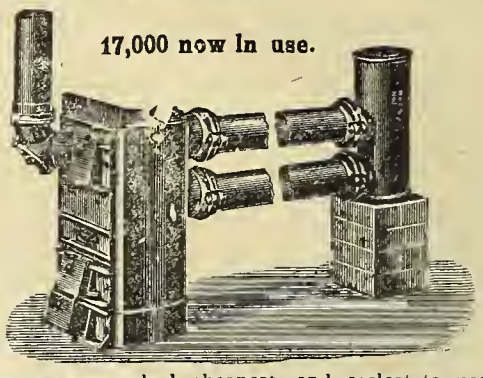

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, NOVEMBER 10th, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, November 13th.—Dulwich (2 days); Folkestone (2 days); Hartlepool (2 days); Ipswich (2 days); Longton (2 days); Southend-on-Sea (2 days); Wimbledon (2 days); Chester Paxton (2 days); Belfast (2 days); Leeds Paxton (2 days); Devizes; Winchester; Highgate.

WEDNESDAY, November 14th.—Alsager (2 days); Banbury (2 days); Bristol (2 days); Caterham (2 days); Chesterfield (2 days); Faversham (2 days); Finchley (2 days); Hull (2 days); King's Lynn (2 days); Lewes and District (2 days); St. John's, Sevenoaks (2 days); Sutton Coldfield (2 days); Sutton, Surrey (2 days); Tonbridge (2 days); Warlingham; York (3 days); Vegetable Show at Messrs. Harrison & Sons, Leicester; Evesham; Buxton; King's Lynn (2 days).

THURSDAY, November 15th.—Barnsley (2 days); Jersey Gardeners (2 days); Ludlow; Scottish Horticultural (3 days); Stockport and District (2 days); Potters Bar; Maidenhead (2 days); Manchester Royal Botanical Society; Parkstone (2 days).

FRIDAY, November 16th.—Blackburn (2 days); Bradford (2 days); Chorley (2 days); Bolton (2 days); Macclesfield (2 days).

SATURDAY, November 17th.—Burton-on-Trent; Batley; Brockburn (2 days); Middleton (2 days).

THE CHRYSANTHEMUM IN 1900.—A considerable amount of interest was created amongst Chrysanthemum growers and others on Tuesday last by the appearance of a specimen with tiny yellow flowers sent up from the Royal Gardens, Kew, and exhibited both at the Drill Hall meeting of the Royal Horticultural Society, and later on at the Royal Aquarium, where the great autumn show of the National Chrysanthemum Society was being held. The plant was labelled Chrysanthemum indicum, Linnaeus, and described as a progenitor of the garden Chrysanthemum, raised from seeds collected in Yangtze by Mr. Grant Birch last year. The general belief is that this was the parent of the pompon varieties, and that C. morifolium (C. sinense) is the parent of the large forms. There are many garden intermediates, however, and it is possible that there are many wild ones. A few have been collected and honoured with varietal names, but discoveries in China may yet show that the large C. morifolium, of Ramatuelle (the C. sinense, of Sabine), and the C. indicum, of Linnaeus, may be one and the same species in the broader sense of the term. The specimen shown had tiny, single, pale yellow flowers, about the size of a sovereign, not an inch larger, as Pat would say, growing upon slender stems, clothed with small and thin leaves. The bibliography and synonymy of the smaller and larger forms were given in the *Journal of the Royal Horticultural Society*, 1890, *XII.*, 112, on the occasion of the Chrysanthemum Centenary Conference, held at Chiswick on the 5th and 6th November, 1889, by William Botting Hemsley, Esq., F.R.S., A.L.S., Keeper of the Herbarium, Kew. This same form was described by Sabine in *Transactions of the Horticultural Society of London, IV.* (1821), *p.* 326, *tt.* 12 *and* 13.

Whichever way we look at it there is little doubt but that if the giant modern Chrysanthemum did not originate from C. indicum both the latter and C. morifolium had a common parent, whether that still exists or not. Had anyone prophesied 100 years ago that either of the two forms would have given rise to giants like Madame Carnot, Australie, or Simplicity, he would have been regarded by his contemporaries as romancing with the improbable if not the impossible, and placed in the same category as Baron Munchausen and Jules Verne. A single floret of many of the modern forms would be large enough to make a bloom of the tiny wilding C. indicum. The difference was remarkable as the small-flowered C. indicum stood alongside of the modern exhibition blooms at the Royal Aquarium. Turning from the pigmy to the giants in the same building we may say that they are still growing in size. Even if well grown Madame Carnot may not have been excelled, a considerable number of other varieties have been developed to similar proportions. Some of the visitors were comparing the size of the blooms with their silk hats, and found that some of the blooms were as deep and others wider than the crown of the hat without straightening out any of the florets. When it first appeared on the exhibition table Nellie Pockett was a small bloom, but is now able to fill a place on the leading stands in the big classes.

We were pleased to note a great rejuvenescence of interest in the incurved varieties, which have never been finer at the Royal Aquarium or anywhere, and not more numerously represented for many years past at the former place. It strikes us as peculiar that so many of the larger and best stands of this class should come from Mid-Surrey. Whether this is merely accidental owing to the best growers being resident there, whether neighbours have stirred one another to greater effort, or it is the result of soil and surroundings, it would be interesting to know. In the case of the winner (Mr. F. S. Vallis) of the Holmes Memorial Cup, we are told that this is only the fourth year since he commenced growing Chrysanthemums. Many growers never reach the same standard, even after, it may be, twenty years' experience.

Amongst cut blooms nothing was finer

than the class for twelve vases of five blooms each. The class filled two long tables from end to end, and most of the visitors were agreed that the blooms were larger than ever. They certainly received a great amount of attention, and elicited a great amount of admiration. The tall vases and the long leafy stems enable the huge blooms to be seen to the greatest advantage. We doubt if such blooms have ever been seen in America, where this system of exhibiting the autumn flower is the most prevalent one, and has been so for many years past. Whatever some people may say about the coarseness of big blooms, there can be no doubt that they attract the greatest number of the general public, and even the gardeners themselves. There was a considerable outcry against the introduction of the newer and larger types of incurved varieties, but we believe, and always did, that they were not only an impetus to keep the interest in this class alive, but to restore some of its lost prestige and popularity. The large forms are now the most numerous on the boards, and the older ones being the smallest are only resorted to to fill the front row of the boards.

The competing groups were not the same as formerly, inasmuch as the material was used to decorate the fountains in the floor of the building, to the great improvement of the fountains. Mr. Norman Davis took the lead, and other winners are all given in our report of the show in another column. The non-competitive groups were again very numerous and fine. Telling groups were set up by Messrs. H. Cannell & Sons, Mr. H. J. Jones, Hobbies, Limited, Mr. R. Jameson, of Dublin, Mr. Norman Davis, Messrs. Wm. Cutbush & Son, Messrs. B. S. Williams & Son, Mr. W. J. Godfrey, Mr. Robert Owen, Messrs. George Bunyard & Co., and Messrs. J. Laing & Sons, the latter showing a mixed group of flowers and fruits, while the Messrs. Bunyard had 150 dishes of superb Apples and Pears.

White Lilac has been offered in London florists' shops for about a fortnight.

Mr. Alexander Dryden, for some time at Edenfield, Springfield, Fife, has been appointed gardener to Dr. Playfair, Westgreen Manor, Winchfield, Hants.

Chrysanthemums in East London.—The Duchess Dowager of Sutherland has consented to open the Chrysanthemum Show at the People's Palace on Thursday, November 15th, at 8 p.m. Mr. Clarence Brandon, secretary of the People's Palace, has also accepted the invitation of the committee to act in conjunction with Mr. C. E. Osborn as one of the honorary secretaries.

Ealing Gardeners' Society.—On the 30th ult., a very instructive paper on the "Construction and Maintenance of Roads and Paths" was read by Mr. W. B. Gingell, Superintendent of Ravenscourt Park, Hammersmith. Mr. Gingell's subject was an eminently practical one, and, as such, appealed with much force to the majority of the craft, who love to have a clear and unmistakable statement of facts placed before them. In the matter of making a road or a path, there is not much room for deviation, for, given the materials, the other can be worked out to a mathematical nicety. The maintenance, however, requires care and judgment, and Mr. Gingell dwelt on this phase with aptness and ability; so much so, that his audience could find no flaws to conjure with. Mr. Gingell insisted that if paths were to be kept in an efficient condition, it was necessary that certain rules should be observed, which he summarised as follows:—Make the road or path well to start with; never disturb the surface, except when repairs are necessary; roll on every opportunity, especially after rain; and water as often as possible in hot weather. The chairman, Mr. C. B. Green, and several others, commented favourably on the lecture, the lecturer receiving a hearty recognition of his services.

Weather in London.—Much rain has fallen during the week. The weather is exceedingly mild.

National Amateur Gardeners' Association.—A crowded meeting of the members of this association met at Winchester House, Old Broad Street, E.C., on Tuesday evening, the 6th inst. Mr. Donald McDonald, F.L.S. (of Carter & Co.), read an interesting essay on "Fragrant Trees and Shrubs." This was illustrated by lime-light views of many subjects having a bearing on the paper. We hope to be able to publish the essay entire. Sir Geo. C. M. Birdwood, LL.D., &c., &c., occupied the chair. A collection of fragrant plants, leaves and seeds was exhibited by Messrs. Carter & Co.

Liverpool Horticultural Association.—A meeting of members of the above was held in Victoria Street on the 3rd inst., Mr. T. Foster presiding over a large attendance. The meetings have been resumed after the lapse of one winter and the last meeting promises a successful season. Mr. R. G. Waterman, secretary of the Woolton Society, was introduced by the chairman, and selected for his subject "Soils and their Treatment." The system recommended was of a practical and thorough manner. Selection of site, approved draining and burning, value and form of shelter, manures and their uses, and rotation of crops received intelligent treatment. As usual a discussion followed in which many present took part, after which a cordial vote of thanks was tendered to lecturer and chairman for their services.

Death of Mr. Gillian.—By the death of Mr. Gillian whose demise occurred at Dalkeith Park, Midlothian, on the 30th ult., horticulture has sustained the loss of a firm attaché. He has, for a period extending over ten years, acted as overseer of the men whose duty it is to keep the walks, shrubberies, &c., within that vast enclosure denominated as the park. Previous to his engagement there, he for many years acted in the capacity of head gardener in various situations both in England and Scotland. Whilst acting as such in Ormiston Hall, Midlothian, he raised amongst other varieties a pure white seedling zonal Pelargonium, which has been distributed as Ormiston seedling. During his later years he derived much pleasure from the cultivating and selecting of seedling and also of meritorious varieties of Potatos. As a neighbour he will be sadly missed, for his kind and obliging manner and his pawky conversation made him a general favourite. The encomiums of those who served under him verges almost on pathos whilst detailing his kindness, and while they are asserting their unlikelihood of serving under such another. Deceased was in his sixty-seventh year, and leaves a widow for whom much sympathy is felt.—*D. M.*

Devon and Exeter Gardeners' Association.—The opening meeting of the session was held on the 31st ult. in Exeter Guildhall, and was presided over by Mr. Andrew Hope (hon. secretary), the lecturer being Mr. Allen H. Ware (Ph. Ch.), lecturer at the Royal Albert Memorial College (technical department). His subject was "Studies in Plant Life." There was a large attendance of members and students in botany from the Memorial College, the Middle School, and St. John's Hospital School, many lady teachers being present. Mr. Ware, who illustrated his lecture by pictures thrown on a screen by limelight, commenced by showing the structure of leaves, and the part they took in building up the plant. Many interesting examples were exhibited to show the marvellous manner in which plants adapt themselves to their surroundings, protect themselves from their foes, and help themselves from the larder of the atmosphere which surrounds them, occasionally borrowing from their neighbours. A typical collection of plants, insectivorous and other kinds, were lent by Mr. Veitch for the occasion, and were examined with much interest by the students. The lecture throughout was deeply interesting and instructive, and was listened to with marked attention. The chairman, in moving a vote of thanks to Mr. Ware, hoped that one effect of the lecture would be the taking of greater interest in botanical study by young gardeners, to whom, after the acquirement of some of the technical terms, it would prove an absorbing and delightful and useful study. It served to show how thin was the dividing line between the animal and the vegetable kingdom, and that nothing had been made in vain in the plan of creation.

Chrysanthemum Show at Dulwich.—Exhibitors who have previously shown Chrysanthemums at Dulwich show will be timing their blooms for Tuesday, the 13th, on which and the following date the show is held this year. The hon. secretary is Mr. C. A. Young, 319, Crystal Palace Road, East Dulwich, S.E.

Mr. John Alexander Laing, of Messrs. John Laing & Sons, Forest Hill, S.E., has been elected to serve as a Councillor for the new borough of Lewisham, one of the districts into which London has just been divided. He represents the Forest Hill Ward, and on the polling day stood almost as high as any of the Councillors in the number of votes.

The Hurst & Son Cricket Club.—A general meeting of the above club was held on Tuesday, October 30th, Mr. Edward Sherwood, one of the vice-presidents, being in the chair; Mr. William Sherwood, also a vice-president, and a good number of members being present. The hon. secretary read his annual report, and the hon. treasurer, Mr. Wm. Cox, made his financial statement, which showed a very satisfactory state of affairs. The batting, bowling, and a "hat trick" prize were won respectively by Mr. Squire, Mr. Sampson, the captain, and Mr. Portch. All the officers were re-elected, viz., Mr. Sampson, captain; Mr. Portch, vice-captain; committee, Messrs. Arthur Cox, Delacourt, Duggleby, Jerry, Locke, Main, Squire, Thake; and hon. sec., Wm. Riden. The meeting unanimously voted from the balance in hand the sum of one guinea to the Royal Gardeners' Orphan Fund.

Croydon and District Horticultural Mutual Improvement Society.—A special meeting of the society took place in the Lecture Hall of the Croydon Public Library, on Tuesday, October 23rd, when there was an exhibition of the books on botany, horticulture, agriculture and kindred subjects, in the Central Library. Mr. E. Kromer, of the Roraima Nursery, Bandon Hill, occupied the chair, and Mr. W. J. Simpson, Falkland Park Gardens, the vice chair. Mr. Aldenham Foss, chairman of the Croydon Public Libraries Committee, heartily welcomed the members of the society and invited them to inspect the fine collection of books arranged on the table, and expressed the wishes of the Libraries Committee that the books provided by them should be read to the fullest extent. The chairman next introduced Mr. John Weathers, of Isleworth, who gave an excellent exposition of his views on "Horticultural and Botanical Books," pointing out their principal contents and those specially useful to the horticulturist and botanical student. Mr. Weathers, having complimented the borough on the fine collection of books in the Public Library, then divided his subject, treating on the various branches of horticulture, &c., soils, manures, hardy perennials, Ferns, exotic and hardy, Bamboos, trees, shrubs, Palms, Orchids, fruit, vegetables, landscape gardening, plant diseases, insect friends and foes, &c. Mr. Weathers' extensive knowledge of the horticultural and botanical literature of the present day enabled him to give to the members that advice frequently required, and on the proposition of the chairman a vote of thanks was given Mr. Weathers. The secretary, Mr. Gregory, called the attention of members to the excellent and valuable catalogue of books compiled by Mr. Jast, chief librarian, and his assistant Mr. Savage, and published by the society, which is being distributed to the members. Mr. Gregory pointed out that probably this is the first occasion a Horticultural Mutual Improvement Society had published a catalogue of books on special subjects in a public library. Mr. Jast kindly gave some very useful information as to the lending and reference libraries under his charge, and a hearty vote of thanks was accorded him for his valuable services to the society, also to Mr. Alderman Foss and the Libraries Committee for the use of the hall and the warm welcome given to the society.

PANSIES FROM GARGUNNOCK.

Even at this late period of the year some very fine blooms of fancy Pansies have reached us from Mr. Charles Kay, Mill Farm, Gargunnock, N.B. Some of the blooms of James Dewar were somewhat over 3 in. in diameter. The well defined velvety-black blotches were of huge size, leaving only a narrow lacing of creamy-yellow; and when the red band between the yellow and the black is at its best, the

flower is lovely, and as near perfection as one might wish, so far as shape and colour are concerned. The two upper petals were of a rich, dark, plum-purple, fading slightly at the margins. Miss Dodds was quite a different flower, the dark velvety blotches being smaller, and the lacing consisting of a broad band of rich purple-red or crimson. The two upper petals were similar in colour to the lacing, but a shade or two darker. Again in Miss Taylor the blotches were moderate in size compared with the diameter of the flower, and were bordered with dark crimson. The top petals were of a rich, dark maroon. All the three were raised by Mr. Kay, who is an ardent admirer of this class of plants, and indefatigable in the attention he has given them for some years past. They were brought before the Scottish Pansy and Viola Association, at their first conference last summer, and each was awarded a First-class Certificate. All three were very fine, although we liked James Dewar and Miss Taylor best. No doubt they would have been even finer, and probably larger if we had seen them in their proper season. In any case they were marvellous for the 30th October, the day they reached us.

MARGUERITE CARNATIONS.

Many gardeners are often called upon to provide a quantity of cut flowers for dinner tables during September and October for shooting parties, a time when most of our choice outside flowers are over. With a bed or so of Marguerite Carnations to go to and cut these will then be found indispensable for the above occasions. If sown in February and March in a pan and placed in a gentle heat the seedlings will soon appear. When these are large enough to handle they should be pricked out into boxes. Plant them out in May into beds, allowing 1 ft. each way. In the autumn there should be a grand display of flowers of various colours from plants so treated. I may state that we have been continually cutting Carnations since August to this date, November 5th. They can also be taken up from the open ground and potted into 48's and 32's at the end of September, and placed in the greenhouse after getting established; there they will continue to bloom during the winter and spring months. —*J. Botley, Blythewood Gardens, Maidenhead.*

CARNATION LEOPOLD DE ROTHSCHILD.

This exquisite Carnation is hard to beat for winter flowering. The large and showy flowers make a fine display of pink through the winter months. Far too many of our finest Carnations are lacking in vigour, but here we have one which, if lacking in refinement, is wanting in neither freedom nor vigour, and would be valued by any gardener who wants a thoroughly reliable Carnation. Cuttings put in now in sandy soil will strike readily if taken care of. Pot them up when well rooted, and keep them cool. In the spring place them in a cold frame, admit air on all favourable occasions, and as the weather gets warmer remove the lights altogether. The final shift must be into 6-in. pots, using a compost of light turfy loam, with plenty of grit, and a dusting of bone meal. Early in September bring them indoors, and they will then supply plenty of bloom through the winter months. After they have done blooming top-dress them with loam and some approved fertiliser, and grow them on in a cool house. When conditions allow place them on a bed of ashes out of doors, and they will give a fine display of bloom through the summer and autumn. So this splendid Carnation can be had in bloom nearly all the year round.—*H. Willis, 42, Alexandra Road, Englefield Green, Egham.*

STREPTOCARPUS.

These pretty and very floriferous greenhouse plants are easily raised from seed which, if sown this month, will produce flowering plants next summer. The seed, which is almost as fine as that of Begonia, must be sown on the surface of the pan in a moderate heat, and not covered with any soil; but a glass placed over it will prevent too rapid drying of the soil. Many failures are due to the seeds being washed off the soil, and kept too wet by the use of too coarse a rose on the watering can. As soon as large enough prick off into small pots in an ordinary compost, but containing plenty of leaf soil. When rooted through pot on into the flowering pot, 48's being a useful size, and place in a cool house. Use water sparingly for a few days as they are very liable to damp if once got too wet. When established plenty of light and air is all that is necessary. They succeed admirably and look well when planted out round the edges of indoor rockeries and conservatory borders. Veitch's hybrid and Laing's multiflora strains can be recommended for giving large flowers of all colours; but Streptocarpus achimeniflorus with panicles of light mauve flowers, with yellow or white throat, S. a. giganteus, still larger, are most beautiful, while S. a. albus is the finest white.—*K.*

CLERODENDRONS.

Amongst stove climbing plants, but few are more showy and beautiful than Clerodendron Thompsonae and C. splendens. Both are natives of W. Tropical Africa, the former being introduced from Old Calabar in 1861, and the latter from Sierra Leone in 1840. The flowers are produced in large panicles on the extremities of the young growths. C. Thompsonae is perhaps the best species in the genus, the white calyces and scarlet corollas of the flowers presenting a very effective contrast. C. splendens has a bright scarlet inflorescence. A compost of equal parts loam and peat with the addition of a little leaf mould and sand suits them admirably. They succeed best if planted out in a border, the growths being trained to wires under the roof. C. Thompsonae, however, makes a good exhibition plant if grown in a large pot and trained to a balloon trellis. Timely attention should be given to keeping the growth thinly and evenly disposed, as not only will they be stronger and better developed but insect pests are more readily kept in check. Mealy bug is sometimes troublesome, but frequent syringing, with an occasional application of an insecticide, will act as a preventive. After flowering and through the winter the plants should be kept rather drier, and in a cooler temperature if possible. Early in the spring they may be pruned back and started in a brisk heat. Propagation may be effected by cuttings of ripened wood in sandy soil under a bell glass.—*E. C.*

RAISING DRACAENAS FROM SEED.

One of the greatest pleasures a gardener has is the raising of seedlings by cross fertilisation. To raise Dracaenas by the above means is well worth any gardener's attention. In the first place if narrow-leaved ones are desired select a good plant of that class, and fertilise the flowers as they open with pollen from a variety of the same class, but with a distinct habit of growth. By doing so one has a chance to strike a direct cross, and perhaps be an advancement on both parent plants. Broad-leaved kinds may be treated in the same manner. The seeds as they ripen should be gathered and carefully labelled for future sowing. Early in the year the seed should be sown in shallow pans amongst loamy soil lightened with silver sand. These should be placed in a warm pit, and in a few months young seedlings will appear. As soon as ready get them into thumb pots, adding a little peat at this potting. A slight fumigating will keep thrips in check, as in their young stage they prove a dainty morsel to these pests. As growth proceeds repot into larger pots and keep close to the glass, allowing plenty of light, but not too much sun. The raiser must not expect all narrow-leaved ones by that cross or broad ones from the other, but may get a mixture. Many although not fit for distributing will prove suitable for decorative purposes.—*W. Angus, The Gardens, Penicuik.*

GROWING ZONAL PELARGONIUM IN WINTER AND SPRING.

In April get the plants you intend to grow, pot them into 60's, using good potting soil, a little sand and leaf mould. Grow them on till the end of May, then pot in 48's in good loam and a little leaf mould Keep the shoots pinched back, and only water when dry; keep them in a frame with the lights off by day. In June place them in the open in the full sun to get the wood well ripened. About the middle of July pot into 32's in two parts loam, one part leaf mould, and crushed oyster shell. Keep all shoots and flowering buds pinched off, and stand the plants about 4 in. apart. Water once a week with weak manure water; continue this until the first week in September, when they must be taken into the house where they are in flower, letting the flowering buds grow. The house should be from 56° to 60°. Always keep a little top air on to carry off dampness, and by the end of October you should have a nice lot of bloom. Give them manure water once a week, and occasionally a little soot water. You should then have a good supply of bloom all the winter and early spring. In February cut down half the plants for cuttings, shake the old plants out, pot again in 48's, and they will flower again in late spring.—*H. W. Lewis, The Village, Hayes, Kent, November 5th, 1900.*

Kitchen Garden Calendar.

Winter is now near upon us, and as there is no possible means of knowing whether it will be severe or not every preparation should be made in case there is need.

Asparagus beds intended for forcing should as soon as the old growths have been cleared away, be covered with litter so as to exclude frost, that there may be no delay in lifting the roots should the weather, later on, be severe. This is one of the first plants to be lifted for forcing, preparations should therefore be made for commencing. The heat necessary to produce fine heads need not be great, for it is far better that growth be made in a lower temperature than be spindly, which is usually the case when undue haste in preparing the beds is resorted to. Now that there are plenty of leaves, these should be collected and mixed with stable litter for making hot beds. After being turned over a couple of times the beds may be made up and planted, taking care that the heat is not too violent or the roots will suffer, and instead of strong growths pushing up the whole will be burnt. Air should be admitted freely on all favourable occasions so long as a temperature of from 60° to 65° can be maintained. This will be sufficient, and during mild weather there will be no difficulty in this even with a circulation of air. Endive may still be blanched in the open, so that at present there is no need for lifting this and placing it in a dark room, such as the Mushroom house.

French Beans will now need more attention in the way of watering, as the soil does not dry so freely. A dry atmosphere is always best when the plants are in bloom as the flowers set more freely. It will, however, be necessary to exercise care, as French Beans are very liable to the attack of red spider. Where room can be provided another batch should now be sown so as to give a succession.

Potato sets for early forcing should now be stood on their ends to admit of their breaking freely, and material should be collected for making hot beds to plant them in.

Lettuce that was planted out in beds with a view of being protected with temporary frames and mats ought now to have some boards placed round the outsides to afford protection. If slating laths be laid on these they will prevent the mats or canvas from coming in contact with the plants. Endive may also be treated in like manner but so long as the weather is mild there is no need for covering, though it is well to have everything in readiness in case of a sudden change in the weather. All tender plants such as Cauliflower ought to be got into cold frames without delay, even if the lights are kept off till actually required.

Earth up all but the latest batches of Celery, and have plenty of material in readiness in case severe weather should suddenly set in. Leeks too should be earthed up for blanching, as the stems are far more delicate when so treated. It cannot be too deeply impressed on the minds of those who have to keep up large supplies of Cauliflower the necessity for ample protection. Any that are ready for use should be lifted and taken to a cold shed, while those just turning in should have the leaves turned over them and made secure. In case there is prospect of severe frost as many as possible should be lifted and laid in thickly together where they can be afforded protection if it is found necessary. In wet weather look over all store rooms and remove any roots that show signs of decay, as such would soon cause the others to go wrong.—*F. W. J.*

HINTS FOR AMATEURS.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Antirrhinums.—*George*: A border, or bed, or planting of any sort, can be made now with very fair chances of success, if the soil is light and the plants dwarf and well rooted. A reserve of cutting should be kept in a cold frame.

Early sown Peas.—*Harris*: Where conveniences exist the earliest spring supply is sown in pots during the present month, or January or February. The early outdoor sowings are put in about February or March, when the winds have sufficiently dried the soil.

Pruning the Clematis.—*R. J.*: As a rule the head growths are cut back in the springtime of each year. It would not be advisable to cut your plants hard back, even although they are young, for though it might tend to produce stronger growths, it is sometimes dangerous to so treat the Clematis.

Propagation of Ficus elastica.—*R. L.*: The best means of securing rooted plants from each of the lateral shoots would be to cut a slit or tongue in the stems at a joint, and to keep this open by a small wedge of wood. Around this tongue you would then wrap damp moss moderately firm. This moss must be kept moist. When the mossing is done the plant should be placed in a house with a temperature of 60° to 65°, so that more active growth may be stimulated. In a month's time roots should begin to be emitted, when the branches may be severed completely, and potted into small pots. Use light soil at first, and do not loosen much of the moss from the rooted tongue. Keep the young plants growing in a warm house till they become established; after which cool treatment will suffice.

Strawberry Plantations—*A. K.*: We have repeatedly advised early planting of Strawberries. Such late planting does not give the plants a chance of doing what they ought, and could do. To get fuller crops, plant three good plants in triangular fashion in well worked soil as soon as you can.

Position for Apricots.—*A. R. L.*: They must have shelter wherever they are planted, so that a south or south-west wall ought to be chosen. They succeed when planted facing south, especially when they have the close shelter of a wall on their east side, and the screen of a wood belt on the west, though at a distance

Tuberoses in Pots.—*New Hand.*—As a rule little or no difficulty is ever found in growing Tuberoses. For an early batch, pot them into a size only just large enough to receive the tubers, using well-drained pots and a light compost. These may then be plunged among fermenting leaves which are kept moist, the temperature of the house being maintained as high as from 65° to 70°, with plenty of moisture. When growth commences from the tubers, water must be consistently supplied, and the plants then forming, must be kept clean. They are subject to infestation by blackfly, but slight fumigations can overcome this. Feeding will be necessary after a while, and so may staking be.

Box-edging.—*A.*: Yes, the work of relaying may be undertaken now. A good deal of this work is also left over till spring. Do not cut the Ivy till April.

Paeonies and Dielytras in pots.—*T. S.*: Both of these plants can be grown to perfection for gentle forcing. They should be potted up now if the crowns and roots are ready, in fact, the roots should be at once got and placed in 9-in. or 10-in. pots, and kept in a greenhouse or other unheated glass structure till about seven or eight weeks before the time they are wanted to flower. If placed in a temperature of 55° to 60° they will gradually push up, and fairly strong blooms can be had early in the year. The single Moutan varieties are most generally employed for pot culture. Many other hardy plants when potted up and slightly forced can be had in bloom weeks ahead of their time, so that now there need be no dearth of flowers at any season.

SOME N.C.S. EXHIBITORS.

The annual competitions for the honours and other awards offered to the most successful growers of the autumn queen of flowers are again exercising men's minds throughout the length and breadth of the land; and for those engaged in this wholesome rivalry there will be little rest or peace until the season has played itself out. Many of the old hands are again coming forward as eagerly as ever; while, no doubt, we shall have a few relatively fresh competitors on the show boards, either for the first time, or, what is more likely, staking their reputation in a larger class, a bolder flight than ever they have done before. This is as it ought to be and we should in every way encourage the energy that aspires to higher things. At the same time we have no doubt the older hands will make every effort not to be displaced on the winning cards. On p. 169 we give portraits of some of the well tried hands as well as younger ones striving for some of the laurels.

Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Fetcham, near Leatherhead, Surrey, may be placed amongst the older hands, for he has been competing for a number of years, and has come pretty prominently to the front within the last few years. Without reckoning up all of his successes, even as recorded in The Gardening World, we may state that he was making his presence felt at the November competitions of the N.C.S. in 1893, when he secured the Silver Cup, offered by Major A. Collis Browne, and a money prize as well for twenty-four Japanese blooms. The contest on that occasion was pretty keen when he took the lead amongst fifteen competitors. He, however, made a bolder stroke when he entered the competition for the Holmes Memorial Challenge Cup in the class for thirty-six incurved blooms, distinct. It taxes a gardener's resources to get good blooms of as many varieties, particularly in a section that requires a great deal of care to bring to perfection. This was in 1898, when he took the lead amongst six entries. In the open class for twenty-four incurved blooms, the same year (the prizes being offered by the chairman and directors of the Royal Aquarium), he outdistanced all his rivals. Some of his finer blooms were Duchess of Fife, Lady Isabel, Ma Perfection, Mrs. R. C. Kingston, &c.; thus showing that his varieties were up to date. In 1899, that is, last year, he repeated his success in the class for thirty-six incurved blooms, and carried off the Holmes Memorial Medal, in a competition so close that he won merely for the finer arrangement of his blooms than his closest rival. He has again boldly gone in for the thirty-six and twenty-four incurved varieties, winning the former. It is no easy matter to table sixty winning blooms in this section of Chrysanthemums.

Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, has proved himself a master-hand in the growing of both Japanese and incurved Chrysanthemums. We have recorded him amongst the winning stands of the leading classes for many years past, but first noted his prowess as a champion grower of incurved varieties many years ago. Year after year he persevered with his favourites, coming forward undaunted at the autumn competitions, with greater or less success. In November, 1894, he secured the Holmes Memorial Medal for thirty-six incurved blooms. His greatest success was in 1896, the year of the N.C.S. Jubilee Celebration, when two distinct shows were held to commemorate the fiftieth year of the society. On the occasion of the first show a Gold Medal and £15 were offered as the first prize for sixty Japanese varieties, and similar awards for sixty incurved Chrysanthemums. The lead was taken in fine style in both these classes by Mr. Mease. He thus at a stroke made good his claim to the title of champion grower of both of the most popular sections of the Chrysanthemum. There were thirteen competitors for the honours in the Japanese class, showing how many had hopes of securing the coveted awards. He was equally successful in the following year, when he again entered the competition for the Holmes Memorial Challenge Cups, both of which he secured for the best thirty-six incurved blooms and forty-eight Japanese blooms respectively, each flower representing a distinct variety. He also had the premier Japanese bloom in the show in Madame Carnot. These autumn competitions by Mr. Mease were not confined to the shows of the National Chrysanthemum Society, for he went much further afield, with considerable success. He is also much appreciated as a judge at Chrysanthemum shows.

Mr. J. W. McHattie, gardener to W. H. Stone, Esq., Lea Park, Milford, Surrey, has proved himself an all round cultivator of garden produce at many a well-contested competition. He is a native of Morayshire, and commenced his gardening career at Moy Hall, Inverness-shire, the seat of Mackintosh of Mackintosh. He was at several other places, and gradually found his way southwards, for about 1884 we find him at Newbattle Abbey, near Dalkeith, the seat of the Marquis of Lothian. In 1888, while still comparatively a young man, he created a considerable amount of stir amongst his fellow gardeners by his successes. He secured the leading prizes for his Grapes at the Edinburgh and Glasgow shows of that autumn, in the latter case taking the Veitch Memorial Medal. He also won the Scottish Challenge Cup for Chrysanthemums in November. In 1889 he carried off the Edinburgh Chrysanthemum Centenary Cup given by the City Corporation on the occasion of the celebration of the introduction of the Chrysanthemum, at the show held under the auspices of the Scottish Horticultural Association. Some few years after this we find him at Strathfieldsaye, the seat of the Duke of Wellington, from whence he sent produce to Edinburgh, repeating some of his previous successes. He has also been a successful exhibitor at several of the shows held by the N.C.S. at the Royal Aquarium. Last November he took the lead for twenty-four Japanese varieties of Chrysanthemum; and had several other first prizes in important classes. His most important success was the winning of the Large Gold Medal of the society and £20 offered by Mr. H. J. Jones for twelve vases of Chrysanthemums of five blooms each. The sixty blooms with their own foliage were magnificent.

Mr. Robert and Mr. Walter Owen are sons of the late Mr. Robert Owen, of The Floral Nursery, Castle Hill, Maidenhead, and managers to the executors of the same. For many years prior to his death, the late Mr. Owen had been noted as a successful raiser of Chrysanthemums. He was, in fact, one of the earliest in the field in raising new varieties from seeds at a time when English-raised seedling Chrysanthemums were a great novelty. The chief difficulty lies in the fact that C. sinense flowers so late in Britain that great difficulty is experienced in preventing the fruiting heads from damping during the dullest, and usually the wettest, month of the year. Nevertheless, Mr. Owen succeeded beyond all expectation; and although he was best remembered by the variety named after himself, he was also the raiser of such fine varieties as Viscountess Hambleden, G. C. Schwabe, Thos. Wilkins, Graphic, Rose Wynne, Wilfred Marshall, Lady Esther Smith, and many other Japanese varieties. Baron Hirsch, Owen's Crimson, Bonnie Dundee, George Haigh, Robert Petfield, John Fulford, Lord Rosebery, William Tunnington, and Mrs. J. Gardiner amongst the incurved section also attested his skill. He also raised many fine Anemone varieties of different types. His sons, Robert and Walter, are now called upon to carry on the good work so excellently performed by their father, and they give promise of following closely in his footsteps. On this occasion they have a large exhibit, nearly all seedlings of their own raising, and mostly for 1900. We hope to be able to record some successes in this exhibit as well as others in the near future.

William Seward, Esq., The Firs, Hanwell, Middlesex, is famed as a raiser, rather than an exhibitor, of Chrysanthemums in the strict sense of the term. We well remember the sensation caused by the appearance of William Seward and John Shrimpton, when they first made their debut at the committee table of the N.C.S., and were sent away with the First-class Certificate card upon them. The first named is a rich dark or maroon-crimson, and still the finest of its colour, for it has never been displaced. John Shrimpton is a lovely crimson-scarlet reflexed Japanese variety, which was grown by hundreds, probably by thousands for many

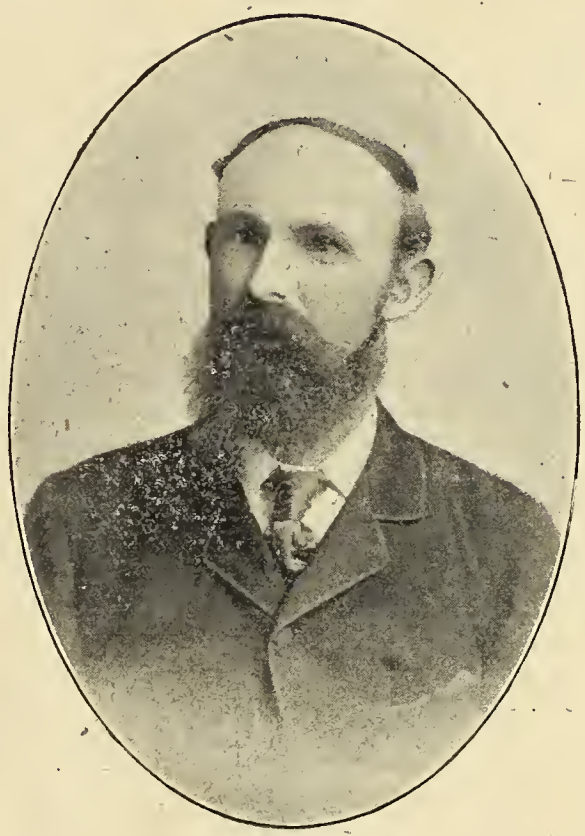
(Continued on p. 170.)

Mr W. Higgs.

Mr W. Mease.

Mr W. Howe, F.R.H.S.

Mr. John Green, F.R.H.S.



Mr. J W. McHattie.

Mr Walter Owen.

Mr. William Seward.

Mr. Robert Owen, F.N.C.S., F.R.H.S.

years after its appearance. The blooms are small but the habit and colour are splendid. This was away back in 1892 and 1893. Princess Victoria is a late white, now extensively cultivated by market growers. The bright crimson Charles Shrimpton is also one of the earliest. Mr. Seward was very successful in the year of the N.C.S. Jubilee, for be had First-class Certificates for Dorothy Seward, terra-cotta red; Mrs. John Shrimpton, golden buff shaded red; Mrs. Herman Kloss, dark crimson, flushed with chestnut-red; and John Seward, rich canary-yellow. It will be observed that all of the above are Japanese varieties. Others belonging to the same class and appearing in quick succession were Alice Seward, rosy-purple; John Neville, George Seward, crimson; Matthew Hodgson, Joseph Brooks, Mrs. W. Seward, pale blush and yellow; H. J. Jones, light, clear carmine; and Elthorne Beauty. Elsie Neville, a single crimson variety, with a yellow disc, was honoured with a First-class Certificate. The incurved section is represented by Hanwell Glory, a bronzy bloom.

The above, tbough only a few of tbem, is a very good record for an amateur, wbo made his debut before tbe public less than a decade ago. All of them were raised from seed saved from plants on his own premises. This adds considerably to tbe reputation of the raiser, far more so than if he had procured the seed from a seedsman and simply raised the plants. His successes once more amply demonstrate the fact that first-class varieties can be raised from seed ripened and harvested in this country with the aid that the skilful cultivator can bring to bear upon what, at first slght, would appear to be a difficult if not insurmountable task. We are glad to note that Mr. Seward has not yet given up the task, which to him must be a labour of love. New varieties of this year, and honoured the other week, are Mrs. Emma Fox, Mr. S. Fryett, and Mrs. J. C. Neville, as our last week's issue amply testifies.

Mr. John Green, F.R.H.S., of Hobbies, Limited, Norfolk Nurseries, Dereham, may be said to uphold the decorative side of horticulture in contradistinction to the rearing and exhibiting of specimen blooms of Chrysanthemums. Within the past few years he has made his appearance at several of the leading London shows, staging in a tasteful manner a great variety of subjects. At the last November show at the Royal Aquarium he had a large collection of cut blooms, set off with small decorative plants, of a fresh and attractive character. He also bad pot Chrysanthemums and tall ornamental vases filled with cut flowers of Chrysanthemums cut with long stems. The great exbibit of Cactus Dahlias made by the firm recently will still be remembered by all who saw it, and by others at a distance. On this occasion another fine group of flowering and foliage plants has been set up by the Norfolk firm in their best style.

Mr. William Howe, gardener to H. Tate, Esq., Park Hill, Streatham Common, is not so agressive an exhibitor as some of the others of whom we give portraits; but he has regularly been making his appearance at the November exhibition of the N.C.S., amongst the winning exhibitors. He grows and exhibits Chrysanthemums, but goes in for other garden produce as well, thus indicating the fact that be gives attention to gardening in general. At the November shows for the last three years he has been a regular winner in the open class for a circular group of Chrysanthemums arranged for effect. The public being able to perambulate round all sides of these groups, it behoves the exhibitors to build them up so as to look equally well from all points of view. The space at command being moderate, the exhibitors go for height so that the groups take the form of a high cone usually surmounted by a well grown Palm or Bamboo. In 1897 Mr. Howe's group was not particularly high, but this was remedied in future years, his groups being notable for their tasteful arrangement and judicious blending of colours. To avoid solidity, the exhibitors are allowed to use fine foliage plants, so that these groups are now far removed from the solid mass of flowers, without foliage, which used to be the order of the day. He took the leading prizes for black Grapes in 1897 and 1898. We have seen Mr. Howe's exhibits at the Crystal Palace, &c, at other periods of the year, so that he has been doing good work. He is a member of the Floral Committee of the Royal Horticultural Society, where he attends regularly, and in other ways helps to advance the cause of horticulture.

CHRYSANTHEMUM NOTES.

BATTERSEA PARK.

The method of housing and arranging the Chrysanthemums now on exhibition in the hip-span house at Battersea Park, furnishes an object lesson to all who go there. Mr. F. Coppin, the superintendent, besides being able to grow splendid plants, has also tbe ability to stage them to the greatest advantage. The staging part is the finishing stroke as it were; indeed, the art of staging has over and over again been proved to carry greater importance than the fact of being a skilled cultivator. The large flowered plants are as usual staged on the ground, forming undulating mounds on the visitors' right hand as they pass through the house from west to east. At the back of this large bank such decorative varieties as Margot, Lady Selborne, L'Isle des Plaisirs, Snowdrop, Précocité, Source d'Or, &c. (some of whicb must be 8 ft. in length), are taken up and tied to the wires parallel witb the slope of the glass, and so form a beautiful canopy above the back lines of the specimen plants. The same method of covering all available space bas been successfully adopted at either end of the house, where these very long-stemmed plants of the varieties Margot (pink), &c., eacb carrying enough of flowers to hide tbeir stems, have been arranged over all tbe surface, and present in each case a warm and lovely sheet of pink flowers. On a narrow stage on the left of the path the smaller flowered pompon and other decorative sorts are tied up in the same way that those at the back of the Japs. are treated. These include La Vouge (golden yellow), Soeur Melaine (white), Sunset (reddish-purple), besides the varieties aforementioned. The Japanese varieties carrying two and three blooms per plant, are now past their freshest, but have been good on the whole.

G. H. Runciman, golden-yellow, has been exceptionally fine; then M. Panckoucke, also yellow, not depreciated in popular favour by Soleil d'Octobre, Pres. Borel, and Pres. Bevan, the incurved yellow, are others also admirable. Australie, rose-amaranth; Lady Byron, white; Master H. Tucker, crimson; W. Seward, another of the very finest crimson sorts; and Mrs. S. C. Probin, with its muslin-white centre and pale heliotrope-mauve outer petals, were all of them exceptionally large, well finished, and in every way good.

The old incurved Lord Alcester, which to our mind is unsurpassed as a soft yellow variety, has been up to a very high standard. Viviand Morel, Chas. Davis, N.C.S. Jubilee, Mrs. H. Weeks, Pres, Nonin, buff-yellow; Rosinante, peach-lilac; and the green Madame Edmund Rogers are others that show up quite distinctly. Queen of England, Baron Hirsch, Mr. Bunn, and Jeanne d'Arc are the best incurved sorts. Such hairy varieties as Mrs. Alpheus Hardy, Esau, and Hairy Wonder, especially the latter, are well grown, and are placed about throughout the collection. Anemone flowered specimens are another feature of this display, and these are here shown better than they are usually to be seen.

ROYAL EXOTIC NURSERY, CHELSEA.

The Chrysanthemum collection of Messrs. James Veitch & Sons, Ltd., in the Royal Exotic Nursery, Chelsea, is now at its most attractive state. In two large houses there are staged off and on about 1,400 plants, the great majority of which are Japanese varieties carrying specimen blooms. Mr. H. Weeks, who has the Chrysanthemum under his charge, may pat bimself on the back over the success of this season's work. He staged a grand group at the Drill Hall meeting of October 23rd, and had intentions of doing so at the succeeding meeting. The comparatively dull summer is rather beneficial than otherwise to plants grown in such hot quarters as at King's Road.

Amongst the Japanese varieties, which have developed most satisfactorily, we were more than ordinarily pleased with Mutual Friend, white; Reginald Godfrey, a bronzy orange-red; Miss Alice Byron, with smoother petals than Mutual Friend; Sir H. Kitchener, deep bronzy-gold; Miss Maud Douglas, of exceedingly fine form and grand proportions, a splendid pink variety; Lionel Humphrey, new, but of moderate merit; T. Carrington and Miss Ada Barwood, the latter an incurving creamy-white, and the former a variety having strongly built flowers with silver-gray reverse and bright mauve-purple above.

Amongst the newer, and at present most popular varieties, the above are all conspicuously well done at Chelsea. To these may be added the beautiful silvery-pink Mrs. White Popham, which always carries large and interesting blooms. Oceana, as displayed here, is unsurpassed among golden yellows; Soleil d'Octobre and Phoebus are also finely represented. Lady Philip takes after Mrs. White Popham in general appearance, and between the two there is not much to draw. While referring to the yellow-flowered Japs. we omitted to notice Miss Lucy Chiesman, one of the best of the Ryecroft set, wbich presents a combination of primrose and canary-yellow—a most beautiful variety and shown here to perfection. Mrs. W. Mease, the old primrose-coloured favourite, is not quite so strong; nor is R. Hooper Pearson. Though the latter has all the depth and richness of colour that one can ever expect or desire, it lacks substance. Gen. Simons is a promising introduction, baving a bright gold reverse and russet colour above. Robt. Powell, a brigbt shade of bronze, was also exceedingly attractive. Mrs. Dr. Ward, ruddy-bronze; Lord Ludlow, a lovely yellow, tinged witb cinnamon; Hon. F. W. D. Smith, of recent date; and Nellie Pockett, almost white, and having narrow petals, might be accepted as a summary of the elite. Special attention was attracted also by that best of crimson-reds, viz., Mr. William Seward, than which there are nore that excel it, a fact that may find us a pardon for discussing it apart.

But while the Japanese Chrysanthemums receive the homage they deserve, we know that there is a large number of growers who have a warm regard for the decorative sorts. This section, like tbe same section among Roses, has other descriptive titles, being variously called market or bush varieties, and includes the bright sorts with free flowering qualities that are grown for cut flower purposes as opposed to mere exhibition display. The following are grown at King's Road:—Mrs. Hawkins, deep primrose, very graceful; Mrs. Cullingford, white; Dr. Sharp, bright purple amaranth; O. J. Quintus, a lovely pink; Mdme. F. Cariel, a curious incurving, small flowered sort, with attractive old-gold and pale chestnut coloured flowers, with long-lasting properties. Then there are Mabel Douglas, glowing mustard-yellow; Chas. Davis, which does well as a bush, as does Viviand Morel; Source d'Or, amber and gold; and the Crimson Source d'Or, which is one of the very best. The latter and L'Isle des Plaisirs have many points in common. The Lady is white; Madame Marie Masse is known and appreciated everywhere; Pink and Yellow Lady Selborne, Pink Margot, Emperor of China, peach-pink; M. Gustave Grunerwald, white, with finely radiating petals tipped with mauve; and the deep golden-yellow variety Nellie Brown complete the present list.

Messrs. J. LAING & SONS, FOREST HILL.

For some years past Messrs. John Laing & Sons, Forest Hill, London, S.E., had given up the cultivation of Chrysanthemums, although they formerly grew them well and were very successful exhibitors. We suppose they find the autumn queen indispensable in their business where much cut flowers for decorative purposes are required. In any case they have again got together a good collection of useful varieties to which tbey intend adding largely for another year.

Amongst single varieties very noticeable is Ladysmith, a new and bushy variety about 2½ ft. high, and laden with bright rose flowers, carried on long stalks. Mary Anderson and its yellow sport, Annie Holden, are well known. Other singles are Miss Crissey, bright crimson; Dora, clear yellow; and Marie Stuart, pale pink.

No collection of decorative Chrysantbemums would be complete without Source d'Or and its golden-yellow sport, Chas. Davis, Viviand Morel, Phoebus and La Petite Amie, the four latter being large flowered sorts, but also well adapted for cut flower and conservatory work as here shown by the profusion of flowers and tbeir handsome appearance when grown in the busb state. Snowdrop is one of the prettiest of pompons, its double, pure white flowers being like Daisies. Some incurved varieties are grown, but tbey are treated in the ordinary way to produce big exbibition blooms. Very good are

Mrs. R. C. Kingston, Bonnie Dundee, Baron Hirsch and C. H. Curtis.

The bulk of the collection, however, consists of plants with large blooms, which will be put to useful purpose. Amongst the biggest blooms we noted Charles Davis, Viviand Morel, Lady Hanham, Le Grand Dragon, Marie Hoste, Gloire du Rocher, Harry Weeks, the curly-petalled Nellie Pockett, Lady Byron and Mrs. Coombes. The giant of the collection is Graphic. A pure rose sport appears to be developing on a stem of one plant, but it was not far enough advanced to be certain. Equally fine in their way were the pure white Mdme. Carnot and Lady Byron; also Hairy Wonder and Phoebus, which attract considerable attention from the visitors. M. Chenon de Leché is grown with a single stem, carrying a large bloom, and is notable for its dwarf habit. Madéline Davis is a silvery-pink Japanese variety of considerable merit. Mrs. White Popham is an incurved pink Japanese variety that seems bound to keep up its original reputation, as it continues to respond to the art of the cultivator. Wm. Bowles is a bold crimson-red flower with a silvery reverse to the florets. A very old variety as Chrysanthemums go is Sunflower, but it continues to be a great favourite with many cultivators, although its blooms are usually moderate in size compared with many of the broader petalled and coarser modern forms.

A great many of the earlier and more advanced of the plants have already done good service at several of the shows that are already things of the past. For a wealth of flowers in the autumn nothing can take the place of the Chrysanthemum.

CHRYSANTHEMUM SHOWS.

EXMOUTH.—*October 31st.*

THE fifteenth annual exhibition of Chrysanthemums, fruit, &c., was held on Wednesday, the 31st of October, and though the entries were a little below the average, the quality of the exhibits made up for this. A group of 'Mums in pots arranged in a circle 9 feet in circumference, brought only one exhibitor in Major-General Rocke. This group was very meritorious, in fact the finest that has been staged here, so it partly atoned for no opposition, but we learnt that other local growers and former competitors are a bit shy in entering the field against this veteran, which shows a want of pluck.

The class for thirty-six Japanese cut blooms in not less than twenty-four varieties and not more than two of one kind (open), found that well known grower, H. H. Spencer, Esq, Teignmouth (gardener, Mr. Geo. Foster), at the front, followed by the Rev. G. Lyon (gardener, Mr. Stiles), and Lady Duckworth, of Exeter (gardener, Mr. Baker), a new exhibitor; while for twelve Japanese distinct, A. F. Shapland, Esq., of Exmouth, led, closely followed by H. H. Spencer, Esq., and Rev. G. Lyon. The above classes were open to all. The following classes were confined to residents within three miles of the exhibition hall, market men or dealers in plants excluded. For three Japanese plants in bloom Major-General Rocke was first; Mr. H. Stewart, second. Twelve Primulas found Mrs. Gordon first; Major Tracey, second, and Dr. Hodgson, third. These were not so fine as usual. Six Primulas brought Rev. H. Clerk and Mr. Stewart. For six table plants Rev. H. Clerk led, with Major Tracey second. Mrs. Gordon won for six Adiantums, while six distinct varieties found her in the same position, Major Tracey following. For six Solanums, Rev. H. Clerk put up a good lot, with Mr. H. Stewart, second.

FRUIT.—For three bunches of Alicante Grapes, as usual the Rev. H. Clerk and Mr. J. Matthews took the awards. The first prize lot was of the finest culture, and so were his Muscat of Alexandria and Muscat Hamburgh, which took first honours in their classes. There were over twenty classes for Apples, single dishes and collections, but space forbids us to give in detail each exhibitor's place, suffice to say that Rev. H. Clerk, Mrs. Gordon, General Shelley, Major Tracey, Mr. R. Ley, Mr. J. Tuike, Miss Pinchney, Dr. Hodgson, H. Law, and A. F. Shapland carried off chief honours; and the same remarks apply to Pears in sixteen classes. We may here add that the fruit was not quite as fine as last year. In the vegetable class Mr. A. Shapland took first, with Miss Pinchney second, this was for eight dishes. For ten Tomatos, Mr. Shapland again took the blue, Dr. Hodgson running second. The table decorations were very good, Mr. H. O. Tobin, Mr. L. Thomas and Miss K. Thomas coming in the order given. There were several special prizes given for baskets of Chrysanthemum foliage, berries, grasses, &c., but we noticed nothing new in the arrangements of either.

The Hon. Mark Rolle, Bicton, as an honorary exhibitor, sent a showy collection of plants in pots, such as blue and red Salvias, blue Marguerites, double white Primulas, Bouvardias, well berried Solanums, Coronilla glauca, half a dozen of that beautiful Begonia Gloire de Lorraine, the plants of which averaged 2 ft. across, some close upon 2 ft. 6 in, Dracaenas, green and coloured, Crotons in variety, Pandanus Veitchii, Ferns, &c. In front of this arrangement about three dozen varieties of Apples and Pears, a stand each of black Alicante and Lady Downe's Grape, with Sutton's Scarlet Melon, made a varied display.

Mr. W. J. Godfrey, Exmouth, also staged a meritorious bank of Chrysanthemums, Palms, Zonal Pelargoniums, Salvia splendens nana, in 5½-in. pots, well flowered and extra fine, several of that record priced Carnation Mrs. H. Lawson, of American origin, which we thought fairly good, but nothing special; and good cut blooms of Chrysanthemums of his own raising, of which we shall probably hear more about in the near future. We can only add that last year's show placed the balance on the wrong side and hope this season the tables have been turned.

NATIONAL CHRYSANTHEMUM.—*November 6th, 7th, and 8th.*

THE opening day of the great autumn exhibition of the National Chrysanthemum Society was rather drizzly and wet; but there was a complete absence of fogs, so that the blooms and their colours could be well seen. The Chrysanthemums are again very fine, though some were complaining of the coarseness of the Japanese blooms. The incurved blooms were also particularly large, but they have never, probably, been seen in better form. Some of them required a few days longer to finish, but we do not remember seeing fewer really coarse blooms. In size they were magnificent. Apparently they are again rising in popularity. Miscellaneous groups were numerous and good.

OPEN CLASSES.

The class for the National Competition of Chrysanthemum and Horticultural Societies, again created a great amount of interest. The competition was for twenty-four incurved and twenty-four Japanese blooms, and the Challenge Trophy, with money prize, was taken by the Portsmouth and District Horticultural Society. The only growers of blooms sent by the society were Mr. J. Agate and Mr. C. Penfold. Among the Japanese varieties splendid blooms were Florence Molyneux, Australie, Nellie Pockett, Lady Hanham, Miss E. Weller, M. Gustave Henry, M. Chenon de Leché, M. Hoste, E. Molyneux, Mr. J. Parkes, Madame Carnot, Yellow Carnot, V. Morel, General Buller, Mrs. G. Carpenter, Soleil d'Octobre, and Phoebus. The incurved blooms were of wonderful size, and neatly formed. Some of the largest blooms were Lady Isabel, Duchess of Fife, Mervyn Penford, Mrs. H. J. Jones, Ernest Cannell, Nellie Threlfall, Hanwell Glory, and Madame Ferlat, which occupied the back row. Smaller but neat and handsome were Triomphe d'Eve, Ma Perfection, Fred Palmer, Emile Nonin, C. H. Curtis, Miss M. A. Haggas, Golden Gem, Princess of Wales, R. C. Kingston, Brookleigh Gem, and John Miles.

The Winchester Horticultural Society, represented solely by Mr. W. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, Hants., took the second place with grand blooms of Mrs. W. Mease, Jane Molyneux, Edith Dashwood, Mrs. W. Cursham, Nellie Pockett, Lady Hanham, Gustave Henry, G. J. Warren, Mrs. Coombes, Miss Alice Byron, &c. The incurved blooms were smaller, but very good were C. H. Curtis, R. C. Kingston, Mrs. H. J. Jones, Hanwell Glory, Ialine, Mrs. Colman, Major Matthew, &c. The third prize went to the Sevenoaks and West Kent Chrysanthemum Society, represented by Mr. W. Tebay, gardener to Mrs. Ryecroft, Everlands, Sevenoaks, who showed grand blooms of Mrs. D. Dewar, Mr. A. G. Miller, C. Davis, Madame Carnot, Mrs. C. Keyser, &c. Bonnie Dundee, Mrs. J. Eadie, Lady Isabel, and Jeanne d'Arc were some of the finer incurved varieties.

The Holmes Memorial Challenge Cup for thirty-six incurved Chrysanthemums was secured by Mr. W. Higgs, gardener to J. B. Hankey, Esq, Fetcham Park, Leatherhead, who had really first-class material. Magnificent blooms were Lady Isabel, Countess of Warwick, Mrs. H. J. Jones, Duchess of Fife, Mrs. G. Williams, Ma Perfection, Ernest Cannell, Hanwell Glory, Mme Vernieul, Mrs. W. Howe, Topaze Oriental, Globe d'Or, J. Agate, Yvonne Desblanc, Robert Petfield, Bonnie Dundee, C. B. Whitnall, Princess of Wales, Pearl Palace, and others.

The second place was taken by Mr. G. J. Hunt, gardener to Pantia Ralli, Esq., Ashtead Park, Epsom, who had grand blooms of Ialine, Lady Isabel, Mrs. G. Williams, Duchess of Fife, Chrysanthemiste Bruant, &c., but they required a few days more to rise in the centre. Mr. W. Jinks, gardener to E. Bruce, Esq., The Beeches, Walton-on-Thames, was a good third; and Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, came in fourth. There were six entries.

The Holmes Memorial Cup for forty-eight Japanese blooms, distinct, was taken by Mr. F. S. Vallis, Bromham Fruit Farm, Chippenham. Some of his finest blooms were Lord Salisbury, Mutual Friend, G. J. Warren, Mrs. Mease, Sir H. Kitchener, Le Grand Dragon, A. Byron, Sec. Fierens, E. Beauty, G. W. Palmer, S. Amiral, Simplicity, M. C. de Leché, Mrs. J. Bryant, E. Molyneux, E. Tabor, Nellie Pockett, Phoebus, Pride of Madford, Pride of Exmouth, M. Gustave Henry, &c.

Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, took the second place with handsome blooms of Mrs. Barkley, M. Chenon de Leché, Le Grand Dragon, F. Molyneux, V. Morel, Mrs. Mease, Mr. T. Carrington, J. R. Upton, N.C.S. Jubilee, Mrs. M. Douglas, Mrs Coombes, &c. Mr. R. Kenyon, gardener to A. F. Hills, Esq., Monkhams, Woodford Green, took the third prize with some very creditable blooms, and Mr. W. Jinks, gardener to E. Bruce, Esq., took the fourth position. There were six entries.

The president of the society, Sir Edwin Saunders, offered the first prize in a class for a floral display of Chrysanthemums, the plants and fine foliage subjects being arranged round the fountains at either end of the Aquarium. The leading prize was handsomely carried off by Mr. Norman Davis, The Nurseries, Framfield, Sussex, with a grand display of cut blooms set up in water and mixed with Palms, Crotons, Ferns, &c., all in first-class condition. His group of Madame Carnot was magnificent, the blooms being prodigious. Most of the other blooms were of huge size. He was followed by Mr. E. Dove, gardener to H. E. Fry, Esq., Bickley Hall, Kent, who had a grand display, but the blooms were too numerous. Percy Waterer, Esq, The Briars, Fawkham, Kent, took the third place with a very fine display.

The class for twelve vases of specimen blooms of Japanese Chrysanthemums was finer than ever, and occupied two long tables. The leading award (£20 and large Gold Medal) was taken by Mr. F. S. Vallis, who won in the Holmes Memorial Class. He has only grown Chrysanthemums for four years. He had magnificent vases (five blooms each) of Mrs. Mease, E. Molyneux, Mr. Louise Remy, Mrs. Barkeley, Mrs. J. Lewis, Calvat 1899, Phoebus, Pride of Madford, Le Grand Dragon, M. C. Leché, Australie, and Nellie Pockett. The second prize (Gold Medal and £15) was taken by Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, who certainly had a fine lot neatly set up, most of his blooms being in grand condition. Mr. W. C. Meredith, gardener to G. Wilder, Esq., Stanstead Park, Exmouth, took the third place with a fine lot, hardly a weak bloom being seen. (Silver Gilt Medal and £10). The large Silver Medal and £5 as the fourth prize was taken by Mr. R. Kenyon. There were nine entries.

For twenty-four Japs., distinct, the winners were, first, Mr. J. W. Roberts, Clonard, Harrow Weald; second, Mr. W. Higgs, Fetcham Park, Fetcham; third, Mr. W. E. Meredith, and fourth, Mr. F. King, Oak Dene, Holmwood, Surrey, all with good sets.

SPECIMEN PLANTS.—The entries for the specimen plants were fairly numerous. Well grown, profusely flowered plants were staged. For four standard trained specimens, large flowered varieties, Mr. E. Easey, gardener to F. Bishop, Esq., The Grange, Highbury New Park, led off. Mr. Geo. Whitehorn,

Forest Lodge, Walthamstow, came second; and Mr F. E. Wright, Essex Lodge, Upper Clapton, third. For a specimen, incurved, Mr. E. Easey again led. Mr. G. Whitehorn was first for four trained specimens, any varieties; and for six ditto, Mr. Easey was the winner.

For six Anemone pompons, distinct, six blooms each, to be shown in bunches, Mr. C. Brown, gardener to R. Henty, Esq., Langley House, Abbots Langley, led off. Mr. L. L. Turk, gardener to T. Boney, Esq., Southwood House, Highgate, came second; and third, Mr. E. H. Chitty, gardener to S. Hardy, Esq., Cholmeley Lodge, Highgate.

For six varieties of singles in bunches or sprays, Mr. W. Aldridge, gardener to G. Lacey, Esq., Springfield House, Palmers Green, was a good first. Mr. W. Ring, gardener to J. Warren, Esq., Capel House, Waltham Cross, stood first for twenty-four large flowered Anemone blooms. The best of these were Mdme. R. Owen, Le Chalonais, Sir Walter Raleigh, Gladys Spaulding, Mrs. Judge Benedict, John Bunyan and Delaware. Mr. W. Jinks, gardener to E. Bruce, Esq., The Beeches, Walton-on-Thames, was a very close second, with beautiful blooms of Surprise, Loriada, Radolphs Ragosterre and Gluck. Mr. A. Ives, gardener to E. C. Jukes, Esq., Hadley Lodge, Barnet, was third.

For one vase of Chrysanthemums Mr. A. Robertson, gardener to F. J. Jarrow, Esq., 18, Abbey Road, St. John's Wood, led off with Mrs. Mease, &c., above red foliage, Smilax, &c. Mr. H. Pestell, gardener to F. S. Wigram, Esq., Elstow, Bedford, followed second; and third, Mr. John Denyer, gardener to Ed. Smith, Esq., Ingleside, Chatham. There were nine grand vases of blooms.

For a handbasket of Chrysanthemums Mrs. W. Strugnell, 213, Brixton Hill, S.W., beat Mrs. Knight, 18, Gleneagle Road, Streatham; and third Mrs. A. Clack, Barton Court, Kintbury.

For the best collection of cut blooms of Chrysanthemums illustrating the different types of colour, form and size, Mr. Norman Davis, The Nurseries, Framfield, Sussex, led off first. He had a splendid and very beautiful group, comprising Japs., incurved and reflexed, true incurved varieties, pompons, singles, fimbriated, &c., the whole forming a most instructive and interesting feature. Mr. A. Meridew, 308, Southampton Street, Camberwell, S.E., was second, with a poor display.

The first prize for two floral designs in Chrysanthemum blooms was captured by Messrs. Scrivener & Co., Court Florists, Watford, Herts, who had a magnificent harp in yellow with red foliage loosely draped over the angles, and a great white anchor. No second; third, Messrs. Harwood Bros., Balham Nursery, Balham, who designed an urn upon a tall pedestal and a circular wreath; fourth prize went to Mr. W. J. Noy, The Homestead, Clay Pond Lane, Brentford.

SECTION II.

AMATEURS' CLASSES.—DIVISION A.—For twelve incurved blooms, distinct, the first prize of Silver Medal and 20s. went to Mr. C. H. Martin, gardener to Mrs. Langton, Raymead, Hendon, who showed Lady Isabel, Globe d'Or, Mdme. Darrier, Topaze Oriental, Jas. Murray, Baron Hirsch, Mrs. R. C. Kingston, Chas. H. Curtis, Brookleigh Gem, Duchess of Fife, Violet Tomlin, and Jean d'Arc. Mr. W. Leppard, Oakdene, Reigate, was second. For six distinct ditto, the latter here beat Mr. C. H. Martin. For six of one variety, Mr. Ed. Jones, 51, Bower Street, Bedford, led with C. H. Curtis. Mr. C. H. Martin second with Lady Isabel. For six bunches of pompons, distinct, three blooms of each, Mr. L. L. Turk here again had the best.

For eighteen Japs., distinct, Mr. M. Silsbury, of Providence, Shanklin, Isle of Wight, led off with a good lot. Mr. A. R. Knight, 63, Hardinge Road, Ashford, Kent, came second; and third, Mr. W. G. Prudden-Clark, York Road, Hitchin. The blooms here were altogether of high merit.

For twelve blooms, do., Mr. Geo. Heal, Holly House, Compton, Guildford, beat Mr. F. J. Wright, 11, Salisbury Terrace, Long Lane, Finchley.

The class for eighteen Japs., distinct, brought forth eight entries, the first award being taken by Mr. David Ager, gardener to Milton Bode, Esq., Down House, Bath Road, Reading, who showed splendid blooms of the better known up-to-date sorts. Mr. G. Adcock, gardener to Mrs. Bacon, Stoneleigh, Worcester Road, Sutton, Surrey, came second with a good lot; and third, Mr. C. H. Martin.

Mr. A. Page, Ravenscroft, N. Finchley, led for the twelve Japs., beating Mr. L. Gooch, of Trocester Lodge, S. Norwood. There were nine entries. Mr. J. Denyer was first for the six Japs., distinct. For the six blooms of one variety, Mr. L. Gooch led with Mrs. H. Weeks; second, Mr. A. Page, with Mons. Chenon de Leché, and third, Mr. E. H. Chitty, with grandly coloured Lady Hanham.

VEGETABLES.

Messrs. Webb & Sons, of Stourbridge, offered a number of prizes for collections of vegetables. The resulting competitions were most satisfactory. Mr. E. Beckett, gardener to Lord Aldenham, Elstree, was first for the collection. He had Webb's White Celery, grand, New Prizewinner Carrot, Cauliflower Autumn Giant, Onion Masterpiece, Parsnip Selected Hollow Crown, Colossal Leek, Tomatos, Brussels Sprouts, &c., &c. Every vegetable was of the highest order of merit. Mr. A. Basile, gardener to Rev. O. L. Powell, Woburn Park, Weybridge, was second; and third, Mr. W. L. Bastin, gardener to Alex. Henderson, Esq., M.P., Buscot Park, Farringdon.

MISCELLANEOUS EXHIBITS.

Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., arranged an exceedingly fine exhibit in one of the alcoves of the building. The group was raised in the centre and spread off undulatingly toward the higher side parts. Grand blooms on stout dwarf plants were shown by the varieties Master H. Tucker, Soleil d'Octobre, Mrs. Mease, Mdme. E. Rogers, Oceana, very good, Chas. Davis, Ma Perfection, J. R. Upton, Viviand Morel, N.C.S. Jubilee, Mr. T. Carrington, Phoebus, Chatsworth, and Miss N. Pockett.

Messrs. John Laing & Sons, Forest Hill, S.E., had a splendid collection of choice Apples and Pears. These were set out on a long table, 40 ft. by 6 ft., and embraced upward of 200 dishes. Vases of Chrysanthemums and specimen plants of Begonia Gloire de Lorraine, Bouvardias, and ornamental foliage plants were tastefully displayed from all points of view—from the aesthetic as well as the utilitarian, the exhibit was superb. The Queen, Emperor Alexander, Blenheim Orange, Bismarck, Loddington, Hoary Morning, Mrs. Barron, Tyler's Kernel, and Ribston Pippin were exceedingly well represented in the Apple section. The Pears Catillac, Marechal de la Cour and Pitmaston Duchess were also first class.

Messrs. S. Spooner & Sons, Hounslow Nurseries, Middlesex, had a neat and choice selection of good market varieties of Apples. These included Cox's Orange Pippin, Kerry Pippin, Adam's Pearmain, Bismarck, Hoary Morning, Alexander, Tom Putt, Newton Wonder, and others. These were shown on dishes and in baskets.

Messrs. Hobbies, Ltd. (Mr. John Green), Norfolk Nurseries, Dereham, had a magnificent display of Japanese and decorative varieties of Chrysanthemums. Amongst the sorts suitable for ordinary market and cut flower use were Gen. Hawkes, manve, silvery reverse; White Quintus, Mons. Dupuis, tawny; Crimson Pride; Lady Onslow, canary-yellow; Mrs. Butters, white; Lizzie Adcock; Crimson Source d'Or; Orange Child; Pres. Nonin, bright bronze; and R. Hooper Pearson, which furnishes an exquisitely beautiful golden decorative variety. The larger flowered Japs. included N.C.S. Jubilee, Snowdrift, J. Pockett, Miss N. Pockett, H. J. Jones, &c. This was an exceedingly beautiful and interesting group, and filled a large table.

Mr. W. J. Godfrey, Nurseryman, Exmouth, Devon, arranged a liberal group or rather tabling of specimen Japanese blooms. Pres. Carnot, Godfrey's Prize, an extraordinary massive bloom, of grand form and general build, of carmine-claret colour above and waxy-buff reverse, the petals finely curving and co-mingling; C.I.V., a rich crimson with true gold reverse made also a good show; Phyllis, a bright bronze incurved variety is choice.

Messrs. Geo. Boyes & Co., Aylestone Nurseries, Leicester, had an exhibit of strongly grown and well flowered Tree Carnations—Governor Griggs, blush; Lord Roberts, pale yellow; Lady Carlisle, ruddy rosy-crimson: Shazada, rich deep crimson, &c., were all A1.

Mr. R. C. Pulling, Monkhams Nursery, Woodford Green, set up an attractive group of specimen Jap. varieties in pots; numerous fine foliage plants were also introduced. Mr. T. Remy, rich yellow; Mutual Friend, Helen Shrimpton and others, were included.

Mr. J. Spink, Summit Road Nursery, Walthamstow, had a similar display. The blooms, however, were almost hidden by Crotons, Cocos and Eulalias.

Mr. Norman Davis, of Framfield Nurseries, Sussex, had a collection of splendid blooms, but the position allocated to him, or chosen by him, around the fountain, furnished no area for his usual very effective displays. The flowers were arranged in groups and tiers in conical fashion. Mrs. Mease and Pres. Carnot still hold up as two of the best. Oceana was also splendid; Pride of Madford, Mrs. White Popham, Chas. Davis, &c., good.

Mr. Robt. Owen, Maidenhead, had an embracive exhibit of Jap. cut blooms. Among the newer seedling blooms of merit may be mentioned Vicar of Leatherhead, Mark Neville, Britannia, lilac-pink; and Mrs. A. Kirby, violet-purple above, silvery-lilac beneath. Mrs. White Popham was also good; Mr. J. W. Barkes, Louise Dalle, yellow; Snowdrift, &c., &c., showed up well. The decorative varieties which were staged in vases and minor groups toward the back of the stand were very fine, including all the best known sorts.

Mr. J. Williams, 4A, Oxford Road, Ealing, W., had a pretty table showing his table decorations.

Messrs. H. Cannell & Sons, Swanley, Kent, had a superb and extraordinarily fine exhibit of cut Jap. Chrysanthemum blooms, Cannas in pots, Acalypha hispida as specimen plants along the centre and dividing the Chrysanthemums from the bunches of Zonal Pelargoniums on the opposite side of the table. Among the best of the Chrysanthemums were Mme. C. Terrier, Zoriada, Marie Brunning, Mrs. Frank Gray Smith, Mr. A. Barrett, Marquis Viconti Venosta, Princess Alice de Monaco, M. Jacob Holtzer, Mrs. Coombes, Mermaid, Lady Hanham, and Marjorie, each of which were up to the highest perfection. Mrs. Geo. Brunning, senr., is a coming favourite, being gold and crimson in colour. The Cannas were as fine as ever, and as for the Zonal Pelargoniums, they attracted a continuous bevy of admirers.

Mr. Robert Jameson, The Royal Nurseries, Sandymount, and 13, Nassau Street, Dublin, showed an excellent display of floral designs. Among the handsomest of them was a large golden harp, the framework of which was composed of Ryecroft Glory Chrysanthemums (golden yellow). Ampelopsis leaves below a knot of Eucharis on the right hand shoulder was most effective. Small Arum Lilies, with Lily of the Valley and Odontoglossums, formed a bunch toward the base, and another small bouquet of white Bouvardias set off the left hand top angle. The cords of the harp were gold beaded. Two masonic designs composed of crimson Bouvardias and white Chrysanthemums, and white and yellow Chrysanthemums, respectively, were much admired. A large anchor designed in white with pink Rose buds posed tastefully toward the top cross-bar, and a cord formed of Violets twining the length of the design, was also of high merit. Bouquets, wreaths, crosses, &c., were extra features.

Mr. Thos. Rochford, Turnford Hall Nurseries, Broxbourne, Herts, had a charming collection of retarded plants, including Lily of the Valley, Liliums, Azaleas, and Spiraeas, bordered with Ferns. Seakale crowns, Azaleas, and bulbs ready for forcing were also exhibited.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, made an excellent exhibit of pot plants, the galaxy of blooms being relieved by graceful foliage plants. Among the élite in the collection were Edith Shrimpton, white; Mrs. J. C. Neville, also white; Mrs. Greenfield, an improvement on Phoebus; Mrs. Mileham, rose-mauve; Mr. W. H. Webb; Mabel Neville; Mr. S. Fryett, bright amaranth; and Vicar of Leatherhead. The plants and blooms were up to a high standard of excellence, each being fully developed. The arrangement of the group was quite new and very imposing. An upright bank formed a splendid relieve for the minor groups composing the forward part of the exhibit.

Messrs. Lawes Chemical Manure Co., Ltd., 59, Mark Lane, London, E.C., showed their usual tasty exhibit, comprising sample tins of their various garden manures. Specimen Chrysanthemums and Grapes grown by the aid of the manure were also shown.

Mr. Jos. Arnold, 32, St. Paul's Road, London, N.W., had a very interesting exhibit, various

garden requisites and sundries. Grand Bedfordshire, heavy yellow loam, was shown, and grand stuff it is for all potting purposes. Sandstone for rockerles, and various sands for horticultural purposes were also seen. Good peat was liberally stacked.

Messrs. Wm. Wood & Sons, Ltd., Wood Green, London, N., were likewise strong in their representation of horticultural sundries. Sample bags of "Veltha" were shown, together with peat, loam, sand, Veltha Emulsion, Le Fruitier manure, stakes, baskets, seats, cans, Chrysanthemum exhibition stands, &c.

Messrs. Wm. Cutbush & Son, Highgate, London, N., had a magnificent collection of retarded flowering plants, Chrysanthemums, Begonias, Liliums, Pernettyas, Bouvardias, Azaleas, and Carnations. Ferns, Crotons, and Palms were used either as centre pieces to the minor groups, or otherwise where they were effective. The group was very choice and much admired.

Messrs. J. Laing & Sons, of Forest Hill, S E., had a circular conical gronp of pot Jap. Chrysanthemums, all of which were at the front rank of merit.

Messrs. B. S. Williams & Son, Upper Holloway, London, showed Lily of the Valley, Liliums, Ericas, Cyclamen, Bouvardias, Carnations, Begonias, and a liberal selection of foliage and decorative plants. One end of the table was devoted to Orchids, including vigorous Cattleyas, Laelias, and Odontoglossnms. The entire group was exceedingly choice.

Messrs. A. W. Young & Co., The Nurserles, Stevenage, Herts., showed an interesting group of Cacti.

From the Royal Gardens, Kew, came Chrysanthemum indicum, one of the progenitors of the garden Chrysanthemums which inclnde the large Japanese and other varieties of the exhibition boards. C. indicum is a yellow, single flowered species, the flowers scarcely more than ¾ in. across. The habit is bushy and dwarf. The Kew specimen was from seeds collected in China last year.

Messrs. Cannell & Sons also showed a grand lot of Violets and Tuberoses.

Messrs. Isaac House & Son, Westbury-on-Trym, Bristol, showed a grand collection of Violets, for which they have won a just fame. The varietles inclnded Victoria, La France, Luxonne, Amiral Avellan, Marie Louise, and the true Princess of Wales. They were justly admired.

Messrs. Geo. Bunyard & Co., Maidstone, had a magnificent display of Apples and Pears, certainly a credit to British fruit-growers and culture. Warner's King was superb; Cox's Orange Pippin, Sandringham, Cox's Pomona, Chelmsford Wonder, Hambling's Seedling, Calville Rouge, Alfriston Pippin, Striped Beefing, Waltham Abbey, Gascoigne's Seedling, Peasgood's Nonsuch, &c., were all of the very highest perfection. The Washington Apple was represented by perfect specimens. Catillac and Uvedale's St. Germain Pears weighed over 2 lbs.each. The assortment of 150 dishes attracted universal admiration. (Large Gold Medal.)

The Nitrate of Soda Co., Tonbridge, Kent, showed a collection of vegetables.

Messrs. D. Dowel & Son, Ravenscourt Avenue, Hammersmith, set np a display of artificial manures in sample tins and glasses. Ohlendorff's Fertility made a stand by itself; while on the neighbouring table, pots, secateurs, gardeners' gloves, tree pruners, watering-cans, Mushroom spawn, peat, loam, &c., all for the garden, were represented.

Messrs. Haws, 4, Glaskin Villas, Lea Bridge Road, Clapton, N.E., showed their improved types of watering cans. These are well known, and can be had in all sizes and suitable for all manner of use.

Messrs. Fenlow & Son, 8, Tudor Street, Temple, London, E.C., showed a number of heating designs —small hot water apparatus for minor greenhouses, &c. These apparatns are easily fixed up and work splendidly, being thus of first importance to amateur gardeners with small houses.

Mr. C. E. Haydon, Avenue Road, Sonthgate, London, N., exhibited his Patent Broom Holder, the advantages of which are generally recognised.

Messrs. B. S. Williams & Son showed a choice group of Conifers.

Mr. John Pinches, 3, Crown Buildings, Crown Street, Camberwell, S.E., had a representative assortment of the well known "Acme" labels in zinc. These can be had in all forms and sizes, suitable for all uses of tree and plant naming.

Mr. J. George, 14, Redgrave Road, S.W., showed an assortment of horticultural sundries. Thomson's and other manures were included. The patent Nicotiana Fumigator, Mushroom spawn, &c., were also staged.

Mr. Sam Deards, 34, Old Broad Street, E.C., showed his patent Coiled Boilers and his system of dry glazing.

AWARDS.

Messrs. Cannell & Sons, Large Gold Medal; Messrs. Cutbush & Sons, Large Gold Medal; Messrs. J. Laing & Sons, Gold Medal; Mr. H. J. Jones, Gold Medal; Mr. W. J. Godfrey, Gold Medal; Mr. A. C. Pulling, Gold Medal; Mr. Thos. Rochford, Gold Medal; Messrs. J. Peed & Son, Silver Gilt Medal; Messrs. B. S. Williams & Son, Silver Gilt Medal, and Vote of Thanks; Messrs. Hobbies, Ltd., Silver Gilt Medal; Mr. R. Owen, Silver Gilt Medal; Mr. R. Jameson, Silver Gilt Medal; Mr. R. Drost, Silver Gilt Medal; Messrs. Spooner & Sons, Large Silver Medal; Messrs. Young & Co., Large Silver Medal; Messrs. Boyes & Co., Large Silver Medal; Mr. — Spinks, Large Silver Medal; Mr. A. Williams, Silver Medal; Messrs. Isaac House & Sons, Vote of Thanks.

BATTERSEA, CLAPHAM AND WANDSWORTH CHRYSANTHEMUM AND HORTICULTURAL.—*November, 2nd and 3rd.*

CONSIDERING the neighbourhood this is a very nice show, and tends to exemplify the fact that the guardians of the parish have so cleansed it that really first class flowers can be and are grown.

We were pleased to see that several exhibitors with world-wide reputation were present, notably Messrs. W. Wells & Co., Ltd., Earlswood, Redhill, who staged two dozen very fine blooms, including "Khaki," and Mathew Smith (two novelties), two pink seedlings unnamed, and several of the good old sorts.

Messrs. Isaac House & Sons, Westbury-on-Trym, made their first appearance at this place, exhibiting a grand collection of their famed Violets, for which they were deservedly awarded a Diploma of Merit.

Mr. Robert Neal, Wandsworth Common, made up a central group of stove and ornamental plants, comprising the usual order expected; they were good, healthy and clean, besides showing taste in staging.

Rivalling the gratuitous exhibit of the Messrs. W. Wells & Co., was the one sent by Mr. M. E. Mills, The Gardens, Coombe House, Croydon, containing excellent samples of Mrs. White Popham, Miss Nellie Pockett, Phoebus, and Miss Alice Byron.

Messrs. Harwood Bros., Balham, made a novel design in cut flowers, representing a pedestal in leaves of Ampelopsis edged with a pink Chrysanthemum, above being a vase made in 'Mums interspersed with and handles of white Pinks and Hyacinths, whilst some pretty 'Mums were placed as if growing in the vase.

There were ninety-nine prizes given to the competitors in the thirty six classes.

Mr. J. O. Langrish and his assistant, Mr. A. W. Bolton, must be commended for the effects produced through skilful management.

SOCIETIES.

ROYAL HORTICULTURAL.—*November 6th.*

THE Drill Hall was well filled on Tuesday last, prominent amongst the exhibits being Chrysanthemums, Roses, Begonia Gloire de Lorraine, Conifers, Begonia Mrs. Heal, and Orchids, the latter being well represented. Fruit, chiefly Apples, were shown in great abundance, and, needless to say, in fine condition.

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking, staged a very interesting group of Orchids, and received a Cultural Commendation each for Masdevallia macrura and Cypripedium oenanthum superbum. Very fine also were Habenaria militaris and Vanda kimballiana. (Silver Flora Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, staged a very large group of Orchids, prominent amongst which were Cattleyas in great variety. Very fine were Cattleya labiata in variety, C. dowiana aurea, Laeliocattleya Pallas, Oncidium tigrinum, O. varicosum, Cypripedium arthurianum pulchellum, and others in great variety. The group was backed up with Palms, and mixed with Maidenhair Ferns. (Silver Gilt Flora Medal.)

Messrs. H. Low & Co., Bush Hill Park, Middlesex, also set up a group of Orchids, including Cattleya Maroni, C. intermedio-flava, C. dowiana aurea, Laeliocattleya Decia, some Oncidiums, Odontoglossums, &c. (Silver Banksian Medal.)

Mr. James Douglas, Edenside, Great Bookham, Surrey, staged Laeliocattleya gottoiana.

Sir James Miller, Bart. (gardener, Mr. J. Hamilton), Manderston, Duns, N.B., showed Cattleya Mrs. J. W. Whiteley and C. Miss Williams.

Messrs. F. Sander & Co., St. Albans, set up a group of Orchids, including Odontoglossum cariniferum, Cypripedium callo-rothschildianum, C. A. de Lairesse, and various others.

Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, had four dozen specimen blooms of Japanese Chrysanthemums. His Millicent Richardson, lately certificated, was grand; Kabki, a strong and pretty reddish-bronze with old-gold reverse, and strong petals, received an Award of Merit; Silver Queen is a soft lilac-pink; Guy Hamilton, after the Carnot type; Souv. de la Paris Exposition, pale blush; W. R. Church, rich purple with pink-gold reverse, also received an Award of Merit; as did Mdme. Von Andre, yellow; Matthew Smith, gold and chestnut; C. J. Salter, yellow; and Lord Ludlow, deep yellow.

Messrs. Barr & Sons, King Street, Covent Garden, W.C., showed Pentstemons, perennial Asters, Kniphofia President Cleveland, Chrysanthemums for the border, including such varieties as La Vierge, white; Anastasia, rosy-mauve; Little Bob, reddish-chestnut; Crimson Queen, Orange Child, Wm. Holmes, and Source d'Or. Montague is also a good rich purple sort.

Mr. W. J. Godfrey, Exmouth, Devon, had three dozen blooms of Japanese varieties. Mdme. Von Andre, primrose-canary; Loveliness, broad petalled, also yellow; and Wallace E. Voudin, pale crimson above and bright bronzy-yellow reverse, all received Awards of Merit.

Miss Adamson (gardener, Mr. Geo. Kelf), South Villa, Regent's Park, sent a collection of Celosia pyramidalis and cut Jap. blooms with Begonia Gloire de Lorraine and stove decorative plants. (Silver Flora Medal.)

Mr. F. C. Fowle, F.R.H.S., Devon Chrysanthemum Nursery, Teignmouth, showed a fine lot of cut Chrysanthemum blooms. The finer of these were Australian Gold, Swanley Giant, Modesto, E. Dashwood, T. Carrington, and others.

Messrs. James Veitch & Sons, Ltd., King's Road, Chelsea, showed a grand tableful of the new winter-flowering Begonia Mrs. Heal. The plants were remarkably strong and carried a great profusion of large and beautiful ruby-purple flowers. The Streptocarpi, in various shades of colour and clustered with flowers, were also grand. They also showed a fine Chrysanthemum group. (Silver Flora Medal.)

The Earl de Grey (gardener, Mr. J. Smith), Coombe Court, Kingston-on-Thames, showed a group of Begonia Gloire de Lorraine and Spiraeas, which being staged on the floor lost much of their effectiveness. The plants were good. (Silver Banksian Medal.)

Messrs. J. Waterer & Sons, Bagshot, Surrey, arranged a choice collection of young Conifers upon the floor. The plants, or rather trees, were from 3 ft. to 6 ft. in height, and well balanced. They represented grand stuff for immediate planting. Cupressus lawsoniana lutea, Retinospora obtusa nana aurea, Juniperus chinensis, Abies concolor and other first-rate samples were included. It was certainly a very fine and seasonable display. (Silver Banksian Medal.)

Messrs. T. Cripps & Sons, Tunbridge Wells, had a very sweet and attractive display of Begonia Gloire de Lorraine and Browallia speciosa. (Silver Banksian Medal.)

Leopold de Rothschild, Esq. (gardener, Mr. Jas. Hudson, V.M.H.), Gunnersbury House, Acton, W., had a group extending over about 300 sq. ft. of tabling of Begonia Mrs. Leopold de Rothschild and

Nymphaea stellata, for which he was awarded a Silver Banksian Medal.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, staged a group of pot Roses. Tea Sunset, H. T. Lady Battersea and T. Bridesmaid, were strongest and most profusely flowered. Strawberry St. Joseph was shown in full fruit. (Silver Flora Medal.)

P. Purnell, Esq., Woodlands, Streatham Hill, S.E., showed a tasty group of flowering and foliage plants, including Roman Hyacinths, Primulas, Celosias, Ferns, Palms, &c. (Silver Banksian Medal.)

Messrs. J. Peed & Son, West Norwood, S.E., set up an excellent group of Apples, Begonias, and Sonerila Souv. de Louis Van Houtte. The latter is a first-rate dwarf decorative flowering and foliage plant combined. The leaves are silvery, and the small flowers are pale lavender. The Apples were all good, embracing the best varieties. (Silver Banksian Medal.)

His Grace the Duke of Rutland (gardener, Mr. W. H. Divers), Belvoir Castle, Grantham, showed a splendid collection of Pears and Apples, extending to about eighty dishes. The Pears were superb, and the Apples were up to a high standard of excellence. (Silver Gilt Knightian Medal.)

Messrs. Dobbie & Co., Rothesay, showed a group of Parsley Dobbie's Selected, which received an Award of Merit.

SHERWOOD CUP COMPETITION.

Mr. Sherwood (Messrs. Hurst & Son) offered a Silver Cup for a fruit competition on this occasion. There were four entries, including twelve dishes of Pears, and eighteen dishes of Apples each. R. Leigh, Esq. (gardener, Mr. Geo. Woodward), Barham Court, Maidstone, was first; Mr. A. J. Thomas, Rodmersham, Sittingbourne, second; A. H. Smee, Esq. (gardener, Mr. W. E. Humphreys), The Grange, Hackbridge, and Sir Marcus Samuel (gardener, Mr. W. H. Bacon), Mote Park, Maidstone, were equal third.

Among the finer dishes from the four exhibits were Golden Noble, Bedfordshire Foundling, Allington Pippin, King of the Pippins, Peasgood's Nonsuch, The Queen, Annie Elizabeth, Newton Wonder, Emperor Alexander, Tyler's Kernel, Lord Derby, Warner's King, Mere de Menage, New Hawthornden, and Beauty of Kent, Apples. The Pears in the varieties Columbia, Uvedale's St. Germain, Triomphe de Joidoigne, Reine des Tardives, &c., were also very superior.

OBITUARY.

M. EDOUARD PYNAERT.

WE very much regret to learn of the death of M. Edouard Pynaert, of Ghent, one of the best known in that city, and one of the most highly esteemed in Belgium as in this country. He succumbed on October 28th last, after a long and cruel malady from which he had suffered for the past two years. He was born at Ghent, on May 29th, 1835, and has led a diligent, active and useful life in various spheres of labour up till the time he was stricken down. He was at once both a scientific and practical man, having been the founder and one of the editors of the *Revue de l'Horticulture Belge et Etrangere*; while at the same time he conducted one of the most important nursery businesses in the city of Ghent. He taught with considerable success in the State School of Horticulture. He was a judge on the Tribunal of Commerce and a member of the City Council. He was Chevalier of the Order of Leopold of Belgium; had obtained the Civic Cross of the first-class; was a *Chevalier du Merite Agricole* of France, and had several other honours.

In his own country he honoured the profession by his talent, by his science, by his loyalty, probity, and by his generosity for the poor and humble. While being alert, loyal, and active he had contracted many sincere friendships far and near with whom he came in contact, both at home and abroad. We have on several occasions enjoyed his society both in London and in Ghent. Many of our countrymen have also pleasant recollections of him in connection with the great quinquennial shows at Ghent, in which he always had a large share of responsibility, and proved courteous and gentlemanly in bearing towards those requiring his advice or guidance. He leaves two sons, both of whom have stayed for some time in this country learning the language and our methods of cultivation. The business will now be conducted by M. Charles Pynaert.

READ THIS.

THE competition continues as usual next week.

The prize last week was awarded to Mr. Graham, Lanark, for his article on "Salvia splendens grandiflora," p. 151.

QUESTIONS AND ANSWERS.

Best Hardy Heaths.—*T. H. D.*: One of the most accommodating and easiest to grow is Erica carnea, which is also one of the most effective. The purple-flowered variety of it is the best. Other indispensable Heaths are E vagans (the Cornish Heath), with pink flowers; E. mediterranea, or the Irish form of it named E. hibernica, with pink flowers; also E. hybrida, which has much darker flowers than the two previous ones, and is believed to be a hybrid between E. mediterranea and E. carnea; and E. codonodes, with white flowers. The latter in time forms a large bush. There are some splendid varieties of the common Ling or purple Heather (Calluna vulgaris). There are many white forms, but C. v. villosa has hoary or gray foliage and long spikes of white flowers; and C. v. Hammondi has bright green foliage and white flowers. The double form C. v. flore pleno is very choice; and the same may be said of C. v. Alportii, with long spikes of bright crimson flowers.

Ampelopsis Veitchi not colouring well.—*H.D.*: We think it probable that your plants are grown in too shady a position, or in too rich soil. At all events the allied A. quinquefolia or Virginian Creeper behaves badly under those conditions, the leaves dropping while still green. You should take cuttings in spring and root them so as to get young plants for trying in different positions and soils. If the conditions are suitable small plants will colour as well as large ones, so that you can note the conditions under which any of them do best. For instance, you should select a sunny, open position, and plant the young specimens in soil that is known to be dry rather than otherwise. If the soil is inclined to be rich, some barrowloads of lime rubble mixed with it may so far correct it that the plants will be relatively dry at the roots during the autumn months. Highly coloured foliage, of course, falls earlier than that on plants in rich soil.

Shrubs for Growing under the Shade of Trees.—*W.M.*: Any of the creeping forms of Ivy will answer the purpose, and if you prefer the broad-leaved forms then you might get Hedera Helix latifolius (otherwise known as Irish Ivy), H. H. dentata or H. H. algeriensis, all of which grow quickly. If Ivies are not to your taste then you might choose between Aucuba japonica in variety, Ruscus aculeatus, R. hypoglossum, Skimmia Fortunei, and S. japonica, all of which have given more or less satisfaction under varying degrees of shade produced by trees. A dwarfer and denser carpet or covering is formed by the two best known Periwinkles, namely, Vinca major and V. minor. There are varigated forms of these but they do not colour well as a rule where the shade is heavy.

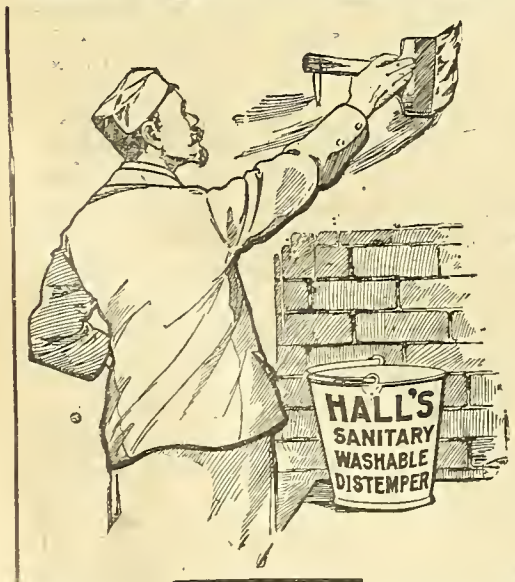
Soil for Fern Spores.—*W. Jack*: Pots and pans that stand a long time in a damp pit are liable to get covered with various green organisms of a low order; but possibly they have already stood too long for any of the spores to germinate now. Make sure that there are no prothalli of Ferns present before you disturb the soil. You may recognise them by their thin, membranous and sub-transparent character, whereas the green Liverworts that usually come up on pots are dark green, thick and rather fleshy in texture. Usually there is too much humus as well as spores and pieces of plants of a low order amongst the soil used. You might get some clay and smother-burn it till it is red and crumbles up in a fine granular or lumpy condition. When cold break this up rather finely and put it through a small meshed sieve to hold back the larger lumps. Use this as a compost. It keeps clean for a much longer period than any ordinary soil or peat.

Tall Plants of Heliotrope for Planting out in Summer.—*W. G.*: We presume you want to grow them over a framework so as to appear like one huge bush. If that is so, you have merely to select good strong plants from the cuttings rooted in autumn in the ordinary way for bedding purposes. As soon as well rooted pot them on separately and keep them growing on in a warm greenhouse during the winter. When the small pots get filled with roots shift them into larger ones so as to keep them moving. A high temperature is not necessary so long as the plants are growing. Light and air are necessary to keep them from getting drawn.

Names of Fruit.—*J. T. Hick*: Duchess of Oldenburg.—*J. S.*: 1, Blenheim Orange; 2, King of the Pippins; 3, Worcester Pearmain; 4, Lord Burghley.

Names of Plants.—*Omega*: Aster amethystinus.—*W. H. B.*: 1, Adiantum Capillus-Veneris; 2, Adiantum cuneatum gracillimum; 3, Adiantum cuneatum; 4, Pteris serrulata. Please put some damp moss in the box next time to prevent the fronds of Ferns, &c. from shrivelling up. *Principal*: Phacelia tanacetifolia, a native of California.—*J.S.*: 1, Asplenium lucidum; 2, Polypodium Billardieri; 3, Fittonia argyroneura; 4, Oplismenus Burmanni variegatus; 5, Ruellia macrantha; 6, Ruellia Portellae.—*P. D.*: 1, Aster puniceus; 2, Aster Novi-Belgii var.; 3, Aster diffusus horizontalis; 4, Aster Tradescanti; 5, Retinospora obtusa; 6, Retinospora squarrosa; 7, Veronica Andersoni variegata.—*D. C.*: 1, Centaurea ragusina candidissima; 2, Abutilon Thompsoni; 3, Abutilon magapotamicum variegatum; 4, Iresine Lindeni.—*A. C.*: 1, Oncidium praetextum; 2, Odontoglossum Pescatorei; 3, Cattleya Loddigesii Harrisoniae; 4, Laelia pumila var.—*H. J.*: 1, Erica vagans; 2, Mellissa officinalis variegata; 3, Coronilla glauca variegata; 4, Solanum marginatum; 5, Aconitum Fortunei; 6, Pernettya mucronata.

Communications Received.—J. Veitch & Sons.—R. G. W.—Robert Laird.—W. Riden.—W. W.—Omega.—Edwin Fleming.—T. D.—A. W.—R. M.—C. W.



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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, NOVEMBER 17th, 1900.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, November 21st.—Birkenhead; Woolton Chrysanthemum Shows.
THURSDAY, November 22nd.—Dundee (3 days); Norfolk and Norwich (3 days).
FRIDAY, November 23rd.—Cumberland; Aberdeen (2 days).

VEITCH'S MANUAL OF THE CONIFERAE.* —The new edition of this work forms a compendious volume of some 562 pages, including a bibliography and three indexes, the first of which deals with miscellaneous subjects, the second, merely the generic and specific names, and the third, the vernacular and common names. For purposes of reference there can be no doubt but that an index is of the utmost importance whether divided into several subjects as in this instance or dealt with alphabetically as a whole. The amount of information about Conifers, collected and here recorded, is very great and should appeal to all lovers of this important order, as well as to lovers of trees in general, planters, gardeners, and others interested in the "stately homes of England" with their "tall ancestral trees." Around some of them clings a great deal of history, particularly the native species, amongst which the Yew takes the first place on account of its longevity, and association with the varied history of the British Islands. The Fortingal Yew in Perthshire is reputed to be the oldest in this country, and though now only a mere shell, has a girth of 56ft. near the ground. Next to this come the Fountains Abbey Yews in Yorkshire, originally seven but in 1891 reduced to three still standing. The species is computed to live 1,100 to 1,250 years. It is believed to have been associated with religion prior to the introduction of Christianity, and most of the oldest trees still standing are associated with churches. In 1215, the Ankerwyke Yew near Staines, witnessed the signing of Magna Charta. John, Earl of Loudon, signed the Act of Union between England and Scotland under the Loudon Yew in Ayrshire. Victories on many an ancient battlefield were chiefly won by means of the long bow, which was made of Yew. All that is history apart from gardening, but its association with the latter commenced early in the sixteenth century. Evelyn claims to have been the first to introduce the art or practice of clipping Yews into artificial shapes. The great popularity of clipped Yews about the end of the seventeenth century and the eighteenth century is computed to be accounted for to some extent by the paucity of native evergreen trees and shrubs, which could be counted on the fingers. The introduction of evergreen exotics, however, gave a much greater variety of natural form, so that the quaint conceits in Yew, Box and Juniper rapidly fell into disuse. The history of some of the more remarkable varieties of Yew is also given, including Taxus baccata fastigiata (the Irish or Florence Court Yew) and T.b. adpressa.

To the student of geographical botany it is interesting to know that the common Juniper practically extends round the globe in the northern hemisphere, and reminds us of the cosmopolitan distribution of Conifers now only found in the fossil condition. The variety Juniperus communis fastigiata bears the same relation to the type as the Irish Yew does to the English Yew, but no history of it is here recorded, though in Gordon's Pinetum it is recorded as being a native of Sweden, Denmark, Norway and Russia. In the same book J.c. hibernica or the Irish Juniper is recorded as a distinct variety found on the mountains in Ireland. In "Veitch's Manual of the Coniferae," however, the two forms or supposed forms are included under the name J.c. fastigiata. Some of the varieties of the common Juniper are well suited for planting on the higher and drier slopes of the rockery on account of their slow growth, dwarf habit and suitability for the position. The Red Cedar (Juniperus virginiana) is also a variable species and some of the forms like those of the common one furnish distinct features or effects in landscape planting.

The most recent addition to the many handsome forms of Cupressus, namely, C. arizonica, is here recorded, and we hope it will not belie its promise of being hardy in this country. Its columnar habit and beautiful light green, glaucous hue will make it a favourite with planters in the near future, provided it continues to withstand our climate. Though only discovered on the mountains of Arizona in 1880, it was introduced to this country in 1882, and some of the specimens we have seen are 5ft. to 6ft. high. C. lawsoniana is the most variable of all the species of Cypress, as every gardener knows; but although a large number of them are here recorded, the tendency of the author is to restrict or reduce the number of forms or names which we find in nurseries. For instance, C.l. Allumi and C.l. Fraseri are considered to be synonymous. They are certainly closely similar in their glaucous hue, but most nurserymen and their cultivators with whom we come in contact stoutly maintain that they differ in form or habit. Both have very short branches, but those of C.l. Allumi are more erect than those of C.l. Fraseri, which are short and spreading. Here also we find such names as Chamaecyparis, Retinospora, and Thujopsis borealis have been merged in Cupressus. In like manner Thujopsis dolobrata, T. Standishi, and T. laetevirens have all been placed under Thuia, the last named being made a variety of Thuia dolobrata. For this genus it is certainly curious if not remarkable to note the diversity of opinion as to how it should be spelt. Our early recollection of it was Thuja; then Thuya was the rendering, here again displaced by Thuia, in which Thujopsis and Biota have been merged. It is to be hoped we shall soon settle down to the opinion that we have discovered the proper spelling at last as well as the correct generic name for the many species now ranged under Cupressus and Thuia. The history of the latter in brief is that Linnaeus adopted or adapted his Thuja from Tournefort's Thuya, which by general consent is derived from the Greek Thua or Thuïa, of Theophrastus, who applied the name to a tree or shrub that cannot now be identified, though it is supposed to be the North African Cypress, Callitris quadrivalvis (Endl) Tetraclinis articulata (Mast.) Gardeners and planters would do well to make a note of this.

The well known Retinospora plumosa and R. squarrosa with the colour varieties of the former are classed under Cupressus pisifera, as forms of it. Branches of squarrosa have proved that it is only the juvenile stage of C. pisifera, that is, the seedling, form, as gardeners would say. Both C. pisifera and C. obtusa are largely used by the Japanese for clipping and starving into certain artificial forms now getting pretty well known in this country. Some illustrations of them have been introduced in this work; and though they remind us of the topiary work as practiced in this country, they differ materially in being grown in very small pots and other vessels by which they are starved and dwarfed to diminutive size in proportion to their age. No doubt these miniature Conifers are destined to make their presence felt in conservatories and greenhouses of this country for a time at least, owing to the importations and sales of them, conducted in London, and possibly elsewhere, by pushing Japanese firms. The author has been so thorough in his work as to include C. thurifera (which is hardy on the shores of the Mediterranean, but not in this country) so as to complete his monograph of the genus. There can be no doubt that an exhaustive treatment of the subject in hand greatly adds to the value of a book, because rare or uncommon things crop up now and again to trouble the reader or enquirer, who thus has the necessary information ready to hand. Here we learn that Retinospora ericoides, of gardens, is only the juvenile form or jugendform (German) of Cupressus thyoides, a pretty though rather neglected species in this country. The quaint form Retinospora leptoclada has also been proved to be a state of Cupressus thyoides, a species which inhabits the swamps of North America from Maine southward to northern Florida. This fact should be noted by planters in this country, as it thrives best and longest in constantly moist situations, though the tallest trees we have seen of it were growing upon an elevated chalk plateau.

All the species of Cryptomeria are reduced to forms of C. japonica including the distinct looking C. elegans, which becomes C. j. elegans, following the lead of Dr. Masters in the *Journal of the Linnean Society*. Many species of various Conifers seldom or never seen outside hothouses in Britain, except perhaps in summer are carefully described, and much information of a useful character here recorded. A large number of illustrations showing the botanical characters as well as full sized trees or shrubs are used through the work making it a manual for reference that cannot fail to be of value to all classes of readers. Paper, type and printing leave nothing to be desired.

*VEITCH'S MANUAL OF THE CONIFERAE, containing a General Review of the Order; a Synopsis of the Species cultivated in Great Britain; their Botanical History, Economic Properties, Place and Use in Arboriculture, &c., &c. A New and Greatly Enlarged Edition by Adolphus H. Kent. James Veitch & Sons, Ltd., Royal Exotic Nursery, 544, King's Road, Chelsea, S.W. 1900. All Rights Reserved.

Snowdrops have been flowering for the past fortnight on the rockery at Kew.

Examination in Horticulture.—The Royal Horticultural Society will hold its next examination in horticulture on Wednesday, April 24th, 1901. For syllabus apply to the Secretary, R.H.S., 117, Victoria Street, S.W., enclosing a stamp.

Mr. J. W. McHattie is gardener to Whitaker Wright, Esq., Lea Park, Milford, Surrey, not to W. H. Stone, Esq., as stated in last issue, page 168, third column. He is busily engaged at present making new gardens and pleasure grounds, &c., that being the reason why we have missed him from the annual Chrysanthemum competitions this autumn.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, November 20th, in the Drill Hall, James Street, Westminster, 1 to 4 p.m. A lecture on "Mistakes in Fruit Culture" will be given by Mr. Geo. Bunyard, V.M.H., at 3 o'clock. The following dates have been fixed provisionally for meetings in 1901:—January 15th, 29th; February 12th, 26th; March 12th, 26th; April 9th, 23rd; May 7th, 22nd, 23rd, 24th (Temple); June 4th, 18th; July 2nd, 16th (Conference on Lilies), 30th; August 13th, 27th; September 10th, 24th; October 10th, 11th, 12th (Crystal Palace), 15th, 29th; November 12th, 26th; December 17th.

Acacia riceana has been selling in Covent Garden for about ten days. May is the natural blooming period of this Tasmanian shrub.

Weather in London.—Saturday was bright and agreeable; Sunday was bitterly cold; Monday and Tuesday were wet, and everything seemed miserable. No fogs have as yet appeared.

Great Vase Class at the Royal Aquarium.—As stated in last week's issue the prizes offered for twelve vases of Chrysanthemum blooms, cut with long stems, brought nine entries, which meant 108 vases and 540 blooms. The first prize was a Large Gold Medal and £20, the latter sum being offered by Mr. H. J. Jones, of Ryecroft Nursery, Lewisham.

Wonderful Mythology.—Everyone knows the pretty Bluebottle or Cornflower of our fields, the Centaurea Cyanus. The origin of the generic name is interesting. It is said to come from Kentaurion, the name Dioscorides gave to the Centaury Erythraea Centarium, which was said to have cured a wound in the foot of the Centaur Chiron, caused by the arrow of Hercules. Our ancestors of those thousands of years ago proved certainly to have had robust imaginations.

Beckenham Horticultural Society.—On Friday, November 9th, Mr. G. A. Blogg (Secretary, National Cactus Society) gave a very interesting lecture on the "Cacti of U.S.A., Mexico and California," illustrated with lantern views. He recommended gardeners to cultivate them more than hitherto, as they were so easily grown, a small space only being required to grow many of the beautiful varieties. They could be raised by sowing seeds or by cuttings. The plants require very little water at the roots, but a moist humid atmosphere to grow in. They could also be successfully employed for subtropical bedding, of which he gave illustrations. After the lecture there was a good discussion by Messrs. Cousins, Webster, Horlock, Coles and others. Messrs. Cannell, of Swanley, sent a fine collection of Cacti, also a collection of vegetables; Mr. Croswell (gardener to Mr. Bullivant) some seedling Gloxinia flowers.

Insecticide Sprayer.—A Guernsey fruit grower recently enquired of us what form of sprayer he could use, one which would do its work well without becoming chocked up. He condemned the ordinary garden syringes and the garden engine. Both, he said, "clogged up" too speedily. The "Knapsack Sprayers" were too heavy for continued use. We have made enquiries on the point and find White's small "Abol Sprayer" is recommended, and is in favour. It can be had from Messrs. E. A. White & Co., Ltd., of Paddockwood, Kent. This, or "Snow's Pump," we think ought to meet the requirements of our Guernsey reader. The last named machine may be had from Messrs. Osman & Co., 132-134, Commercial Street, London, E. The great thing when spraying is to thoroughly strain the compound (Paris Green, &c.), before using the solution. If this is not done, there is no instrument that will not become chocked.

Reading and District Gardeners.—At the last fortnightly meeting of the Reading and District Gardeners' Mutual, Mr. C. P. Cretchley, of the Honeys Gardens, Twyford, and formerly of the Royal Gardens, Kew, gave a very interesting paper on "Ferns; their Culture and Classification," treating the subject under the following headings:—General appearance and character, flowering, spores, character and germination, culture, sowing, stove varieties in pots, baskets, rafts, general ornamentation, greenhouse varieties, propagation, shading, insect pests, classification. A discussion followed, in which Mr. Stanton, Dr. Stansfield, Messrs. Powell, Blake, Bryant, Neve, Barnes, Burfitt, and Fry took part. A very unusual but interesting exhibit was made by Mr. Stanton, Park Place, Henley-on-Thames, who staged blooms of Aristolochia tricaudata (Mexico), A. elegans (Brazil), A. gigas Sturtevanti (Guatemala), and fruits of Diospyros Kaki (Japanese fruit), and Guavas. The other exhibitors were Dr. Stansfield (Fern, Scolopendrium crispum grande), Mr. Exler, The Redlands Gardens (Lily of the Valley), Mr. F. Lever, Hillside Gardens (collection of zonals). A vote of thanks was accorded the lecturer and the exhibitors. Two new members were elected.

A Correction.—The second prize for a floral display of Chrysanthemums was won by Mr. W. Howe, gardener to H. Tate, Esq., Park Hill, Streatham Common, S.W., not by Mr. E. Dove, as stated by us on page 171, in the third column. The label containing Mr. Dove's name belonged to another exhibit, but where placed was very misleading.

Dahlias, Cannas and Bedding Plants in general were still flowering freely in the gardens of the Royal Horticultural Society, at Chiswick, till the beginning of the present week at least. The flowering of summer garden plants in the open to the middle of November is quite phenomenal for the neighbourhood of London. Frosty mornings must soon put a stop to this; yet it mostly rains all day.

Death of Mrs. John Laing.—We regret to announce the death of Mrs. John Laing, widow of the late Mr. John Laing, Stanstead Park Nursery, Forest Hill, S.E., on the evening of Wednesday, the 7th inst. She had been suffering from heart disease for some time past, but appeared to be in her usual health up to the time she dropped down, to the consternation and great sorrow of one of her sons, in whose company she happened to be. Her late husband died on Wednesday, the 8th August last, so that three calendar months exactly have elapsed between the deaths of the worthy and highly respected couple. The funeral took place on Monday last at the Ladywell Cemetery, at three p.m. We sympathise with the sons, Mr. John Alexander and Mr. James Harry Laing, at the loss of both parents in so short a time.

Dundee Chrysanthemum Society's Carnival.—At the forthcoming show of this society on the 22nd, 23rd, and 24th November, several special features are to be introduced. The most important is the Challenge Vase recently presented by the Town Council, open to all comers. Such being the case there is sure to be a large number of entries with the view of gaining the first year's custody of the City of Dundee Corporation Challenge Vase. What is known as the Society Group will also be an important feature of the exhibition. This will consist of a selection of plants, cut flowers, fruits and vegetables gifted by members of the society and others. The produce will be sold on the second day of the exhibition, the proceeds to be handed over to the Dundee Royal Infirmary. Altogether the exhibition is expected to be one of the largest yet held by the society. We understand that many of the leading Chrysanthemum growers are going to exhibit there on that occasion, including Messrs. Norman Davis, H. J. Jones, W. Wells & Co., Mr. J. Forbes (Hawick), Messrs. Sutton & Sons (Reading), I. House & Son (Bristol), and various others. The music is to be supplied by the band of the Her Majesty's Grenadier Guards, who have recently returned from South Africa.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting was held at St. John's Parish Room, Redland, on Thursday, November 8th. Mr. G. Brook was in the chair, the attendance being large. Mr. G. Harding, of Clifton, gave the lecture on the "Migration of Birds," treating the subject in a very able and interesting manner. Observing that bird migration was world-wide in its operation and influence, he gave some details respecting the time of arrival and departure of the chief visitors to our shores. The reasons for this migration were for nesting purposes, need of food, and what he described as an occasional impulse to travel. He also gave much information as to the great power of endurance of birds on the wing, the high altitudes at which they travel during the daytime, the swiftness of their flight, and the large numbers in which the various tribes journey from one Continent to another, quoting largely from statistics collected by the lighthouse keepers on our coasts. He concluded his lecture by claiming that we could not exist without the asistence of these feathered friends, which derived their sustenance from the insect life around us, and which should, with very few exceptions, be efficiently protected. Mr. Harding was accorded the hearty thanks of the meeting for his valuable lecture. Prizes for six dessert Apples were awarded Messrs. Gardner, Marsh, and McCulloch; and for six dessert Pears to Messrs. Skinner, McCulloch, and Orchard. Certificates of Merit went to Mr. E. Poole, for collection of fungi; and Mr. Maddocks, for two vases of Violets.

Chrysanthemum Miss Rose.—For decorative purposes this lovely Chrysanthemum remains unbeaten. From first to last its tiny foliage, dwarf, and compact habit of growth, are most admirable. I have seen nothing to beat it among the single varieties. It is now a blaze of delicate pink in the greenhouse, and contrasts well with Source d'Or and Lady Selborne. It never needs disbuddling, always throwing out its flowers even and true. Any gardener wishing to have a thoroughly reliable decorative Chrysanthemum will do well to procure this.—*H. Willis, 42, Alexander Road, Englefield Green, Egham.*

Liverpool Horticultural Association.—The meetings of the above to be held in December 1st, January 5th, and February 2nd, respectively have been arranged. "Soils and their Treatment" was delivered on November 3rd by Mr. R. G. Waterman. "Begonia Gloire de Lorraine," by Mr. C. Sherry is down for December 1st; "The Progress of Horticulture," by Mr. T. White on January 5th; and "The Japanese Chrysanthemum," on the same evening, by Mr. Jas. Heaton. "The cultivation of Vegetables for Exhibition," by Mr. B. Ashton will be the last of the session. The meetings are held at the secretary's office, 7, Victoria Street, Liverpool, at 7 o'clock. Mr. Harold Sadler, is the secretary.

Hamilton and District Gardening and Forestry Association held their monthly meeting in the Y.M.C. Rooms on Tuesday evening, 3rd inst., when there was a good attendance to hear Mr. Chalmers, 24, Frederick Street, Edinburgh, give a most interesting and instructive paper entitled "A Trip to the Bulb Fields of Holland," which he treated with much care and consideration. He described most carefully the cultivation and propagation of the Hyacinth and Tulip. The paper was beautifully illustrated with limelight views, which added much to the enjoyment of the paper. Mr. Chalmers was awarded a most hearty vote of thanks. Mr. Finnie, of Obansbaw, staged a very fine lot of Chrysanthemum blooms, also a most exquisite Orchid in flower, Dendrobium formosum giganteum, with over sixty fine flowers.—*J. M.*

Chiswick Gardeners' Mutual Improvement Association.—The autumn programme of the above association for 1900 has been arranged. Those who are to deliver lectures are eminent men. Each one deals with what is more or less a pet subject; hence the likelihood of a masterly dealing with the same. On October 25th Mr. F. E. Shrivell, F.L.S., well known by his manurial experiments, lectured on the "Value of Chemical Manures in Fruit and Kitchen Garden." Mr. J. Fraser, F.L.S., spoke about "Alpine and Rockery Plants," on November 8th. "Grapes" is the laconic title of a very wide subject to be treated by S. T. Wright, Esq., on November 22nd. The first December meeting held on the 6th of the month, is to be entertained by Mr. T. Humphreys, whose ideas on "Autumnal Tinted Trees and Shrubs" will be worth the hearing. Mr. Walters treats of "Orchids" on December 20th.

GROWING CARNATIONS IN THE OPEN.

It is often said by gardeners that Carnations will not do well in the open. I venture to say that this is a mistake, providing the beds or borders are prepared in a proper manner. In preparing a bed select an open piece of ground, two rods by one, dig in deeply about a cartload of good cow manure, half a load of good loam, and about two barrow loads of wood ashes or soot. This will raise the bed about 6 in. Make the bed firm, and plant in rows about 2 ft. apart and 1 ft. from plant to plant. October or early in November is the best time to plant them. Secure the plants with as much soil on them as possible; they will then get a good root hold before the winter sets in. Before we get very sharp frost give the bed a dressing of coarse leaf mould or fine bracken. It is also a good plan to pot up a few plants, and keep in a cold frame to make up with if any should go off. In the spring keep the bed free from weeds, but on no account dig between the rows. Should the months of May and June be hot and dry give the bed a good watering with weak manure water occasionally. I might say there are many thousands of the leading varieties grown in a similar manner in this neighbourhood.—*H. W. Lewis, Hayes Village, Kent.*

HERBACEOUS BORDERS.

If flowers are wanted in the open all the year round we must have a good herbaceous border to depend on, where Christmas Roses and winter Aconites can be gathered from now on to January; Snowdrops, Crocuses, and Hepaticas with the beautiful white Arabis in February. March brings some of the Anemones, Daffodils, Primroses, and Aubrietias. As the days lengthen in April we have more Daffodils, Tulips, Jonquils, and Hyacinths. After that a great many different varieties soon come on in succession, such as Aquilegias, Campanulas, Irises, Paeonies, Roses, and Gaillardias. In the autumn months we have Montbretias, Chrysanthemums, Sunflowers, and many varieties of the Aster or Michaelmas Daisy. Herbaceous borders ought to be from 10 ft. to 15 ft. or more wide, as a better arranged border can be made where there is plenty of width to work on. It should be trenched two spits deep, burying plenty of old leaves and rotten manure with any old potting soil added. Herbaceous borders are generally planted with a different variety of plant time about; but, where big lots of one colour of flower are wanted, I prefer planting clumps of five to ten plants of each variety at a distance of 2 ft. between the lines, and 3 ft. between the plants, as it saves a lot of tramping in through your border. The three back lines should be planted with the tallest growing plants, keeping the next three for a smaller size, and the rest for lesser varieties.—*Thomas S. Dick, Castle Milk Gardens, Lockerbie, N.B.*

ICE HOUSE FILLING.

This is an important operation in those establishments where the ice house exists; and the first opportunity should be taken in case the weather should prove fickle and a second chance not occur. Where there is a large expanse of water, this work is much easier than where several ponds have to be drawn on for a sufficiency to fill the house. A good stage should be constructed by the side of the water, where it is most convenient to back the carts to and draw away. By throwing the ice on to a stage it can be shovelled into the carts in a clean state, and thus save annoyance to the butler, which must be the case as I have seen it—a mixture of ice and mud! When thrown into the house, ice should be broken and rammed to fill up interstices. The ice house should be furnished with a drain to carry away the moisture, although an ingress of air must not be allowed through the drain, as that would cause the ice to waste. In those good old fashioned places where the park is bounded by a wall, preferably facing the north, an ice heap may be formed, that will come in for the first demands; and save opening the house as long as possible. Cover the heap with a good coating of saw-dust; surround it by a post-and-rail fence, thus preventing the attentions of cattle roaming the park.—*George Potts, Streatham, S.W., November 12th.*

STOKING.

There are few things more important in the cultivation of plants and fruit under glass than the skilful management of the fires, and there may be some young readers of The Gardening World to whom a few hints on this subject may be useful. Now to take the two fuels most generally used, anthracite coal and coke, the former is decidedly the best, although I have known it to be discarded because its requirements were not understood. It is more durable, gives greater and steadier heat, and makes little ash or clinkers. The essential point is to have a good draught, therefore use coal quite free from dust; next, never disturb the fire unless to remove a clinker. Clean the bars from underneath by passing the clinker iron backwards and forwards between them. The dust can be disposed of by making it damp and banking the front of the fire up with it at night. It is, perhaps, unnecessary to make any remarks regarding coke, as it is more generally used, and will burn under almost any conditions; but whichever fuel is used the following rules should be remembered:—Always keep the flues clean, for dust is a non-conductor and consequently wastes fuel; keep the ashpit clear; no fire will burn properly without. At this season always start the fire early in the afternoon; it is much easier to keep up the required heat and can easily be controlled by the damper.—*G. Robins, The Gardens, Dudley House, Springrove, Isleworth.*

THE BEST ASTERS.

In a recent issue of The Gardening World I read with much interest a list of some of the best Asters, and I should like to give my experience of the best from a collection numbering one hundred and fifty varieties. I propose giving them in their order of flowering with the colours.

Early Varieties.—Thompsonii, light blue; laevigatus, pink; acris, pale blue; Henryi, dark blue; Shortii, blue; Nancy, light blue; T. Smith, large blue.

Mid-season Varieties.—Cordifolius albulus, drooping white; Arcturus, dark blue; Cottage Maid, pale blue; Mrs. Raynor, bright red; diffusus albus, white; pulchellus, purplish-blue; laevis floribunda, blue; cordifolius elegans, lavender; cordifolius majus, pale blue; F. W. Burbidge, large blue; umbellatus, distinct white; White Spray, white; Amellus Stella, large blue; ptarmicoides, white; Coombe Fishacre, pink; vimineus Cassiope, white, golden centre; spectabilis, dark blue; Amellus Riverslea, dark blue; densus, dense blue: cordifolius Diana, pale lavender; asteroides, whitish-pink; John Wood, white; Ella, very large blue.

Late Varieties.—Dumosus, white, pink centre; ericoides, pendulous, white; diffusus horizontalis, deep red centre; multiflorus, small white; Maia, very fine blue; Chapmanii, blue, light habit; Walter B. Childs, deep blue, very good.

Very Late Varieties.—These commence to flower in November and will be found extremely useful. Tradescanti, white; turbinellus, blue; diffusus pendulus, good white; Amellus Framfieldi, the best Amellus variety; grandiflorus, fine purple. —*A. Thatcher, Elstree.*

GARDENERS OF THE OLD STYLE.

There is no mistake, they were all right in their day and generation, and large Leeks and Onions and big bunches of Grapes were just as much in evidence then as now. Still, it's just as well, perhaps, the "oldsters" are passing over to the majority. Their ways were their own.

I remember curious little happenings about many of them, which cause a reminiscent smile even now. One old worthy who had been thirty years in one situation, was detected by the lady of the manor lying on the garden walk senseless and speechless. In great haste she ran to the Colonel, exclaiming as she dragged him to the scene, "John's drunk!" "Nonsense, my dear," tranquilly said her better-half, "the man's tired; he's just resting himself." John was indeed very, very tired. Another fell an easy victim to thimble-riggers, and was extricated from his plight by our head partner and my father locking up the sharper, and compelling him to disgorge his plunder. An old friend of mine had a long road to travel home from the station, and an incidental fence to climb. In order to do so untrammelled, he stuck his new umbrella in the mud, and manfully struggled over. Alas, the umbrella didn't. It stayed right there. Another I knew, who when his employer used to buy seeds from a firm he did not approve of, used to quietly hold them over the fire on a shovel till all was safe, and then triumphantly exhibit the result in crop failures of changing seedsmen.

One old man used to use a wet rag as a thermometer in winter. He claimed it beat all as a frost indicator. I know one gardener who never confesses to ignorance of a plant name to his employer, and if you should hear some of the improvised names you would have a fit. Still another I saw sowing white and blue Campanulas in a box, at either end, with no division between them. He expected to raise a crop for sale, but it beats me to know how he would tell them apart. It is good that gardeners are extricating themselves from the state of vassalage which was theirs so long, and elevating their calling to a profession.—*C. Macquarie, Chicago.*

THE PLANT HOUSES.

Solanums.—These beautiful berried plants are yearly grown in increased quantities. Like the fruited Citruses (Oranges), they are attractive objects and are decorative for at least four months of the year. The Oranges, of course, would last longer if one allowed them to, but a change is in their case necessary. Solanums will best carry through the winter if they are kept in a house with a temperature of from 58° to 65°. The hygrometric conditions should lie at the happy medium—neither too moist, nor too dry. Solanums should be kept rather dry at the root, but not so dry as to try the resistive power of the leaves. As a rule they are free from pests, and when they *are* infested a vigorous syringing with warm water and petroleum emulsion will refreshen and brighten them.

Cinerarias, Calceolarias and Cyclamen all receive the same methods of cultural treatment at this time. In each of their cases, what may be termed a nice growing temperature, somewhat cool, say 50° to 60°, should be maintained. Cyclamens that are beginning to flower may be made to share a house with Zonal Pelargoniums, and while receiving a constant supply of fresh air, the temperature should certainly not be allowed to fluctuate or fall below the 50°. Occasional weak supplies of liquid manure should be given to Cinerarias, Zonals and Cyclamen. The Calceolarias will hardly call for feeding yet. A late sowing of Cyclamen may be made, although we ourselves prefer August for commencing the year's routine in Cyclamen growing. Cuttings of Zonals which are now rooted will be found to last best if they are confined to the small pots for as long a period as possible. This encourages hard growth from the first. Suckers must be removed from the Cinerarias that are about to flower. Steady development in their case gives far the most satisfactory results—good blooms, large heads, deep colour and lasting qualities. I hope to see the "Star Cinerarias" (C. stellata varieties) in great evidence this year; nothing beats them.

Primulas.—What has been written in reference to Cinerarias is applicable to the Primulas. Here also the old-fashioned type has again come to the front under the appellation of Star Primulas. They are very graceful and worthy of appreciation. The Lady furnishes a good type of this section. The Messrs. Cannell have also joined the large flowering qualities of the improved Primula sinensis, to the graceful and free-branching habit of P. stellata.

Chrysanthemums.—The chief duty of the ardent Chrysanthemum grower during the present passing weeks is to keep a look-out for valuable new varieties. By the reports on the various collections situated in different quarters of the land he will be better able to judge how the recent introductions are behaving and which of them are likely to become lasting favourites. In the cultural routine a moderately dry and cool atmosphere should be aimed at. It requires a constant but slight circulation of heat to maintain the proper condition of things, but it is always best for the sake of the plants to do so. Be careful not to "slush" water about, and plants in full bloom are better to be kept rather on the dry, than the wet side.

Lily of the Valley will now be put in for Christmas forcing. Select only stout crowns and pot them in pans, and these pans may then be placed in a darkened forcing house.

Violets in pots must necessarily be kept on shelves in the greenhouse or in pits or frames adapted to them. In some gardens they seem to grow without any trouble and do well; whereas in others no amount of care seems to have any effect. They require "knowing," but when once the best place for them has been discovered and the method of culture has been determined these should be closely followed afterwards.

Freesias.—Freesias for Christmas or earlier are now on the shelves of the Cyclamen and Zonal house. They require to be fed about three times a week. In a very short while the flower spikes will be appearing from those bulbs potted in August, and when seen they will be placed into a warmer house, from 63° to 68°. At present the leaves are about 4-ins. long.

Bulbs and Plants for Forcing.—Many of the earlier potted bulbs, including Narcissi, Roman Hyacinths, &c., should be placed in an intermediate house for gentle forcing. Lilacs, Azaleas and Deutzias must shortly be brought in for the same purpose. Hardy Rhododendrons when boxed off can be forced early in the new year.

Potting.—All plants in need of potting, and this may include stove plants, Lapagerias, Palms, &c., must be attended to. Climbers past flowering may be pruned.—*J. H. D.*

HINTS FOR AMATEURS.

Tidying the Garden.—With frequent winds and rains it may seem useless to endeavour to keep a bright and clean face on the garden. But by taking advantage of the good weather, while we have it, the leaves, the dying and drooping plants that are to be found all around, can be disposed of, and though the garden becomes shorn of its attractions there is yet nothing unpleasant in the aspect as presented. The emptiness is a natural result of the season, but so far as possible even the emptiness should furnish a certain measure of satisfaction. Ground must be rested like everything else, so that there is utility even in this. The garden can be as smart and clean in the duller months as in the bright, warm days of June, July, or August. Ground bearing spent crops should be cleared, either by burning the crops or by carting them off elsewhere. Such land need not be dug at once, but should be surface-cleaned. If light land was manured and dug at so early a date without having a crop to nourish, the supposition is that much of the fatness gets washed out of the soil before springtime. On the other hand, heavy soils are drier when left undug. As a rule they are always damp, or wet enough, so that really the non-digging is a feature of scientific practice. But on these lines we need not reason far; and on this question of keeping the ground clean the bearings are limited, because, unless for a brake here and there which is being allowed to rest, most of the land will be occupied. Kales, Spinach, Parsley, Cabbages, or Broccoli are suitable vegetable crops for winter, and these are now occupying parts of the garden. In light soils the green manuring is generally a recommendable practice, though on the whole it is best to apply manure and decomposed vegetable mould direct to such land. Where crops have been diseased these should be burned.

Lily of the Valley.—Though the beautiful flowers of this little plant can be had throughout all the season, yet the old forcing practice is most largely in vogue at this time of year for Christmas, and again for Easter. Secure stout crowns and place them in leaf-mould and light soil in boxes, or in pots, for forcing them in a dark, warm pit. When the flower stems have appeared nearly their full length inure the plants then to the full light in order to deepen the colour of the leaves and to strengthen the stems. I have read of Lily of the Valley having been successfully grown for forcing in coke-breeze. Forced crowns are of little worth for any further supply in succeeding years, even when they are well cared for. As a matter of fact market men cut the stems off above the root, and throw the then useless root away.

Border plants may be divided and rearranged at this time. The smaller plants can better be shifted in the spring when the bulbs are through the ground, at which time the borders are pointed over and smartened up a bit.

Tulips.—A great many Tulips are planted in the beds during the early part of November. They always do much better in soil that is deep and which has been properly dug at an earlier period. The matter of manuring is not so important, although a fairly rich soil is much enjoyed by these bulbs. It is not advisable to put in any manure at the time of planting. The only time manuring should be done is when the ground is being dug. The surface soil can be dressed over with fibre or even leaf-mould. This will protect the bulbs and keep the soil at a more even temperature. Plant the Tulips 4 in. deep, placing some sand below each one while doing so. After filling in the soil press it moderately firm and leave the surface even, but do not make it so smooth that it glazes. The bulbs should be in lines 9 in. apart, and about 6 in. between the plants in the row.

Narcissi.—In all respects the Narcissi or Daffodils should be treated in the same manner as the Tulips, only that they require slightly more space than the Tulips. Spanish and English Irises, Iris reticulata, &c., should be at once planted, choosing the sunniest spot and the lighest and richest soil in the garden.

Fruit Tree Planting.—Comparatively speaking very few amateur gardeners plant fruit trees, notwithstanding the fact that they are ornamental as well as very useful. There are reasons for what may be termed this rather unwise abstinence. Some think that fruit trees and their ultimate upkeep are too costly: others imagine that they require more than ordinary skill to enable fruitful plants to be grown, or they may never have thought of going so far into gardening as to become fruit growers within their own domain. The cost for a nice young wall tree to cover 12 sq. ft. or thereabout is hardly ever more than 3s. or 3s. 6d., and good trees can be had at this price. Then the culture to obtain fruits demands only attention and common-sense treatment. In the first case, buy good trees from a reputable nurseryman. It is always worth a little extra money to send even to a distance for the best class of stock, for then you may expect fruits from the start, and besides the saving in time one is having a model always in front of him from which to learn. A fruitful tree is easy to keep fruitful, but a barren tree requires much time, work, and patience before it becomes productive.

In the majority of amateurs' and cottagers' gardens low walls exist. All of these I should like to see supporting fruit trees. Cordon trees, that is, trees trained to a single stem without having branches, are always favourites with me for covering such low walls as I speak of. At the same time the fan-shaped Apple, Pear, or Plum trees do exceedingly well, and are easy to keep in order. The great point to attend to after having properly planted the trees is the pruning of them. Not amateurs alone but men who have spent their lives as gardeners very frequently allow their trees to "run away," making long shoots, which are nailed in, instead of being shortened back, with the result that in eight or a dozen years the centres are without a single piece of young growth or fruit bud. It may be taken as a general rule that young fan or horizontally-trained trees of the kinds referred to should have their shoots shortened back at least one-third their length so soon as they are planted. To be cut back to half-length would be often better than one-third. But unless there are one or two good buds below where the shoot has been shortened to the pruning will have been purposeless. The idea is to give increased strength and vigour to the shoots which these back buds will develop. The shape of the tree must also be kept before the eye of the operator. The tips of the radiating branches should form a half-circle. When the young shoots start in spring it is good to remove the weakest where a number are growing at any one part of the branch or branches.

Pinching and removing crowded buds is just a system of pruning, and has the advantage over knife pruning in this that it prevents the development of woodgrowth, which has only to be cut away as unnecessary at a later period in the year. Pinching and removing superfluous growths allows full air, sunshine, and dews to have their great and good effect upon the shoots that are left, and it also throws the sap and strength which the superfluous shoots would draw up into the chosen ones. Gooseberries, Currants, and Cherries are very profitable crops for the walls of small gardens. More particular details on this subject will be continued in next week's "Hints."—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Greenhouse Climbers.—*R. Upton:* Plumbago capensis will be found to succeed best if planted any time during the next three months. This rule holds good in the case of all similar greenhouse climbing or pillar plants. Growth during this period is inactive or almost so. Planting, therefore, does not check either the roots or the shoots. In all cases give careful attention to the preparation of the drainage. The soil in which the plants are to grow should be of a quality to suit their needs. As a rule a rather heavy loam can be safely used for all climbers. If the loam is so adhesive and close that it never crumbles or breaks to pieces, it is then too heavy. Such a quality of loam would require more than its own bulk of light, fibrous old-potting soil or leaf mould, road scrapings and sand. A dash of moderately coarse mortar rubble is also commendable when preparing a soil for greenhouse climbers. Lapagerias like a firm soil having about a quarter part of peat and some charcoal incorporated. Fuchsias make splendid subjects for the rafters. They enjoy a light, rich soil, and require to be fed frequently with manurial waterings. Tacsonias, Passifloras, Clematis indivisa and Solanum jasminoides, are all quite suitable for yourself or any other amateur. They grow with a modicum of care and do not call for either elaborate houses nor exacting conveniences. It is advisable to confine the roots of all of these, and they will flower more freely. Do not cramp the roots, however, to start with. Lonicera sempervirens, or Trumpet Honeysuckle, can be had in flower from September till mid-winter. Tibouchina macrantha, with violet-blue flowers; Manettia bicolor, with rouge and orange tipped tubular blossoms; various Abutilons, Maurandya scandens; with rose-pink flowers, and for pillars rather than the roof, Streptosolen Jamesoni. The latter can always be got to grow well enough, but it is sometimes hard to make flower.

Schizanthus for Spring.—It was recommended to make a sowing of these lovely annual plants a few weeks back; where this was done the pots will now contain a number of seedlings. If need be, thin them out a little. Keep them growing steadily in a cool greenhouse. They will require one shift, from the 3-in. seedling pots to a 5-in. or 6-in. pot. The potting should be done firmly. After a while three or four stakes will be necessary to support the plants. If very dwarf specimens are desired for the edge of the conservatory stage, the plants may be pinched to keep them dwarf. They need not be shifted into the larger sized pots. It is advisable to keep them near the glass.

Forcing Snowdrops.—*Xmas:* One of the most important points to remember in the forcing of spring flowering bulbs is their need for good light. You may subject the Snowdrops to a stove temperature, but unless they are placed within half a foot from the glass they will make little or no progress. The glass or its effects, draws them up. When they have started growth place them in an intermediate temperature, and finally, for extra early forcing, they may be placed in a house with a temperature of 65° minimum, to 70° or more as a maximum.

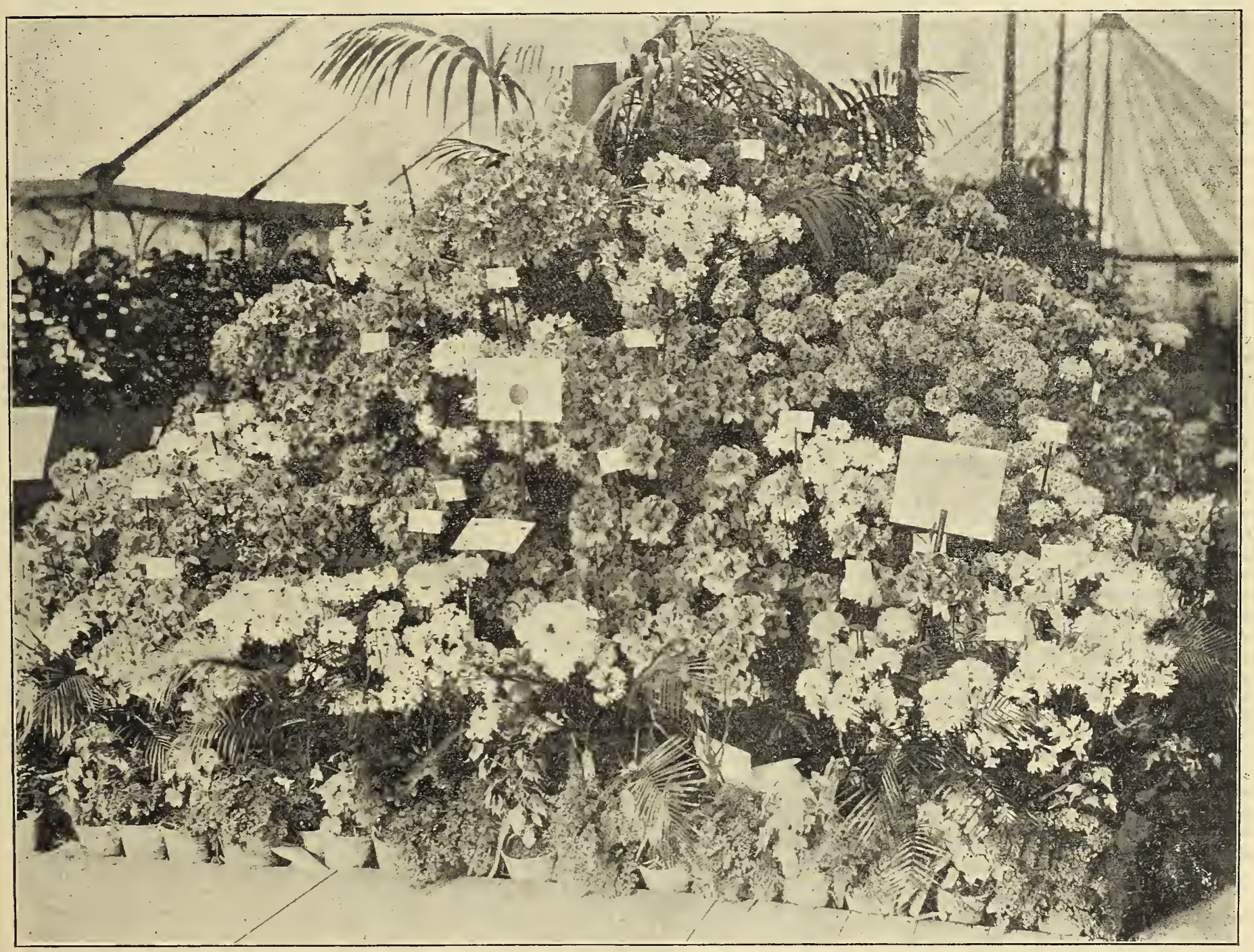
Puddling a Pond.—*Skater;* For your present purpose the pond will not require to be very deep. Of course if you wish to use it for boating and for other purposes 2 ft. depth may be allowed. The best puddling clay is not always easy to get. It is of a slate-blue colour, is heavy, greasy and very adhesive. But ordinary plastic red or brown clay to be found in strata close by sandstone formations is quite suitable. It should be worked up with a quantity of water which you may judge necessary. The puddling itself simply means the spreading out of a layer of this mud, over the sides and surface of the excavated portion which has been planned for the pond or lake. Make the clay close and even by working it with a scraper-like tool. The thickness of the layer entirely depends on the convenience for getting the clay and the quality of it. An adhesive clay will only need a thin layer, but a more permeable quality may be spread over to the depth of half a foot or more.

Rats in the Garden.—*D. Stuart:* Rats are often to be found burrowed in the vegetable quarters, especially in ground where Peas and Beans have been grown. Having cleared the surface of the brake, the best means of killing out the rats is to dig up their burrows, commencing at the mouth. A number of persons with sticks can generally kill the whole family. Mice can be smothered by placing soot in the holes.

Planting Orchard Trees in light soil.—*Fred. Barton:* When one has to deal with such soils as yours seems to be, the only, or at least the best plan, is to line the bottom of the holes with clay. Such gravelly and sandy soils will never support good orchard trees, and if you can possibly afford it at all, try also to obtain fresh loam. A little of the light soil mixed with the loam might be an advantage. Take out an opening 3 ft. deep and 4 ft. wide, and having secured clay proceed to give the bottom a lining. Over the clay should be furnished a stratum of the loam to the depth of about a foot, when the tree may be planted and mulched.

A FINE GROUP OF AZALEAS.

For some time past we have had in view the reproduction of the accompanying illustration of a splendid bank of Azaleas put up at the Temple Show last spring by Messrs R. & G. Cuthbert, Southgate Nurseries, Middlesex. They were set up at one end of No. 4 tent, and appealed to a large section of the British public by their brilliancy and floriferous character. They consisted chiefly of Ghent Azaleas and varieties of A. mollis. By the former we mean the older varieties and hybrids of the North American deciduous and hardy Azaleas which have been so greatly improved by the Ghent nurserymen and put into commerce by them. For size of flowers they have been excelled in recent years by the magnificent varieties of A. mollis, chiefly notable for their huge flowers of some shade of soft red, orange, bronzy, amber, yellow and other highly attractive shades of colour. On the occasion mentioned they had large and grandly flowered plants of President Cleveland, Comte de Quincy, Elizabeth Davies, Anthony Koster, and Mrs. A. E. Endtz. It is now widely known that for size and real beauty Anthony Koster takes a leading place. It was accorded a First-class Certificate by the R.H.S. in 1893. Gardeners for some years past have not only been regarding it as an indispensable acquisition for the greenhouse and conservatory, but that it was the finest of all yellows. Nevertheless when A. mollis × sinensis Mrs. A. E. Endtz made its appearance at the Drill Hall last spring, it was seen to be possessed of even finer colour than Anthony Koster, for the flowers are several shades darker, being of a rich orange-yellow, and no way inferior in point of size to the older form. It was accorded an Award of Merit last spring by the R.H.S.



A Fine Group of Azaleas.

CHRYSANTHEMUM NOTES.

Messrs. CANNELL & SONS, SWANLEY.

Messrs. H. Cannell & Sons, Swanley, Kent, have a tip-top display this season. Some 3,000 plants are massed in a span-house, 165 ft. long by 25 ft. broad. Nearly all the plants represent introductions of the present and last year. The collection is thus up to date. Most of the Australian and Continental novelties are exhibited. Among them there are some sterling varieties. The incurved Japanese sorts are seemingly in the ascendant. No special line of colour, however, can be said to receive preference. Yellows, pure and creamy whites, and "reds" are about equally numerous. The quality of the entire collection reaches a very high standard. The plants are strong, sturdy, and bear, in nearly every instance, massive blooms, altogether well finished. But on this point we need not dilate. The perennial invitation from Swanley is well-known to be "Come and See." There is a frequent train-service from London and all around. Those who determine a visit will assuredly be gratified and satisfied. But for the benefit of far-off residents the present notice may stand in lieu of a visit by them.

Amongst the Japanese varieties some are of greater merit than others. Mrs. J. J. Tilley is an incurved Jap. taking after the John Pockett style, but the reverse is a brighter gold, and the upper surface a livelier red, than is possessed by the latter. Sydney Brunning is a new variety. It is grown in some quantity at Swanley, and is thought well of. The colour is very desirable, being bright bronzy-gold below and crimson purple above. The blooms are large and solid, but do not always finish well. M. J. Holtzer is certainly an improvement among yellows. It is distinct, and, we are told, comes well from any bud. Marquess Viscount Venosta has magnificent blooms, deep, well-formed and strong. The incurving petals are lilac beneath and pale mauve above, a beautiful and appreciable combination. Mermaid, a variety with large specimen blooms, is certain to have a future before it. Standing out conspicuously from amongst many neighbours, the white blooms, softly flushed with lilac-rose, present a charmingly sweet object. This, with another new Australian variety named Marjorie, should be made note of. Marjorie takes after the same pattern as Mermaid, but is a deep rosy-cerise, or even so deep as mauve at certain stages, and has silvery-lilac reverse. Both are good Japanese varieties. Mdme. C. Terriere, a lovely French introduction of deep rose tint, with the build of a first-class Viviand Morel, is another of those that best pleased us. Lady Audrey Buller, bright canary yellow, is one of a sort that is wanted. Meredith is also yellow, but of a paler yet very sweet shade. The flowers develop enormously. Mrs. Alfred Tate, a rich terra-cotta red sport from Etoile de Lyon, should prove popular.

Messrs. Brunning, of Australia, have sent out quite a number bearing their family name. Thus we have Hector Brunning, bright crimson-red, golden below, one of the very finest among the novelties; Mrs. Geo. Brunning, senr., golden and bronze below, rich reddish-chestnut above; Maria Brunning, blush-pink, a graceful flower; Mrs. Poppy Brunning, deep crimson above, primrose below, also distinctly good, besides which there are Mabel Brunning and the Sydney Brunning mentioned earlier. Other good Australian Chrysanthemums are Mrs. F. Gray Smith, a rival to R. Hooper Pearson in depth of yellow, but has greater build;

Sir H. Kitchener, rich terra-cotta; and Lord Brassey, crimson and old gold.

Other specially meritorious varieties from various sources include Snowdrift, an incurved Jap., pure white, and having broader petals than any other we know. Mrs. W. Cursham, white and flushed rose, forms large exhibition blooms. Princess Alice of Monaco, a white incurved Jap., resembles Miss Alice Byron. Swanley Giant has come well at various places this year. It has a white ground heavily overlaid with purple streaks. Mons. Raymond Desforest is a fine incurved variety, rich crimson with golden reverse, and is certain to become popular. Lephoris is a Jap. with grand blooms of a glowing canary-yellow. Pearl Palace is an exceedingly smart incurved variety with lilac-peach flowers, and praised wherever it is seen. Mrs. Mease, deep primrose; Le Grand Dragon, deep yellow overlaid with pale amber; and Soleil d'Octobre, soft canary-yellow; are better known sorts, each of which have opened splendidly at Swanley. N.C.S. Jubilee is also as good as the newest of them; Mdme. Edmund Rogers was almost sold out. The "green 'un" obtains demand whenever a well-flowered plant is seen. Lionel Humphrey, Globe d'Or, creamy centre and pale mauve towards the base of the bloom; Mrs. Poppy Brunning, an Improvement on Master H. Tucker; Myra, soft white centre, lilac base; Mrs. J. Bryant, purple; and Phyllis, an incurved Jap. with bronze-gold reverse and reddish-purple above, the under-colour being most prominent, are each select varieties.

The lovely pink Mrs. Wingfield, the decorative sort, is also valued as it ought to be. Mrs. Coombes, a blush-pink Jap., is distinct and truly attractive. Lady Hanham is also very superior this season. These may be accepted as amongst the choicest of exhibition sorts as seen in the first week of November at Swanley. But before concluding our notes we would like to furnish a summary list of the best new decorative arrivals.

Mr. A. H. Wood, the grower, has been working upon the variety, Mrs. Filkins, to get seedlings of the same habit and style, but with new colours. He has been fairly successful. Such kinds as Red Thread, White Thread, Pink Twist, Curio, Reine d'Or, &c., represent various distinct seedlings from Mrs. Filkins, and when they are fully developed should prove exceedingly attractive. Lizzie Hatcock is a brighter variety than Source d'Or. Crimson Source d'Or is well shown. Mrs. Gregson, lilac-mauve; Victoria (single), primrose, deeper yellow centre; Cannell's Favourite, a pretty white sport from Mrs. Filkins; and Rev. W. E. Remfray, deep amaranth; are also grand decorative Chrysanthemums. Ladysmith is a medium-sized, flat flowered, lilac-mauve single, worthy of note. Fashion is a buff sport from Source d'Or; Mytchett Beauty, deep canary; Elegainz (new), rose-pink ray petals, very large and attractive; Miss Harvey, with finely fringed pink petals is becoming a general favourite; Ryecroft Scarlet and Yellow Fitzwygram have also done A1. Cornstalk is rather a curious subject.

FINSBURY PARK.

The collection under Mr. J. Melville's care at Finsbury Park is less extensive than that seen at Victoria Park. The house is a large and wide lean-to, running north and south. The arrangement of the plants is on the usual banking-up system, the outline of the front line being serpentine, that is, projecting here or receding at another part. The blooms were at their freshest on Saturday, November 10th, when we visited the display. On the end walls lovely decoration varieties were spread out, while up each of the iron pillars the central length of the house, grandly grown branching plants of the pink-flowered Margot were wreathed. The Crimson Source d'Or formed a continuous line or curtain along the back wall. Of the varieties of note in the body of the collection we noted Lady Osborne, lilac-blush, as being specially good. Philadelphia, creamy, and massive flowers of Mrs. Mease were also conspicuous. N.C.S. Jubilee and Mrs. H. Payne with Mrs. H. Weeks, Le Grand Dragon, Phoebus, and Mrs. Philip Mann were very attractive. These each bore blooms of standard merit. The bright orange Mrs. F. Jameson had some capital blooms, which were well coloured. Edith Tabor, J. Shrimpton, G. W. Childs, a beautiful deep and glowing claret-crimson, W. H. Lincoln, and splendid blooms of Florence Molyneux, each in their turn formed the object of special praise. Sir W. Raleigh, pale lilac or blush, and Lady Hanham were also very fine. Princess Charles of Denmark, golden, and James Bidencope, mauve, were as good as any. Amongst incurved sorts the Duke of Wellington, Modesto, and Louise had clearly the finest blooms. Lady Ridgway, Lord Alcester, Gloire du Rocher, Chrysanthemist Bruant, reddish terra-cotta, Mr. Bunn, Globe d'Or, and Mrs. A. H. Hall were each represented with creditable blooms. Mary Anderson and Miss Annie Holden, together with some Anemone-flowered varieties formed the chief features of the forward parts of the collection. The Finsbury collection is altogether very sweet and interesting.

SWANLEY HORTICULTURAL COLLEGE.

It might be expected that only the best market varieties of Chrysanthemums would be grown at Swanley Horticultural College. The working of the gardens is chiefly on market lines. But economical principles are let fall in the case of Chrysanthemums. A large span vinery is completely filled with grand specimen stock. Curiously, the incurved varieties predominate. We say curiously, because now-a-days the incurved sorts are seldom appreciated. At the same time there are signs of revival in their favour, and we were glad to see so complete a collection of some sixty varieties. Types of this section with distinct individuality are objects of the highest beauty. Consider the beautiful Lord Alcester, C. H. Curtis, R. C. Kingston, Baron Hirsch, Pearl Palace, Sarah Owen, and numerous others. They are sweet enough to eat! At the same time the conspicuously meritorious Japanese varieties find ample appreciation at the College, as the undermentioned list will prove.

The exhibition was at its finest state on Saturday, November 3rd. On that day the students had invited their friends to view the past season's efforts. Fathers, mothers, brothers, sisters, kith and kin, and acquaintances, came from far and near. They all enjoyed the show, as also the tea that came after. The plants are really well grown, and are bearing splendid specimen blooms. The College authorities possess a first-class gardener in the person of Mr. Budworth.

To name a few of the varieties which seemed to find greatest favour, the beautiful Mrs. Mease deserves first notice. In all the best exhibition classes the visitor can rely on seeing Mrs. Mease staged. Mr. T. Carrington, which we must say is a good exhibition sort, though not very attractive, is well done at "the College." Miss Nellie Pockett bore some shapely blooms. Lord Ludlow, quite new, of a bronzy-red colour, was likewise grandly developed. Mdme. Gabriel Debrie takes after the style of N. C. S. Jubilee, but is paler, and rather sweeter from that fact. The now old (as Chrysanthemums go) N. C. S. Jubilee was itself shown in prime condition. The beautiful yellow-coloured Edith Tabor, with pendent, twisting petals, rivals anything in its line. Le Grand Dragon, which has come almost a terra-cotta colour this year, is another distinct type among the yellows. Phoebus is more after the same build, but differs in being bright yellow. Oceana, still superb, is also yellow and quite distinct. Soleil d'Octobre, with reflexed form and pale beautiful yellow blooms, together with Sunflower, which also is indispensable, are among yellow varieties that are ably treated in the collection under notice. Sir H. Kitchener is scarcely likely to hold out long. Its bronzy tint is not lively enough to make it attractive. Madame Carnot was represented by massive, snowy white blooms. That welcome silvery-mauve sort, Mrs. Barkley was carrying enormous handsome flowers. So with Viviand Morel, Chas. Davis, Australie, Mons. Chenon de Leché, Hairy Wonder (which seems out of fashion for the nonce), C. H. Curtis, Mdme. Ferlat, and Surpasse Amiral. T. P. Lockie, with soft cream-flushed centre and pale lilac-mauve base, was shown as near perfection as may be. Globe d'Or, Triomphe d'Eve, pure white; Mrs. A. H. Hall, bronzy-gold, R. C. Kingston, Pearl Palace, Robert Cannell, Sarah Owen, Topaze Orientale, Lord Alcester, Duchess of Fife, Ma Perfection, and Hanwell Glory, were the most select of the incurved varieties. Each and all were well grown. Everybody had reason to feel satisfied, perhaps most of all the students under Mr. Budworth's direction; and certainly also the principal, M. Eason Wilkinson, Esq., B.A., who is anxious that the establishment should yet go forward with its purpose to teach horticulture.

VICTORIA PARK.

Though the Chrysanthemum display at Victoria Park, London, is now about past its best there can be no two opinions, but that the collection has been an attractive one. Mr. Moorman, who is superintendent of the park, has staged them, as in previous years, in two great stretches undulating and rising from the front backward, the whole length of the long span-roofed house. The visitors can thus see down upon the blooms. The blending of colours has been such as to influence the general effect for good. The dwarf, market and decorative varieties form a line all along the edge of the central path. There are some well developed incurved blooms, as there are Japanese. Amongst the latter we were well pleased with Wm. Seward, whose richness of colour was quite charming. Surpasse Amiral was shown nearly golden-yellow; while of the more popular and truly yellow-flowered varieties with blooms of creditable quality we remarked Phoebus, Australian Gold, Golden Gate (exceedingly fine), Le Grand Dragon, the bushy Ryecroft Glory, Soleil d'Octobre, Edith Tabor, also good; and W. H. Lincoln. The latter was shown with great brilliance of colour. R. Hooper Pearson was also here. The yellow incurved Mr. Bunn, so tasty as a decorative sort, also found a place. C. H. Curtis bore superb blooms, quite as fine as any seen on the exhibition stands. Modesto and Boule d'Or were of much merit. Rena Dula is a neat incurved variety that onght to be made more of. It has a sweet lilac-mauve base, and nearly a pure white centre. Egyptian was massively shown, but the colour of this variety is awfully dull. N.C.S. Jubilee, however, and the chestnut-red Baron Hirsch come well up in appreciation. Duke of Wellington, bronzy-red, furnished another of the best incurved varieties. The Japs. again, in G. C. Schwabe, Mrs. G. W. Palmer, Mons. W. Holmes, Mons. Chenon de Leché, Lady Hanham, Mdme. Gustave Henry, Edouard Audiguier, Wm. Tricker, and Mdme. Edmund Rogers all called for attention. Enfant des deux Mondes (child of two worlds) is a most beautiful Chrysanthemum, as white as snow and hairy! We should like to see it in other collections. Eda Prass, is an incurving variety of waxy appearance, having a white centre and sweet blush tips, deeper toward the base of the flower. Criterion furnished pretty terra-cotta blooms; Edwin Molyneux was very fair indeed; Miss Ethel Addison, after the type of Mr. T. Carrington; Mutual Friend, Simplicity, Hairy Wonder, Mr. H. J. Jones, Mr. H. Weeks, Col. W. B. Smith, and Graphic were among the finest of those that took our fancy. Both Mr. Moorman and his grower, Mr. Hurry, have every reason to feel satisfied.

WATERLOW PARK.

The annual exhibition of Chrysanthemums in Waterlow Park, Highgate, is also open to the public. Over 2,000 plants have been staged by Mr. James Webb, the grower, in the conservatories. Among the best of the newer varieties in flower are R. Hooper Pearson, a splendid deep glowing yellow. Hon. W. F. D. Smith, crimson, is shown by splendid samples; Eastman Bell, a bright crimson, is also to the front. The rose-mauve Mrs. Barkley is in fine condition, and Emily Towers, which was such a favourite last year, is again very rich. There are good blooms of Mr. A. Barrett, orange-red; Soleil d'Octobre, and Florence Molyneux. The latter is justly famed as being one of the best pure white Japs. there is. These are the elite of the newer circle of varieties, but some of the older and proved sorts are also well grown. Upwards of 3,000 plants have flowered in the beds through this beautiful North London park. Mr. D. Carson, the superintendent, thus provides a much appreciated display both indoors and out.

Victoria Exports of Fruits.—The colony of Victoria, Australia, exported during the year ending June 30th, 1900, 134,431 bushels of fresh fruit to the value of £33,608. Much of the Victoria fruit is exported as pulp and as preserves. The total value of this section of the fruit export in 1899 was £502,948. These are only small figures compared with what the colony of Victoria will ultimately reach when it has become thoroughly exploited.

WIND AND FRUIT FALLING.

SELDOM have we heard so much on losses of fruits, especially in Orchards, from wind; and one need not wonder at this, as in the majority of cases orchard trees are left uncultivated, and the long loose thongs of growth swing about and scatter the fruit in all directions. This is what is witnessed from the unpruned trees so popular with many. While we have an aversion to the closely spurred Apple trees, very common in vegetable gardens, we certainly admire those with open centres, branches all round clear of each other sufficient to let sun and air to every part, and fruit clustered each season over the whole of the tree, a proper selection of Apples may be had which never fail. If root culture was more in evidence trees might be had with branches stiff and erect which cannot be influenced with gales of the most severe character. The wood growth of such trees is simply spurs a few inches long, which ripen fruit buds in abundance. Prevention of roots going downwards into inert or unwholesome subsoil of any kind is a matter imperative. Feeding roots from the surface (and when fibre is in a mass a deal of surface feeding may be given) increases size of fruit, flavour and colour. This is much in evidence here this year.—*M. T., Carron, N.B.*

PLANTS RECENTLY CERTIFICATED.

The awards hereunder were given by the Royal Horticultural Society, on the 6th inst.

Orchid Committee.

CYPRIPEDIUM DORA CRAWSHAW.—The parentage of this hybrid was C. bellatulum × Charlesworthii mosaicum. The flowers are large, with a rich purple, nearly round upper sepal. The broadly oblong petals remind one of C. bellatulum and are crimson purple, veined with a darker hue on the upper half. The lip is heavily veined on a lighter purple. (Award of Merit.) Messrs. Charlesworth & Co., Heaton, Bradford.

ZYGOCOLAX VEITCHI KROMERI.—This is a natural hybrid with the sepals and petals heavily spotted and blotched with chocolate-brown on a green ground. The lip is richly veined with black on a light blue. (Award of Merit.) Mr. Ed. Kromer, Roraima Nursery, Bandon Hill, Croydon.

LAELIA PRAESTANS GLORIOSA.—The sepals and petals are rosy-purple; and the lamina of the lip dark reddish-purple. (Award of Merit.) Jeremiah Colman, Esq. (gardener, Mr. W. P. Bound), Gatton, Reigate.

MASDEVALLIA BOCKING HYBRID.—The origin of this hybrid was M. Veitchi × M. cucullata. The flowers are crimson-red, covered with a violet plush obtained from the seed parent. The tails are 2½ in. long. (Award of Merit.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking.

ANSELLIA HUMILIS.—The oblong, yellow sepals and petals have a few black-brown blotches. The lip is yellow with light brown lines all over the interior. (Botanical Certificate.) Sir Trevor Lawrence.

MASDEVALLIA BURFORDIENSIS, *Hort.*—The flower is solitary on a stalk 2 in. long. The dorsal sepal is spotted purple on a straw coloured ground; the lateral ones are dark dull crimson. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

Floral Committee.

CHRYSANTHEMUM MRS. FLORENCE SOUTHAM (incurved), is larger than Bonnie Dundee, light yellow and shaded with pale red. (Award of Merit.) Mr. A. W. Tanner, Cerne Abbas, Branksome Park, Bournemouth.

CARNATION MRS. T. W. LAWSON is a very large, rich rose flower, rather deeply serrated and without scent. The plant is of dwarf habit. (Award of Merit.) Messrs. Hugh Low & Co., Bush Hill Park, Enfield, Middlesex.

CARNATION MRS. WELLBORE ELLIS.—This is a tree variety with medium sized, deep crimson, toothed, slightly scented flowers. (Award of Merit.) Wellbore S. Ellis, Esq. (gardener, Mr. H. Squelch), Hazelbourne, Dorking.

CARNATION AMERICA is a salmon-rose, tree variety. (Award of Merit.) Messrs. Paul & Son, Cheshunt.

CHRYSANTHEMUM MRS. R. DARBY is a deep reddish-purple Japanese reflexed variety. (Award of Merit.) Mr. C. Griffin, Walton Leigh, Addlestone, Surrey.

CHRYSANTHEMUM LADY ESTHER is a large, incurved Japanese, ivory-white, shiny and pretty. Mr. H. Perkins, The Gardens, Greenlands, Henley-on-Thames.

CHRYSANTHEMUM LIZZIE ADCOCK is a rich golden-yellow sport from Source d'Or. (Award of Merit.) Mr. R. Holmes, Norwich.

CHRYSANTHEMUM LOVELINESS is a large Jap., with irregularly intermingled, long, fluted, clear yellow florets. (Award of Merit.) Mr. W. J. Godfrey, Exmouth.

CHRYSANTHEMUM W. E. VOWDEN is a rosy-carmine Jap., with a waxy buff reverse. (Award of Merit.) Mr. W. J. Godfrey.

CHRYSANTHEMUM MADAME VON ANDRE is a deep primrose-yellow sport from Mutual Friend. (Award of Merit.) Mr. W. J. Godfrey.

CHRYSANTHEMUM GLORIOUS is a dark crimson decorative variety. (Award of Merit.) Messrs. W. Wells & Co., Earlswood, Redhill.

CHRYSANTHEMUM W. R. CHURCH is a large crimson Japanese variety. (Award of Merit.) Messrs. W. Wells & Co.

CHRYSANTHEMUM KHAKI is a crimson incurved Japanese form. (Award of Merit.) Messrs. W. Wells & Co.

CHRYSANTHEMUM C. J. SALTER is another Jap. of a pale yellow hue. (Award of Merit.) Messrs. W. Wells & Co.

CHRYSANTHEMUM LORD LUDLOW is a Jap., with buff-yellow florets deepening to red at the edges. (Award of Merit.) Messrs. W. Wells & Co.

CHRYSANTHEMUM MATTHEW SMITH is a large orange-coloured Jap., deepening to crimson in places. (Award of Merit.)

ROSE LIBERTY is a dark crimson Tea variety of moderate size. (Award of Merit.) Messrs. Paul & Son, Cheshunt.

Fruit and Vegetable Committee.

PEAR DOYENNE DU COMICE.—The best Pear in cultivation has just received a First-class Certificate, so that its merits have been recognised at last. Fine flavoured samples were shown by Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford, Dorking.

PARSLEY DOBBIE'S SELECTED, sown in the open on the 1st April, thinned out to 1 ft. apart, and lifted on the morning of the show and put into pots, was superb. Quite a group of dense, finely curled, dark green plants were shown, each plant 12 in. to 18 in. in diameter. (Award of Merit.) Messrs. Dobbie & Co., Rothesay, N.B. and Orpington, Kent.

MELON LATE PERFECTION is a large oblong, well netted, white-fleshed variety of good flavour. (Award of Merit.) Marquis of Bute (gardener, Mr. A. Pettigrew), Cardiff Castle, Cardiff.

VALLEYFIELD HOUSE, MIDLOTHIAN.

IN close proximity to Penicuik Station stands the snug residence of Charles Cowan, Esq., a worthy patron of horticulture. Having found Mr. Pirie, we were ushered into a span greenhouse. Here Lapageria rosea was in bloom. The side stages were enlivened with a bright display of well grown examples of Celosias, a grand strain, Lilium auratum, Begonias and Lady Fitzwygram Chrysanthemum, grandly flowered. Some Zonal Pelargoniums were holding out, considering they had flowered all summer. Conspicuous varieties were Mary A. Wilkins, Mr. Ewing, Mark Twain, Gertrude Pearson, Snowdrop, Rose de Rosa, Rainbow, Fiery Cross, Gloire de France, &c. Interspersed here and there along the front of the staging were Cloth of Gold Fuchsias, a telling variety when used as stated in arrangement. Before leaving this house we were shown something fresh from the front, not a wounded hero, but a charming plant of Convolvulus direct from Wepener.

Outside again we enter another house. A few Orchids are grown. Tomatos hugged the roof with a creditable crop, and should prove useful turning late in the season as they probably will. Grapes are not extensively gone in for, but what was left were well finished bunches of Muscat and others.

Chrysanthemums are looking well. Although our old friend has not gone in for big blooms, he evidently can grow bush plants for cutting, with his former zest, as when the big bloom craze caught him. The principal batch is housed in two vineries. The next house has been already converted into a Rose house and splendid shoots have already been run up for future flowering. The Fern house looked trim and all kinds found a home here, and are in luxuriant health. Begonia Rex planted out has developed wonderful leaves. On measuring one it was 13 in. by 18 in.; we did not inquire what it was fed with, but it must have been stronger than water.

The conservatory is a roomy structure and contained some fine old plants of Camellias in tubs, Rhododendron Countess of Haddington, R Edgeworthii, and dozens of others in large plants. Lapagerias trained into specimen shape were in numbers; Lilium Kraetzeri and other flowering plants were in strong force.

The kitchen garden is pretty well taken up with flowers. The Narcissus beds look us in front; we linger although nothing but the labels looks us in the face. The beauty of these beds must be grand when in bloom, and more especially when such grand varieties, as Monarch, Hodsock's Pride, King Alfred, and lastly the glorious Queen Wilhelmina are used. Need more be said? Herbaceous plants are greatly gone in for, and Asters are here in all the best varieties. Rudbeckia Golden Glow is a giant in stature, with its golden blooms. Here also were Tritoma nobilis, a grand plant for autumn flowering, and a splendid specimen of Lilium auratum platyphyllum, with two dozen blooms. Roses are grown in great numbers and do well. Every department is creditable to Mr. Pirie, who, we must say, is a born gardener.—*W. Angus.*

WINTER-FLOWERING BEGONIAS AT FOREST HILL.

IT is surprising what a number of really useful Begonias of a decorative character there are at the command of the gardener and others who have to maintain a winter display. During a recent visit to the nurseries of Messrs. J. Laing & Sons, Forest Hill, S.E., we noted a number of species, hybrids and varieties of various habit, and suitable for various purposes, both out of doors during summer, and indoors during winter. Naturally, those who have to keep the houses gay in the dull days of winter will give most attention to those which will answer this purpose.

For pot work B. Gloire de Lorraine has now taken a firm hold of the country, and would take a lot to displace it. Its merits now no longer require to be extolled, since gardeners and growers generally learned how to grow it with success. The plants at the Stanstead Park Nursery are in 48-size pots, many of them being 12 in. to 15 in. in diameter, and as far through. The white variety, Caledonia, has found its way here in some quantity, and no doubt it will soon be as common as the parent. Very handsome were the large panicles of deep rose flowers of B. President Carnot, notable for the large fruit vessels and their stalks, all of which are as highly coloured as the flowers themselves. President Carnot is a hybrid of which B. corallina is one of the parents. The latter is here also, and both are admirable plants for the rafter of stoves or warm conservatories, as the large bunches of flowers hang down beneath the foliage, and are seen to best advantage overhead.

B. pictavensis is a hybrid of which the beautiful B. haageana is one of the parents. Allied to this are B. metallica and B. scharfiana, whose white flowers are brightened by a cluster of red hairs on the back of the sepals. The leaves of young plants are densely and coarsely hairy, while being conspicuous and pretty. B. argentea guttata has leaves resembling a Caladium in being densely spotted with silvery markings. The long, drooping stems and salmon-orange flowers of B. undulata make this a suitable object for a hanging basket. For winter work and onwards till spring very handsome is B. carminata gigantea, whose large carmine flowers, produced in large cymes, are highly effective. B. Carrieri is a hybrid of very dwarf habit, with pure white flowers produced in succession till spring, but when planted out of doors in summer the flowers are beautifully edged with pink.

The larger flowers of B. Zulu King are magenta in the centre, deepening to carmine towards the edge. For winter work B. Gloire de Sceaux, with its bronzy foliage and pink flowers, has also established its reputation as one of the most handsome for winter display.

A number of semi-double varieties of B. semperflorens has now been added to the list of useful single ones of the same species, that practically flower perennially, and prove even dwarfer and

brighter for summer bedding than when the light is scanty in winter. Nevertheless they are of real value in winter, and semi-double ones, we believe, will prove even more effective than the singles. First on the list of semi-doubles of this race we should mention B. Triomphe de Lorraine, with deep green leaves, and dark red or crimson flowers. The counterpart or antithesis of this is the white B. Boule de Neige, which is more nearly double, and makes a grand companion and contrast to B. Triomphe de Lorraine. B. Nancy has silvery-rose flowers in winter. The fourth and last of the semi-double varieties of B. semperflorens we shall mention on this occasion is B. Stuttgardia, also with silvery-pink flowers, and, like the others, of dwarf habit.

Gleanings from the World of Science.

A Collection of the Larger Fungi.—At a meeting of the Linnean Society of London, on the 1st inst., Mr. George Massee exhibited a series of coloured drawings and an extensive collection of the larger fungi which had been brought for exhibition by himself, by Messrs. E. M. Holmes, M. C. Cooke, A. O. Walker, E. H. Smedley, A. W. Kappel, and by Miss A. L. Smith. Mr. Massee having made some introductory remarks, a discussion followed in which Dr. Cooke, Dr. Shillitoe, Mr. Walker, and the Rev. T. R. Stebbing took part.

Park-lands in Central Africa.—At the same meeting as the above Mr. J. E. S. Moore, F.Z.S., read a paper on the "Character and Origin of the Park-lands" in Central Africa, which was illustrated by a series of lantern-slides. These park-lands in the Tanganyika district have quite the appearance of having been formed by the hand of man, but are really natural growths, due to the fact that light surface-soil has been laid down over what appear to have been lake-deposits. Any given line of country will show large plantations, with quite a home-like look, separated by grass-lands; and, as Tanganyika is approached, they dwindle in size till they consist of a few shrubs, overshadowed by giant Euphorbias, Cactus-like in appearance. Then come stretches of grass, dotted with Euphorbias, and, last of all, the salt steppes by the lake, which is now held to have had at one time an outlet to the sea. Mr. Moore's explanation is that at first only the Euphorbias would grow on the salt steppes; but as these sprang up they afforded a shade and shelter to self-sown shrubs, each of which, as it established a footing, contributed to the natural planting of the area by the distribution of its seeds, till this process reached its highest development in the large plantations where the shrubs overtopped the Euphorbias to which they owed their growth. Prof. Farmer, F.R.S., offered some remarks upon the subject.

At a meeting of the Scientific Committee of the Royal Horticultural Society on the 6th inst., the undermentioned subjects were discussed.

Oaks in Woods of Shirley.—Mr. Wilks exhibited various specimens of Oak leaves. The prevailing English Oak is Quercus robur var. pedunculata, the leaves of which run into a great variety of forms, according to the amount of development or arrest of the interstitial tissue between the ribs. A second kind closely resembles the leaf of the Turkey Oak, Q. Cerris, or the moss-cupped Oak. Others appear to be hybrids between Q. Cerris and Q. rubra, and also Q. robur pedunculata. Two trees were observed having leaves characteristic of the American Q. coccinea or Q. rubra. This tree apparently never bears acorns in this country.

Castanea vesca foliage.—Dr. Masters showed some remarkable leaves consisting of but little more than the midribs, which had issued from the stump of a tree which had been cut down. He observed that entire trees are known to bear this kind of foliage.

Proliferous Apple-shoot.—He also exhibited a specimen of this well known phenomenon, in which the leafy shoot appeared to penetrate a ripe Apple and then proceed to a length of upwards of a foot. It is due to the floral bud being replaced by a leaf bud within the "pseudo-fruit," the Apple being really of the nature of a stem in which the pistil is embedded.

Leaf-cutter Bees' Nest.—Specimens of these cells made of portions of leaves were sent by Mr. Thos. Crosswell, The Gardens, Homewood, Eden Park, Beckenham. He describes the formation of these leaf-cells as follows:—"After our Freesias had finished flowering and died down, the sticks that had been used for their support around the sides of the pots were removed, to facilitate their being placed on a shelf in the full sun. The bees took possession of the holes left by the removal of the sticks, and on turning out the pots of bulbs in August many of these cells were found."

Gardening Miscellany.

AOTUS GRACILLIMA.

This is also figured in the above-named paper for September 1st. It is a pretty leguminous plant, belonging to a genus containing about a dozen species, all of which are very interesting. They are natives of New Holland. This particular species is much appreciated and sought after, especially in England, because of its brightness and elegance. The flowers are spread somewhat irregularly along the length of the slender woody stems, generally in verticals. The keel and part of the standard is a shade of crimson, the rest of the flower being deep yellow. The leaves are sharp, narrow, and about ½-in. long. A. gracillima closely resembles A. villosa, so near, indeed, that several botanists have named them as the same. A. gracillima is at all times distinguishable by its more slender growth and greater abundance of flowers. Meisner, a renowned Swiss botanist, who is taken as the authority on the genus, describes A. gracillima as of smaller growth than the other, and finds it also to differ in the morphology of its seeds. From a horticultural point of view A. gracillima has all the decorative qualities one could wish for, and charms us during April. Its introduction is due to an English botanist named Drummond, who found it in Australia in 1842 on the borders of the Swan River. The culture is almost exactly the same as for Boronias.

Chrysanthemum Shows.

NATIONAL CHRYSANTHEMUM.—*November 6th, 7th and 8th.*

(*Concluded from p. 173.*)

The great autumn fête and exhibition of the N.C.S. concluded very satisfactorily to all parties concerned. The president, vice-president, executive chairman, secretary and other officials had worked well, and will now feel that their endeavours have made for yet further progress. Every corner of the large Aquarium was filled and even packed. New exhibitors were to the fore, and the old friends and supporters were in their usual places. Enough has been said of the flowers themselves; but in the decorative classes we must say there is need for very great improvement. There seems to be absolutely no thought or originality displayed at all.

For twenty-four incurved blooms, distinct, prizes of £5, £4, £3, £2 and £1 were offered. Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Fetcham, was first with a very strong set. He staged Hanwell Glory, Yvonne Desblanc, Mdme. Vernieul, Mdme. Ferlat, Robt. Petfield, Lord Alcester, Mrs. H. J. Jones, Topaze Orientale, Mr. Bennett, C. H. Curtis, Globe d'Or, Thos. Lockie, Lady Isabel, Ialine, Pearl Palace, Countess of Warwick, Mrs. G. Williams, Henry Ellis, Duchess of Fife, Violet Foster, Mrs. R. C. Kingston, Chrysanthemist Bruant, Ma Perfection and John Doughty. Mr. G. J. Hunt, gardener to P. Ralli, Esq., Ashstead Park, Epsom, came second; Mr. W. Mease, Downside, Leatherhead, third; Mr. Silas Cole, Althorp Park, Northampton, fourth; and fifth, Mr. S. Foster, Tenterden Hall, Hendon, N.W.

The best display of cut blooms of decorative Chrysanthemums arranged on a table space of 6 ft. by 3 ft. was shown by Mr. A. R. Knight, 63, Hardinge Road, Ashford, who received second prize. The first prize (a special Silver Challenge Cup) was offered by Percy Waterer, Esq., F.R.H.S., but did not seem to have been won. The third prize fell to Mrs. A Taylor, 5, Vernon Terrace, East Finchley. We think much more skill might be shown in arranging such tables. In Class XXXIV. only one entry seemed to be staged and was given the second prize, Mrs. A. Taylor here being the recipient. Mr. Percy Waterer also awarded a silver cup in this class.

Vegetables.—Mr. Robert Sydenham, Tenby Street, Birmingham, offered prizes for vegetables in each of the following classes:—For six Leeks, Mr. R. A. Horspool, Chirk Castle Gardens, Ruabon, beat Mr. C. Brown, Langley House, Abbots Langley. Mr. E. S. Wiles, The Rookery, Down, Kent, led off for Brussels Sprouts, followed by Mr. C. Brown. Mr. A. G. Gentle, Little Geddesden, Berkhamstead, had the best dish of Tomatos. Mr. A. G. Gentle again came first for two varieties of Potatos, eight of each. Mr. Silas Cole was second; and third, Mr. R. A. Horspool. Mr. C. Brown had the best eight white Turnips showing Model White Stone. Again Mr. Gentle stood first, this time for eight Onions, variety Excelsior. Messrs. S. Cole, C. Brown and R. A. Horspool took places in this order.

For six Beets, Mr. S. Cole received first award with good samples of Pragnell's Exhibition. Mr. A. G. Gentle again won for six Parsnips, second Mr. S. Cole. The same order stood for six Carrots. For six sticks of Celery, first was Mr. S. Cole and second Mr. Horspool. For Red (pickling) Cabbage, Mr. C. Brown came first, and second Mr. A. G. Gentle. For Savoy Cabbage, Mr. C. Osman was first and Mr. A. G. Gentle second. For three Cauliflowers, Mr. Gentle beat Mr. C. Osman. Mr. Gentle thus won the Silver Challege Cup, having 49 points out of a possible 65.

Fruit.—In section six for fruits, there was a nice array of Apples, Pears and Grapes. For three bunches of white Grapes, Mr. W. Lintott, gardener to Walpole Greenwell, Esq., Marden Park, Caterham, was first prize winner. Mr. W. J. Batho, Nether Street Nurseries, Finchley, N., was second; and third, Mr. W. Taylor, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill.

For three bunches of Gros Colmar Grapes, Mr. Wm. Chuck, Brodsworth Hall, Doncaster, beat Mr. W. Taylor, though the competition was very close. Mr. W. Hill, Rockshaw, Merstham, Surrey, came third. For three bunches of black Grapes, other than Gros Colmar, Mr. W. Taylor here scored, having splendid samples of Alicante. Mr. Wm. Allen of Gunton Park, Norwich, was second, and Mr. Wm. Howe, Park Hill, Streatham Common, third. There were eight entries.

For six dishes of dessert Apples, distinct, Mr. W. T. Stowers, gardener to G. H. Dean, Esq., 70, Harold Road, Sittingbourne, was the most successful exhibitor. His set included Glory of England, Blenheim Orange, Fearn's Pippin, Cox's Orange, Ribston Pippin, and King of the Pippins. Mr. Chas. Ross, gardener to Capt. Carstairs, Welford Park, Newbury, was a close second.

The class for six dishes of culinary Apples again found Mr. W. T. Stowers first. He showed Cox's Pomona, Emperor Alexander, Gloria Mundi, Peasgood's Nonsuch, Gascoigne's Scarlet and Bramley's Seedling; second came Mr. R. Potter, St. Clere, Kemsing, Sevenoaks, and third, Mr. S. Osborne, East Sheen Lodge, East Sheen.

The Pears formed a marvellously fine display. For six dishes of dessert Pears Mr. Wm. Allan was first; Mr. W. Stowers, second; and Mr. S. Osborne, third. The best dishes were those of Pitmaston Duchess, Beurré Diel, Emile d'Heyst, Marie Louise, Marie Louise d'Uccle and Doyenné Comice.

Miscellaneous Exhibit.—Mr. John Forbes, Nurseryman, Hawick, Scotland, exhibited Begonia Caledonia, the white form of B. Gloire de Lorraine. The exhibit was composed of floriferous young plants of bushy habit, in 5-in. pots, these being close-packed in a large round basket. We unfortunately overlooked Mr. Forbes' exhibit in reporting last week, owing to the crowd.

NORTHAMPTONSHIRE CHRYSANTHEMUM SOCIETY.—*November 7th and 8th.*

The twenty-ninth exhibition of the above society opened on Wednesday, November 7th, in the Corn Exchange, continuing on the Thursday. The prize money offered amounted to £100, and the show was indeed, most satisfactory. The groups were very fine; as were the cut blooms set up in vases. Whether the provincial societies are emulating the National Chrysanthemum Society or not, is not decided, but certainly a great many of them have this year instituted vase classes.

Councillor F. G. Adnitt, J.P., as president, together with the other officials, particularly Mr. E. Draper, the energetic secretary, are to be congratulated on the exhibition of 1900. The judges were: Mr. C. Orchard, Bembridge, Isle of Wight; Mr. J. W. Moorman, The Lodge, Victoria Park, London, for plants and flowers; Mr. J. R. Wilson, The Gardens, Selby Hall, Rugby; and Mr. W. Webber, Norton Hall Gardens, Daventry.

GROUPS.—For a large group arranged for effect, Mr. O. Soden, gardener to the president of the society, was the winner of the Silver Cup and £4. Mr. J. Knightly, Courteenhall, came second, winning 50s.

Mr. Soden beat Mr. T. Manning, of Junction Road. Kingsley, for six dwarf-trained pot Chrysanthemums.

In the amateur's section for another group, effectively arranged, Mr. W. Kirby, Milton Street, Kingsley Park, received first award, which was also a Silver Cup and money prize. Mr. J. Barkway, 71, Lower Thrift Street, came second.

CUT BLOOMS.—For six vases of Japanese blooms, distinct, Mr. W. Woods, Delapre Park, led off; followed by Mr. W. Tipler. For eighteen distinct incurved varieties, Mr. S. Cole, The Gardens, Althorp, was first; and Mr. W. Woods, second. The same order stood for eighteen Japanese; while for twelve ditto, Mr. W. Dunkley and Mr. W. Woods were first and second respectively. Mr. Woods, however, was leader for the decorated table; Mr. J. Knightley being second. In the amateurs' section for similar classes, the chief winners were Messrs. J. Barkway, T. Pebody, T. Hemmings, W. Kirby, and G. Speight.

The display of fruits was good, as one would expect from this district. Vegetables were also shown, Mr. S. Cole securing the first prize offered by Messrs. Sutton & Sons, for a collection.

SEVENOAKS AND WEST KENT.—*November 7th and 8th.*

THE annual exhibition of Chrysanthemums, fruit, and vegetables, was held in the "Club Hall," on Wednesday and Thursday, November 7th and 8th, and was a distinct success. The entries were numerous and the exhibits of unusual excellence, being displayed with charming effect.

GROUPS of Chrysanthemums are always a leading feature at most provincial shows, and they appeal more to the public taste than do rows of cut blooms, not that the latter were absent by any means.

The schedule specifies that the groups should be composed of forty Chrysanthemum plants in pots, arranged with any kind of foliage in a space 7 ft. by 5 ft., the idea of the committee being to encourage the more effective setting up of the popular Autumn Queen. The first prize went to Mr. A. Hoadley, gardener to F. L. Bevan, Esq., Kippington Park, who was most happy in his conception of what the committee meant when wording the schedule. Most of the Chrysanthemums used were late struck ones of such popular kinds as E. Molyneux, Mdme. Gustave Henry, Mons. Chenon de Leché, Phoebus, Calvat's Surprise, and Souvenir d'une Petite Amie, all on single stems, carrying large well developed flowers. These were tastefully arranged with Palms, Crotons, Asparagus, and Ferns, each flower being made to tell in the general effect. The second prize was carried off by Mr. W. Tebay, gardener to Mrs. Rycroft, Everlands, a most doughty opponent in any class. His flowers were large and well finished, besides being set up to perfection, with autumn foliage intermixed with Palms, Ferns, &c. Mr. Usher, gardener to Mrs. Rogers, Riverhill, came third with a most graceful arrangement. In the second division for a group similarly arranged, there was a splendid competition. Mr. H. Heath, gardener to Mrs. Petley, Riverhead House, was first; his flowers were smaller than the other exhibitors, but there was no comparison in the arrangement, which was tasteful in the extreme; second, Mr. Baldwin, gardener to J. R. Banks, Esq., Knole, Paddock, with large, well formed flowers, but somewhat marred by showing the pots and stakes; third, Mr. Hinnell, gardener to J. Selby, Esq., Ightham, whose grand foliage carried him into that position; fourth, Mr. L. Taylor, gardener to C. Young, Esq., The Thorns, with a well set up group of good quality. The judges took exception to a too free use of Hornbeam as foliage, or he must have been much nearer first. The fifth went to Mr. E. Turner with a really good group of fine blooms.

SPECIMEN PLANTS.—Bush trained specimens were but poorly represented. The best were those shown by Mr. S. Cowper, gardener to H. Foster, Esq., Hillside, followed by Mr. Usher, and Mr. Hoadley.

A most pleasing and popular exhibit at this show is the class for twelve cut blooms on long stems, arranged with foliage or plants for effect, in a space 4 ft. by 3 ft. There were eleven entries, nine of which came up to the scratch.

Mr. Crawley, gardener to W. J. Thompson, Esq., Oakfield Grange, was first with a really beautiful arrangement; second, Mr. R. Potter, gardener to Sir Mark Collet, Bart., St. Clere; third, Mr. W. Tebay, who had the best quality of flowers, but depended on autumn foliage as a set off, and suffered accordingly. The judges seemed to miss what was intended, that is, to demonstrate what could be done with a few pieces of Bracken, a little autumn foliage, &c., should one be so placed, that Crotons, Palms, Asparagus, &c., were a luxury; fourth, Mr. A. Hoadley.

HANGING BASKETS.—This was another great feature, and greatly admired by the public who are fairly good judges. The first prize was won by Mr. W. Fox, gardener to H. Sowerby, Esq., Solefields, showing yellow, purple, and white "'Mums" with bronze foliage, which was most telling; second, Mr. S. Cooke, gardener to de Barri Crawshay, Esq., Rosefield; third, Mr. A. Hoadley.

In a similar class for under-gardeners, Mr. C. Windsor was first with a beauty (the best in the show); second, Mr. A. Westcott.

CUT BLOOMS.—In the open class for twenty-four cut blooms, twelve Japs. and twelve incurved, Mr. W. Tebay was first, showing in fine form Mrs. H. J. Jones, Isabel, E. Cannell, Major Bonnaffon as his best incurved sorts, and Pride of Exmouth, E. Molyneux, Mrs. Coombes, and J. R. Upton as Japs.; second, Mr. S. Cooke, with Isabel, Violet Tomlin, Robt. Pitfield, and F. Hepper as incurved, Mrs. Mease, Duke of Wellington, Mr. H. Weeks as Japs.; third, Mr. Bligh, gardener to B. L. Cohen, Esq., M.P., Highfield.

For twelve Japs., distinct, Mr. Hawkes, gardener to the Rev. Stewart Savill, Hollanden Park, Tonbridge, was first with a superb stand, his Mrs. Mease, Mr. T. Carrington, and Le Grand Dragon being grand; second, Mr. G. Cowper, with good flowers of Lord Ludlow, Mr. A. Barrat, Chas. Davis, and Mrs. J. Lewis; third, Mr. W. Tebay, with Graphic and E. Molyneux, very fine.

Mr. R. Potter had the best half dozen of one variety, showing Mrs. W. Mease in fine form; closely followed by Mr. Cowper, with Mrs. Coombes; and Mr. Bligh, with C. H. Payne.

For twelve incurved, distinct, Mr. Tebay was first with grand Lady Isabel, Bonnie Dundee, and Mons. Desblanc; Mr. Bligh was second; and Mr. S. Cooke, third.

In another class for twelve, not less than eight, varieties, Mr. Hawkes was easily first with fine examples of Mrs. W. C. Egan, Chas. Curtis, Lady Isabel, and President Bevan; second, Mr. Hoadley; and third, Mr. Usher.

The second division men showed up well in the cut flower classes. For twelve Japs., Mr. E. Turner was first, showing in good form Mrs. W. Mease, Robt. Powell, Simplicity, Mermaid, and Chatsworth; second, Mr. L. Taylor, with Chas. Davis, Edith Tabor, and Mdme. Carnot; third, Mr. H. Heath.

As a break to the "'Mums" a class was instituted for zonal Pelargoniums, which brought out some grand plants in 6-in. pots, Mr. Tebay being first; Mr. Hoadley, second; and Mr. Cowper, third.

Mr. R. Edwards, Buchy Lees, had the best table plants, followed by Messrs. Potter and Hoadley.

The under-gardeners showed well in their respective classes, Messrs. C. Windsor and A. Westcott being the most successful; whilst the ladies had their chance in the class for an arranged basket of Chrysanthemums. Mrs. W. Searing was first; Mrs. Fox, second; and Mrs. Hayward, third.

FRUIT.—We have seen more fruit at this show, but rarely have we seen it so highly coloured.

Mr. G. Sears, Clenches Farm, had the best dessert Apples, closely followed by Mr. Searing; and third, Mr. Potter.

For kitchen Apples, Mr. R. Potter was first; Mr. Sears, second; and Mr. R. Edwards, third. Mr. Potter had the best Pears, followed by Messrs. Usher and Fox.

VEGETABLES were excellent all round. In the open class for Sutton's Prize, Mr. Hawkes was first with some grand Onions, Celery, Carrots, &c.; Mr. A. Hoadley was a close second; and Mr. W. Fox, third.

The amateurs, as usual, showed some fine vegetables, the most successful being Messrs. Wolfe, Hayward, Galloway, Terry, Fletcher, and Butler, all taking the leading prizes.

LISCARD, BIRKENHEAD.—*November 8th.*

THE annual exhibition was held in the Concert Hall, and in every way proved a success. The entries were fully up to previous years, and the quality in some classes an improvement.

Mr. Grindley, gardener to Mrs. D'Arcy Blackburn, secured first honours for a well arranged group of Chrysanthemums and foliage plants. For twelve incurved cut blooms, Mr. E. Ellis was to the fore, and the same exhibitor won for a like number of Japanese, staging Mrs. J. Lewis, Pres. Bevan, Louis Renny, E. Davis, Mrs. Barkley, Nellie Pockett, Lady Ridgway, C. H. Payne, Phoebus, Chen. de Leché, and Mrs. Barks. For the hand bouquet, Mr. J. Procter scored with a light arrangement, and was again the winner in the pretty class of cut blooms suitable for a drawing-room table.

Mr. Alfred Turner led with the group confined to the district. Mr. J. Finnigan proved an efficient secretary.

ECCLES.—*November 9th and 10th.*

IN charming weather the fourteenth annual show was held in the Town Hall. The arrangements were of a satisfactory character under the supervision of the chairman, Mr. L. H. Larmuth, and the secretary, Mr. J. H. Byran.

Since the last gathering the society has had to mourn the loss of Mr. H. Huber, who had so ably fulfilled the onerous post of secretary since its inception. The exhibits were under the usual quantity, the committee having curtailed the number of classes owing to the second room not being available on the first day of the show.

In the five classes of Chrysanthemums in pots, Mr. Thomas Harker, Fallowfield, won for the nine large flowering, and for the six Japanese with fresh blooms, about twenty on each plant. Mr. W. Powell was to the fore for three single flowered varieties; and Mr. G. Weaver for three double pompons.

In the cut flower section competition was not at all keen in the leading classes. The first prize winners were as follows:—For twenty-four, twelve incurved and twelve Japanese, Mr. J. Kerkman, gardener to Mr. J. Stanning, Leyland, scored with fine blooms of Graphic (best bloom in the show), R. H. Langton, Mrs. W. Mease, Mrs. Barkley, Swanley Giant, W. H. Lees, Lady Isabel, Pearl Dupinoise, Bruant, Ialine, &c.

For six each of incurved, Japanese, reflexed, and anemones, Mr. John Roberts, gardener to Miss Lightbourn, was first, C. H. Curtis and M. M. Sullivan being noteworthy. Twelve incurved, Mr. S. Ollier, gardener to Mr. F. Ashworth, Knutsford. Twelve Japanese, Mr. T. Fodden, gardener to Mr. A. R. Thorp, of Newton-le-Willows. For six incurves and six Japanese, Mr. Thos. Harker. For eighteen blooms in six varieties staged in vases, Mr. G. Weaver, gardener to Mr. R. Gorton, won with medium sized blooms. Mr. A. Cross won in the three remaining classes.

Bouquets, sprays, &c., were the feature of the exhibition, Mrs. J. Mosley, of Bolton, staging some fine exhibits, winning for three and the single bouquet. Mr. W. Elkin, gardener to Mr. J. Agnew, had the best epergne, in which Orchids and Lily of the Valley were most effective. The amateurs and cottagers were in force, staging some well grown exhibits, the cut flowers being of high merit.

Mr. Thomas Agnew contributed largely in furnishing the hall with several fine specimen Palms; Mr. Stewart Garnet, with Palms and foliage plants; the Misses Heywood with foliage plants; Messrs. Dickson, Brown, and Tait, Begonia Gloire de Lorraine; and Messrs. Dickson and Robinson with Cyclamen and Palms.

SOCIETIES.

ROYAL HORTICULTURAL OF IRELAND.—*November 6th and 7th.*

THE autumn Chrysanthemum and fruit show of the above society was opened on Tuesday, November

6th, at Ball's Bridge, Dublin. The show was well up to the usual standard; there being also 432 entries. The weather, however, was unpropitious. Mr. W. H. Hillyard, the secretary, carried through all the arrangements successfully.

CUT BLOOMS.—As has been said, the quality of the blooms was up to the usual standard of merit. The class for forty-eight Japanese blooms in distinct varieties was carried off by Capt. G. Nicholson (gardener, Mr. P. Brock) whose set, containing most of last year's novelties, was very fine. The second award fell to Lord Ashbrook (gardener, Mr. McKellar), Durrow Castle; and third, Lord Ashtown. In the large vase class, for twelve vases and twelve distinct varieties, there was a splendid show. In point of size and quality the exhibits were all that could be desired. Capt. Nicholson here again led; Lord Ashbrook and Lord Ashtown being second and third respectively.

In the class for twenty-four Japs., distinct, there was also a good display. Lord Ashbrook stood first on this occasion, having grand blooms of Edith Tabor, Mrs. Mease, J. R. Upton, Australie, Mrs. J. Lewis, and Edward Molyneux. Col. the Hon. C. F. Crichton followed second, having Mdme. Gustave Henry, R. H. Langton, Lady Ridgway and J. R. Upton. Capt. G. Nicholson, Glenmor, Drogheda, came third. Lord Ashbrook was again leader for twenty-four incurved blooms in twelve varieties. Lady Isabel, Topaze Orientale, Globe d'Or, and Jeanne d'Arc, were included here. The Marquis of Downshire (gardener, Mr. Thos. Bradshaw), came second; and third, Clifford Lloyd, Esq. (gardener, Mr. J. Farrell), Victoria Castle, Killiney.

Lord Ashbrook led off for the twelve Japanese blooms, showing good specimens of Viviand Morel, Mr. T. Carrington, and others. C. S. Spear, Esq., of Kingstown (gardener, Mr. Maher), was second; and third, Mrs. Moore (gardener, Mr. Kearns), Ashtown, Phoenix Park.

C. S. Spear, Esq., was also first for the twelve cut blooms in six varieties; J. A. Kelly (gardener, Mr. J. Toner), was second; while J. J. Pim, Esq. (gardener, Mr. G. W. Usher), stood in the third place. The class for Anemone-flowered varieties was headed by Mr. R. T. Harris with a nice lot. For six blooms of a white Japanese variety, C. S. Spear, Esq., was first.

For twelve bunches of pompon Chrysanthemums Lord Cloncurry beat R. Booth, Esq., Victoria House, Dalkey.

In the class for any Japanese, except white or yellow, Mrs. Moore was first with a nice set of Edwin Molyneux. For six sprays of single Chrysanthemums, with foliage and grasses, the first prize was awarded to Major Burrowes.

PLANTS.—William Carty, Esq. (gardener, Mr. D. McLean), Dunroe, Sandymonnt, was awarded the premier prize for a group of plants staged for effect: and A. Millar, Esq. (gardener, Mr. D. Colohan), Windsor House, Monkstown, made a close second. For a slightly larger group, J. Millar, Esq. (gardener, Mr. P. Geoghegan), Baggotrath House, Sandymount, took the lead with an artistic group; and was followed by Wm. McComas, Esq. (gardener, Mr. P. Coghlan), The Grange, Monkstown. For a group of Chrysanthemums relieved with foliage plants, D. Drimmie, Esq. (gardener, Mr. Thos. Byrne), Bellevue, Booterstown, led off. Mr. R. W. Booth, Victoria House, Dalkey, obtained first award in the class for six Chrysanthemums in pots, staging Viviand Morel, Chas Davis, W. H. Lincoln, and Souv. d'une petite Amie. R. W. Booth, Esq., Dalkey, beat W. H. Bantry-White, Esq., of Donnybrook, for single specimen plants.

OTHER PLANT EXHIBITS.—For twelve pots of Cyclamen, Mrs. Goodbody (gardener, Mr. S. Davies), Obelisk, Blackrock, headed the list, and Mr. Moore came second. The latter, however, was easily first for Chinese Primulas, and Mrs. A. Kelly occupied a like place for Primula obconica. Major Burrowes showed a choice collection of pot-grown Violets. Lord Cloncurry, Lord Ashtown, and D. Drimmie, Esq., were first, second, and third respectively for six table plants.

FRUIT.—The show of fruit on the general aspect was thoroughly good, though, perhaps, not so highly coloured as it has been in some previous years. The chief exhibitors and prize-winners were Mrs. Meade, Mrs. Goodbody, Lord Castlemaine, Lord Ashtown, E. D'Olier, Esq., Lord Cloncurry, T. Beaumont, Esq, and Mr. J. Millar. Most of these also exhibited in the vegetable classes.

MISCELLANEOUS EXHIBITS.—Messrs. Chas. Ramsay & Son, The Royal Nurseries, Ball's Bridge, had a group of autumn flowers, Chrysanthemums and foliage plants.

Messrs. Kennan & Sons, Ltd., had an exhibition of garden implements and sundries.

Messrs. T. S. Rivers & Son, Sawbridgeworth, set up a good collection of fruits.

Messrs. W. Tait & Co., Capel Street, Dublin, had also a collection of fruits, amounting to 150 dishes of Apples and Pears.

Messrs. W. Wells & Co., Earlswood Nurseries, Redhill, Surrey, showed a collection of blooms of the newer varieties of Chrysanthemums.

Sir Malcolm Inglis (gardener, Mr. P. Harpur), Montrose, Donnybrook, exhibited Chrysanthemums and foliage plants.

Messrs. Alex. Dickson & Sons, Newtownards, exhibited an excellent display of Apples and Pears of remarkable quality and beauty. Grapes and plants were also staged by them. There were some 200 dishes staged.

Messrs. Sanders & Sons, Friar's Walk Nurseries, Cork, were also amongst the chief exhibitors of fruits, showing 150 dishes of Apples and Pears.

Messrs. J. W. Mackay, Ltd., Sackville Street, showed a magnificent display of vegetables and fruit. There were numerous other exhibitors.

READ THIS.

THE competition continues as usual next week.

The prize last week was awarded to Mr. Sillitoe, for his article on "Streptocarpus," p. 167.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Making a Rose Border.—*Aros*: You do not state what is the nature of your soil. It all depends upon that as to the trouble and expense necessary in preparing the borders. If the natural material is sandy or gravelly, it would be advisable to take out the natural material to the depth of 2 ft., and fill the trench with good loam, inclined to be heavy rather than otherwise. While doing so it will be advantageous to mix with it a good quantity of well made cow dung. Some lime rubble will do no harm, as Roses rather like this material. They even do well where the subsoil consists of chalk. In the spring, when the plants commence to grow, it is a good plan to mulch the surface with well rotted manure, as the growing shoots require a lot of nourishment. We presume that the Rose house is to be built in the garden where the soil may have been worked and cropped many years. If in good heart it might be sufficient to take out 1 ft. of the soil and mix it with an equal quantity of good loam, working in plenty of manure with it. Then take out another foot of soil and calculate whether a drain will be necessary to carry off the superabundance of moisture given in watering the Roses. If the soil is very heavy we should take out another 6 in. of soil, making 2½ ft. in all, and put in drainage as is often done with Vine borders under similar conditions, and have a tile drain at the lowest part, with an outlet wherever convenient. This will prevent the accumulation of water if the subsoil is of clay. Fill in the mixed soil and manure on the top of the drainage; and when the Roses commence to grow mulch the border with manure as above advised. If the soil is sufficiently porous to allow of the water passing freely away no drainage should be necessary; but after taking out 2 ft. of soil we should trench or break up the bottom for another foot, so that the whole border will be 3 ft. deep.

Late Keeping Grapes and their Colour.—*W. W.*: There is no Grape named Lady Hunt, so far as we know. You must mean Lady Hutt, which is a round white Sweetwater Grape of handsome appearance and first-class quality; but it is only a mid-season variety. Chasselas Napoleon is a large, free-fruiting, pale green, almost white and transparent Grape, with a firm flesh, and fairly sweet flavour. Its chief merit or that for which it is valued is its keeping properties in late autumn. The flowers require artificial setting to insure the best results. Appley Towers, the third variety you mention, would best suit your purpose, for it is a round black Vinous Grape of first-class quality, and strong, rich flavour. The skin is tough, covered with a fine bloom, and of rich colour when properly finished. The Vine is moderately robust, but the wood ripens well; while the leaves are large and leathery. The bunches are moderate in size, somewhat shouldered, and the berries set freely. The variety was raised by Mr. Miles, gardener to Lady Hutt, Appley Towers, Isle of Wight, from Gros Colman crossed with Alicante, being of the same parentage as Lady Hutt first mentioned above. It was accorded a First-class Certificate by the Royal Horticultural Society in 1889. You can graft it on Black Hamburgh, on which we believe it succeeds well. It is much better in flavour than Gros Colman and keeps till very late under good treatment; and we believe it requires less heat to bring it to perfection.

The Bulrush and Time to Transplant it.—*Omega*: No, the Bulrush is not evergreen, but dies down during winter. It varies in height from 1 ft. to 8 ft., according to the depth of the water, the nature or richness of the soil or mud in which it is growing, and the age and vigour of the plant. The best time to transplant it is in spring when the young stems are just beginning to push up. We do not think, however, there would be any difficulty in transplanting it at any time from now onwards till spring, provided you get a spade and dig out strong clumps of the rootstock with a fair quantity of soil about the roots. There would be less danger in spring, however, as growth would soon repair any damage done to the roots.

A Sun-Dial.—*Omega*: A dial when set to face the east would tell the hours of the early part of the day; and one facing the west would tell the time during the afternoon. These are generally vertical dials, but we presume you mean the common dial which has a horizontal plane parallel with the earth's axis and makes with the style an angle equal to the latitude of the place. You should set it level, that is parallel to the earth's axis, and looking towards the sun at mid-day so that the style may form a shadow across XII with the mid-day sun. The hours of the first half of the day will be shown on the west side of the dial, and the afternoon hours on the other side of XII. The dial shows the true solar time, but not the mean time of a well regulated clock.

Young Plants on Dendrobium nobile.—*Constant Reader*: It will do no harm to the old plants to remove the offsets which have formed upon them. These side shoots or branches form a ready means of propagating or increasing your plants, and if you require more of them take off these shoots and put them singly in small pots or Orchid pans, and hang them up near the glass where they will get plenty of light. As they get too big for the pots or pans in which you place them simply move them on into larger ones in spring, or just when young roots are beginning to push out.

Removing Dendrobium Roots from Pots and Baskets.—*Constant Reader*: A thin, rather blunt knife would be a good thing to detach the roots from the surface of baskets and pots. Owing to the interlacing of the roots it will often be impossible to get them away from pots in which there are holes. In such cases it will be necessary to break the pots or Orchid pans if you wish to save the roots entire. In the case of baskets you can take out the wires at the corners to remove the roots, and simply repair the baskets again.

Names of Plants.—*R. M.*: 1, Ornithogalum longibracteatum; 2, Selaginella Braunii; 3, Selaginella Martensii robustum variegatum; 4, Lastrea glabella; 5, Asplenium bulbiferum minus, often called A. Collensoi; 6, Osmunda regalis palustris.—*A. C.*: 1, Helianthus orgyalis; 2, Clematis Vitalba; 3, Rosa rugosa; 4, Rubus laciniatus.—*A. J. B.*: 1, Cornus sanguinea; 2, Acer platanoides; 3, Populus nigra; 4, Berberis Thunbergii; 5, Rhus Cotinus.—*H. W.*: 1, Aster Novae-Angliae roseus; 2, Aster Tradescanti; 3, Aster Novi-Belgii densus; 4, Aster ptarmicoides.—*H. J.*: 1, Lonicera japonica aureo-reticulata; 2, Veronica Andersoni variegata; 3, Erica vagans; 4, Artemisia pontica.

Communications Received. — John Murray.—Love & Wyman.—Wm. Seward.—J. W. McH.—G. P.—R. L.—A. T.—H. D.—B. L.—A. J.—D. C.—A. R.—J. Botley.—R. J. T.—J. D.

TRADE CATALOGUES RECEIVED.

WILLIAM BARRON & SONS, Elvaston Nurseries, Borrowash, near Derby.—Catalogue of Fruit Trees, Roses, Herbaceous and Alpine Plants, Greenhouse and Bedding Plants, &c.

HOWDEN & COMPANY, Inverness Nurseries, Inverness.—Nursery List for Autumn 1900 and Spring 1901.

DAMMANN & Co., San Giovanni a Teduccio, near Naples, Italy.—General Price List of Vegetable, Farm, Tree, Conifer, Palm, Flower and other Seeds, &c.

FISHER, SON & SIBRAY, LTD., Royal Nurseries, Handsworth, near Sheffield.—Catalogue of Fruit, Rose, Forest and Ornamental Trees, Deciduous, Evergreen, and Coniferous Shrubs.

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Royal Gardeners' Orphan Fund.

NOTICE IS HEREBY GIVEN that an election of candidates to the benefits of this fund will take place on Friday, February 15th, 1901. The benefits of the fund consist of an allowance of 5/- per week, payable quarterly in advance from the date of election until the child attains the age of fourteen years; and to be eligible for election candidates must be orphans of persons who have been gardeners, foremen in public or private gardens or managers or departmental foremen in nursery and seed establishments, and must be nominated by two subscribers. Nomination forms can be obtained from the secretary, and must be returned to him not later than December 21st next.

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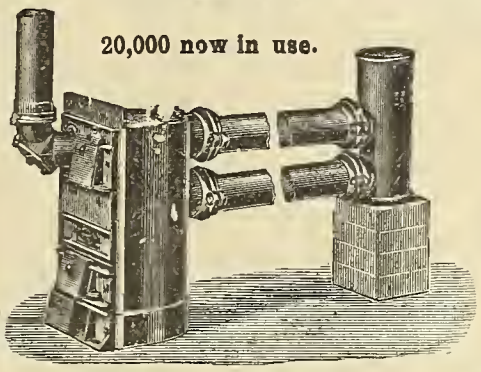

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, NOVEMBER 24th, 1900.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, November 28th.—Annual dinner of the National Chrysanthemum Society.

IN THE BAMBOO GARDEN AT KEW.—At no other time of the year, perhaps, do the Bamboos stand out with such prominent contrast to other kinds of vegetation, as when the foliage of deciduous trees and shrubs falls about during October and November and the trees assume a ragged and dismantled appearance. The foliage of the Bamboos varies from light to dark green shades according to the species, but in no way does it indicate the approach of winter by exhibiting the sere and yellow tints to which we are accustomed amongst native and exotic deciduous trees and shrubs which predominate about homesteads and in public and private parks. The Bamboo garden at Kew is now so well established that it affords an excellent object lesson as to the capabilities of Bamboos in the southern counties and on the warmer western shores of Britain. At the eastern entrance of the Bamboo garden is a massive clump of Arundinaria japonica, one of the earliest, whose hardiness was established in the suburbs of London and many other districts. The long, finger-like leaves are of a rich dark green hue. Close by it is a fine specimen of the more slender stemmed and more thinly leaved Phyllostachys viridi-glaucescens, the branches of which bend over until they almost touch the ground with their tips and completely hide it with a light green leafy verdure. In the centre of the garden is a still larger and magnificent clump of this fine species whose hardiness was attested at Kew some years before the idea of a Bamboo garden was conceived. Bambusa palmata has now attained a height of 4 ft. to 5 ft., and is, we consider, the finest of the broad leaved species, inasmuch as it carries its foliage more gracefully than its rival B. tessellata, whose long and weighty leaves fall about. Close by B. palmata is a dwarf patch of Arundinaria Veitchi, only 18 in. high and remarkable for the peculiar behaviour of its leaves, which die away at the margins until they are bordered by a broad creamy band. Anyone seeing this in spring would naturally conclude that the foliage is tender and

susceptible to frost; but the fact of their developing this peculiarity in October would indicate some physical defect or other cause at work.

One of the finest of all the Bamboos is Phyllostachys Henonis whose primary stems shoot up to a height of 15 ft. to 16 ft., being at this time erect and very thinly leafy. In the second and succeeding years a wealth of lateral branches and twigs is developed until the older stems get borne down gracefully as with their own leafiness and weight. There are several splendid clumps of it about. P. nigra is similar in habit at all times to the earlier stages of P. Henonis, being dwarfer, more bushy, densely leafy and upright. Where space is restricted it might be employed where the taller and more bulky species would scarcely be admissible. The black stems get more or less hidden by the density of the foliage. The same may be said of P. n. punctata, which differs only by having its stems spotted or marbled with black on a green ground. A plant of this has fruited at Kew, and will, in all probability, die like many other Bamboos when they reach the fruiting stage. At present it is not an object of beauty as the foliage has dropped, leaving only inconspicuous tufts consisting of the inflorescences. Arundinaria nitida runs Phyllostachys Henonis very hard for "pride of place," and certainly excels it in the slender habit of growth and profuse leafiness, which bears down the twiggy branches in dense masses. The unusually rich green hue of the narrow leaves contrasts finely with the purple young twigs. For upright and dense habit of growth Phyllostachys aurea may be compared with P. nigra, but the foliage is of a light green, and the stems yellow where sufficiently exposed to light so as to develop the characteristic hue which gave rise to the specific name. P. boryana has short, lanceolate leaves, and is not unlike P. Henonis in habit, though dwarfer. P. Quiloi has much longer, narrow leaves, of a light green, while the habit is spreading.

Altogether distinct is the long and narrow, dark green leaves of Arundinaria Hindsii, which is perfectly erect and shoots up to a height of 10 ft. For the sake of contrast it is certainly very distinct, but is not a favourite with collectors and planters of this family. It lacks the grace and beauty of most of the other tall growing species. Its variety, A. H. graminea, used to be contented with a growth of 3 ft.; but it now grows to 4 ft. or 6 ft. It has a grassy or reed-like habit of growth, and for small gardens is superior to the type. None of all the Bamboos exceed A. Simonii in stateliness as it shoots up to a height of 15 ft. to 18 ft., but it lacks the easy grace characteristic of most of the species of Phyllostachys. Several large bushes here form a forest of stems, branched towards the apex chiefly, so that each upright culm carries a heavily tufted head. Its vigour makes it a favourite with many planters and growers. Clumps of it such as that at Kew are calculated to give a subtropical aspect to the situation in which they are planted. Between it and Phyllostachys ruscifolia is a wide gulf, as the latter stands about 2 ft. to 3 ft. high, and is clothed with short, ovate-lanceolate leaves, forming bushes not inaptly compared to the Butcher's Broom (Ruscus) from which it derives its name. The dark foliage is not so sombre as in spring. P. castillonis is characterised by its spreading habit, light green foliage, and variegated stems. As seen here P. mitis is more upright in habit, and not unlike P. aurea, though, perhaps, less densely branched.

All about the garden, bordering the walks and often partly under the shade of the taller ones, are broad leafy patches of the pigmy species of Bamboo, presenting a more grassy and less noble appearance. Being strictly evergreen they are nevertheless serviceable adjuncts to the Bamboo garden, as they completely hide the ground on which they grow. Arundinaria Fortunei is, however, distinctly telling in appearance on account of the bright silvery white hue assumed by the variegation of the mature leaves. It is a familiar object in pots for greenhouse and conservatory adornment, but planted out it grows taller and is far more handsome. What used to be considered the yellow variegated form of this, but now named A. auricoma, grows 2 ft. to 3 ft. high, and though densely leafy, is not so conspicuous as in spring and summer when the yellow variegation is much brighter. A. anceps, of unknown origin, forms a dwarf, dense bush, with narrow leaves, and fairly pretty. Bambusa disticha is of dense, upright habit, 2 ft. to 3 ft. high, and densely clothed with dark green leaves in two ranks as implied by the name. B. pygmaea is the last of the pigmy Bamboos we need mention on this occasion. It is only about 18 in. high, clothed with long, finger-like leaves, and covers the ground as with a carpet of green verdure.

Various other plants are grown in the Bamboo garden, some to give variety and others to trail over and cover the tree roots used round the sides of the circular and partly sunk garden. The Pampas Grass is certainly a very fitting associate for the Bamboos. The shelter furnished by the latter as well as by the deciduous trees in the near back ground enables the Pampas Grass to attain noble and telling dimensions, while the drooping, silvery panicles of flowers are highly conspicuous and effective. The fertile character of the soil must also be taken into consideration, it producing this result, and the fact that water is artificially applied when the soil is dry. A good soaking by means of the hose was given towards the end of last month for the benefit of the Bamboos. Miscanthus (Eulalia) sinensis was very telling the other week when the dying foliage assumed a ruddy-orange glow, in strong contrast to the greenery of the Bamboos. Like the Pampas Grass it does not belong to the Bamboos, although a fitting associate.

Mr. Robert Stanton, late foreman at Castle Cliff, St. Andrews, has been appointed to a like capacity in the gardens of Sir Malcolm Inglis, Montrose, Donnybrook, Co. Dublin.

Appointment.—Mr. James L. McKellar, for the past ten years head gardener to Lord Ashbrook, Castle Durrow, Queen's County, has been appointed in a similar capacity to John Jameson, Esq., St. Marnocks, Malahide.

Weather in London.—Wednesday, Thursday and Friday of last week were wet and cold. Saturday was showery, Sunday was dry but very cold; and a modification of this weather has continued during the past three days.

Beckenham Horticultural Society.—Under the auspices of this Kentish society, a course of eight lectures will be given in the Church House at eight p.m. at intervals during the winter months. The first was on November 9th by Mr. G. A. Blogg (secretary National Cactus Society), illustrated with lantern views. Then on November 23rd, Mr. A. Hemsley lectures on "Ferns and Fern Culture"; December 7th, "A talk on Horticultural and Botanical Books," by Mr. J. Weathers; December 21st, "Walks and Talks in Kew Gardens," by Mr. J. Gregory, illustrated with lantern views. This lecture will be given in the Beckenham Public Hall. On January 4th, 1901, Mr. W. Taylor details "A Year's Work in a Vinery." "Cypripediums" is the subject for January 25th, by Mr. H. J. Chapman; February 22nd, "Vegetables for Exhibition," by Mr. E. Beckett; and the last on March 22nd, on "Roses under Glass," by Mr. G. Mount.

Roses from Cuttings.—With the exception of the Moss, Austrian, and a few other varieties of Roses, all may be struck from cuttings.

Royal Gardeners' Orphan Fund.—We understand that the sum of £3 6s. 3d. has just been sent to the Royal Gardeners' Orphan Fund by Messrs. George Bunyard & Co., The Royal Nurseries, Maidstone, as a result of naming fruits to non-customers and the trade, a uniform charge of 1s. being made for every package of fruits named.

"Brighton in one hour."—In order to allow Londoners to spend a whole long Sunday by the seashore, the London, Brighton, and South Coast Railway have started to run a special pullman train. This leaves Victoria Station at 11 a.m. on Sunday mornings, and runs the fifty miles to Brighton in one hour, leaving the latter place at 9 p.m., and reaching Victoria at 10. The inauguration will be welcomed by many; but the 12s. fare will appeal most to the upper ten.

Fine Chrysanthemums at Exeter.—"The Chrysanthemum show held on the 8th and 9th inst., under the auspices of the Devon and Exeter Gardeners' Association, was the best that has been seen at Exeter. No finer thirty-six Japanese varieties have been shown at Exeter than those exhibited by Mr. A. McDonald, gardener to H. St. Maur, Esq., Stover Park, Newton Abbot, his collection being far away ahead of the other nine competitors in this class." So writes "Devonian," who was prevented at the eleventh hour from preparing and sending us an account of the show at the time. Mr. McDonald is an old and well tried hand at Chrysanthemum growing, and we know that he has been preparing the sinews of war in this direction for the past two years. We congratulate him on his success.

The Neill Prize. — The Council of the Royal Caledonian Horticultural Society awarded the "Neill Prize," on the 15th inst., to Mr. Malcolm McIntyre, gardener to Sir Chas. Tennant, Bart., The Glen, Innerleithen, N.B. The "Neill Prize" is derived from a fund bequeathed by the late Dr. Neill (Patrick Neill, LL.D.), so that the interest might furnish a medal or other prize every second or third year to a distinguished Scottish botanist or cultivator. Part of the prize must consist of plate or books bearing a suitable inscription. The recipients include such noted names as Mr. James McNab, Professor Balfour, Professor Bayley Balfour, Robert Lindsay, M. Dunn, David Thomson, &c. It was fitting that the award on this occasion was made by the Council unanimously on the proposition of Patrick Neill Fraser, Esq., of Rockville, Murrayfield, seeing that Dr. Neill was "name" father to the latter; and because all were agreed that Mr. McIntyre was the most fitting recipient amongst Scottish cultivators. We gave a portrait of Mr. McIntyre in THE GARDENING WORLD for April 10th, 1897, and another with a fuller account of his career as a gardener in our issue for April 7th, 1900, to which we refer our readers.

Woolton Gardeners' Mutual Improvement Society.—On the 1st inst., at the Mechanics' Institute, under the presidency of the Rev. Canon Spooner, a large number of members and friends assembled to hear Mr. R. Wilson Ker, F.S.A., F.R.H.S., deliver his two-fold lecture on the "Sweet Pea Conference" and "My Russian Journey," the two subjects being splendidly illustrated by about eighty lime-light views, many specially prepared for this subject. The Sweet Pea exhibition was ably described with its huge display, and the taste evinced by many exhibitors in their style of staging. Amongst the views were the portraits of the executive committee, which were highly interesting to those who were unable to take so long a journey. The Russian trip in which the lecturer and his brother were invited as judges at the great St. Petersburg show, was given in detail with many incidents on the way. The exhibition was highly spoken of and the treatment to the English visitors. A hurried journey to Moscow with visits to the private palaces proved of great interest. On the return journey a break was made at Berlin, when some views of carpet bedding were thrown on the screen. A vote of thanks was carried by applause to lecturer and the rev. chairman. Mr. Ker in his reply referred to his indebtedness to Mr. G. Gordon, the editor of the *Gardener's Magazine*, for placing at his disposal many photographs of the Sweet Pea exhibition.

Apricots.—The practice of loosening the branches is recommended by experts as a means for retaining health in wall trained Apricots.

Mr. John Hunter, a jobbing gardener at Duns, Berwickshire, was standing on a ladder in Newtown Street on the 14th inst, when he slipped and fell, cutting his head badly. He was carrled home in a semi-conscious condition, but gradually sank and died of his injuries the same day. He was a man about seventy years of age.

The efficacy of Spraying.—There are always a number of persons with very conservative ideas, and who look askance at "new" remedies for troubles. Spraying is a case in point. We are therefore pleased to see in the *Irish Farming World*, a letter from a Connaught Irishman which states how beneficial Potato spraying has been in Co. Galway. Crops twice sprayed at the proper time in some of the worst lands in the West, have turned out eminently satisfactory both as regards the soundness, size, dryness, and produce. The letter was prompted from the author, having seen a letter stating spraying to have been practically a failure.

Mr. Angus M'Leod, for many years superintendent of public parks and gardens at Edinburgh, has tendered his resignation to the Town Clerk, on account of failing health. Besides doing faithful service at Edinburgh he has been gardener in several important places previous to his appointment at the northern capital. For instance, he was some time gardener to Sir W P. Galloway, Thirkleby Park, Thirsk, Yorks; also at Burghley House, Stamford, Lincolnshire, the seat of the Marquis of Exeter; Wentworth Woodhouse, Rotherham, and Milton Park, Peterborough, both seats of Earl Fitzwilliam; and, lastly, Newbattle Abbey, Dalkieth, the seat of the Marquis of Lothian.

The late William Stocking.—It is not often that one meets with a gardener's career having such long service attached to it as the deceased had, and who closed that career early this month. He served the present Lord Amherst, of Hackney, and his father before him for sixty years, in the capacity of head gardener, forester, and woodman. During that period he was not out of harness more than two months through ill health, and he was given strength to remain at his post till within a fortnight of his death, although he had attained the good old age of eighty-two years. He was placed to rest in a coffin made from wood of an Oak tree he had seen grow under his charge, by his Lordship's express wish. He was of a quiet retiring nature, but had a kindly feeling to those around him, which brought him many friends, as was seen by the very large number who attended his funeral, as also by the many floral tributes sent by members of Lord Amherst's family, and other friends. Although belonging to the old school he remained young by adopting any new methods. He leaves one son, a widow, and four daughters to mourn his loss.—*J. C., F., Chard.*

Ealing and District Gardeners' Mutual Improvement Society.—The thirteenth annual session (1900-1) of the Ealing Gardeners' Society commenced on October 2nd. The first paper was read on October 30th. Mr. W. B. Gingell was the author, the subject being "Road and Path Making." Following meetings are November 13th, "A Few Hints on Growing Roses," by Mr. H. Burgess. On November 27th, Mr. F. W. E. Shrivell, F.L.S, takes up the subject of "Manures." Mr. J. Gibson expounds "Vegetable Culture" on December 11th. January 15th brings up Mr. W. Chaffer, who dilates on "Pruning and Training Fruit Trees." And on January 29th the culture of "Stove and Greenhouse Flowering Plants for Exhibition" is explained by Mr. C. Long. Mr. A. Pentney, on February 12th, has, no doubt, something poignant to say on "Plant Diseases and Advertised Remedies." "Planting" is the limitless theme to be dealt with by Mr. J. Hawkes, on February 26th. Mr. A. Wait, on March 12th, treats "Bedding Plants"; and Mr. C. Edwards, on March 26th, considers the "Herbaceous Calceolarias." The annual dinner and prize distribution comes off on April 2nd, 1901. The meetings are held in the Municiple Buildings, the room is open at 7 o'clock, the business commencing at 8. Tempting money prizes are offered for various collections at every alternate meeting. The hon. secretary is Mr. W. Roberts, Braemar Gardens, North Common Road, Ealing, W.

A Hydrangea hortensis, 10 ft. in diameter, and bearing 482 trusses, was recently to be seen in the garden of M. H. Walsh, Esq., Woods Hole, Mass. U.S.A.

Snow fell heavily in North Perthshire on the 12th inst. so that all outdoor labour was suspended. On the hills and more upland districts the snow accumulated to a considerable depth, although there was no drifting.

The Ashford Collection of Orchids.—On the 13th and 14th inst. Messrs. Protheroe & Morris, of Cheapside, London, conducted a sale of the fine collection of Orchids got together by G. Shorland Ball, Esq., Ashford, Wilmslow, Cheshire, realising a sum of £4,666. The highest price obtained for a single specimen was 120 gs. for Cypripedium callosum Sanderae, consisting of two old and two new growths. C. insigne Sanderae, consisting of twenty-one growths, old and new, fetched 100 gs. Next in order came C. i. Luciani, 90 gs.; Cattleya labiata alba, with seven stems, five leaves and one flower sheath, 85 gs.; one strong crown of Cypripedium callosum Sanderae and Laelia praestans alba, each 60 gs.; C. insigne bohnhoffianum, 56 gs.; C. lawrenceanum hyeanum, 55 gs.; Cattleya labiata alba, small piece, 50 gs.; Cypripedium venustum measuresianum, 48 gs.; and many others at high prices. Good Orchids, it will be seen, can yet find eager buyers.

The Charlock Pest.—The yellow flowered cruciferons plant that converts corn-fields into seas of gold about May and June, though beautiful when seen in its glory is yet one of the direst plagues that trouble the farmer. He abhors Charlock. (Charlock has many different names both scientific and colloquial.) Coming to his assistance, Mr. G. F. Strawson has for a few years past largely experimented with copper-sulphate solutions, sprayed upon the Charlock. He has used strong solutions, weak solutions, and all grades of strength or virulency between the extremes. He has sprayed when the Charlock was very young, and at various stages up to the period of its maturity. He has kept a strict record of the several results and has formed from them a very reliable opinion on how best to proceed for the suppression of Charlock. The report of his work in Charlock spraying during 1900 has just been published. We might select a few figures showing results but it is more commendable to point out that complete copies of the report can be obtained for the asking, from Mr. Strawson direct. The matter is important, so much so that all in any way troubled with Charlock would do well to apply for copies to (City Bank Building), 71A, Queen Victoria Street, London, E.C.

A Horticultural Library.—The Croydon and District Horticultural Mutual Improvement Society, though not long in existence, seems to have a grand co-operative and enthusiastic working system from which great things may be expected. Croydon is blessed with a number of well appointed public libraries, the officials of which are active and generous. Having heard through the energetic hon. secretary of the above society that certain botanical and horticultural works would be welcomed they extended their beneficence, and now we have a publication before us which includes a list of the books on botany, agriculture, and landscape gardening in the Croydon Public Libraries, the publication of which list has been done by the Horticultural Society for the special use of its members. We think the Croydon gardeners are exceedingly fortunate, and trust that so many as can will give their support to the society and its officers. In "the list" we count 115 works on botany, divided systematically under the headings Physiological and Structural Botany, Economical Botany, Geographical Botany, Phanerogamia, Cryptogamia, and so on. The books on agriculture (which includes horticulture) are equally well represented, and, indeed, the study of their titles is an education in itself! All the best books by the ablest and clearest writers are there, and, we think, that if other similar societies would only use some of the powers they possess in a like endeavour horticultural education throughout the land would rise at once from its conservative grooves, and, in many cases, apathetic condition to higher ideals and a state of progress. Co-operation with education will eventually lift gardening to its true level among trades and professions.

Parisian Boulevards.—The trees in the streets and public places of Paris are estimated by M. Mangin to number about 80,000. Of these 26,000 are Plane trees, 17,000 Chestnuts, and 15,000 Elms, the remainder being Sycamores, Maples, Lindens, with apparently only one Oak and one Mulberry. The Paper Mulberry in the Avenue de Bois des Boulogne used to be a fine sight when covered with its orange-coloured fruits.

Plants and their Food.—Mr. Pearson continues his series of articles on the above subject in the November *Knowledge*. The following is an extract:—"Many plants, including a large number of Orchids, the Heaths which constitute the larger mass of the plant-population of our moors, as well as many familiar British trees, possess few root-hairs or none at all, their place being supplied by the fine thread-like filaments of the fungus. This so-called 'mycorhiza' or 'fungus-root' is of two kinds. In many ground Orchids, and in the members of the Heath family, the fungus establishes itself in the external cells of the root whence it sends out into the soil free filaments which serve the purpose of root-hairs. In the Beech and related trees the connection between the fungus and the root is less intimate. Here the filaments do not penetrate the outer cells of the root, but, instead, become closely interwoven, forming a mantle over the end of the root, investing it as the finger of a glove invests its occupant. From this mantle proceed numerous filaments which force themselves among the soil-particles after the manner of root-hairs. In most cases little is known of the fungi which enter into such unions with the roots of higher plants. In some, notably in that of the Pine, the mycorhizal filaments belong to the fungus whose fruits are so well known under the name of 'truffles.' In this association of fungi with the roots of higher plants the benefit is mutual. When the filaments penetrate the living cells of the roots they undoubtedly receive therefrom organic substances which the fungus, being destitute of chlorophyll, is unable to build up for itself. In return, it to some extent saves its host the necessity of forming root-hairs, whose duties are performed by its loose ends. Whether the mycorhiza which simply invests the root of its host without penetrating its cells is of similar service is not certain."

Syndical Chamber of Belgian Horticulturists.—At the meeting of this body in conjunction with the Royal Agricultural and Botanical Society of Ghent on the 4th inst., the jury awarded Certificates of Merit to a lot of Chrysanthemums presented by M. de Vriesere-Remens (with unanimity); to Chrysanthemum Mrs. Coombes (Jones, 900), shown by M. le Comte O. de Kerchove de Denterghem; to Cattleya Martinii (C. aurea × C. bowringiana) and Cattleya labiata Roi des Pourpres, C. labiata × C. Eldorada alba, all staged by M. G. Vincke-Dujardin, of Bruges (by acclamation); to Laeliocattleya varjenewskyana, Cattleya labiata autumnalis, C. hybrida (C. labiata × C. dormaniana), C. St. legeriana, C. labiata autumnalis Lindeni, C. hyb. gottoiana moortebeekiensis, C. labiata autumnalis Georges Putzys, C. labiata autumnalis var., C. Harrisonlae (with unanimity), Laelia praestans amabilis (with acclamation and the congratulations of the jury), Cattleya labiata autumnalis Marie Henriette de Wavrin, C. gaskelliana alba, Laelia praestans var., Vanda caerulea Arthur Van de Heede (with unanimity), V. c. L. Desmet-Duvivier (with unanimity), V. c. Camille Van Cauwenberghe (with unanimity), and V. sanderiana var. (with acclamation), all shown by M. le Marquis de Wavrin. Certificates of Merit were also accorded to Cattleya aurea var., Cattleya hardyana Madame Desmet-Duvivier, C. gigas var., and C. hardyana var., all exhibited by Mr. M. Verdonck; Cypripedium Memoria Moensii, shown by M. Maes Braeckman; Cattleya labiata, staged by M. G. Vincke-Dujardin; Houlletia claeseana, shown by M. Florent Claes; a lot of cut flowers of new Chrysanthemums, 1900 (with unanimity), and another lot of cut Chrysanthemums, exhibited by M. E. Fierens (by acclamation and the congratulations of the jury). A like award was given to a group of Chrysanthemums shown by M. le Comte O. de Kerchove de Denterghem, and a Certificate of Merit to M. Buyssens, his chief grower at the winter garden, for the object lessons concerning the different manures applied in the culture of Chrysanthemums.

Poison in Potatos.—Yes, Potatos contain the poisonous alkaline called solanine. But do not grow alarmed. Poison kills poision; that's why some folks have to take arsenic to purify their blood. And Potatos only contain enough solanine to do good to the system. New Potatos have very little of the poisonous principle, but old ones are sometimes surcharged, and when so, they are unwholesome. In 1892 and 1893 certain German troops suffered greatly from the effects of Potato poisoning. The symptoms were frontal headache, colic, vomiting, weakness and slight stupor. On investigation of the old Potatos kept in a damp place and beginning to sprout, they were found to contain twenty-four times as much solanine that new Potatos do.

Pan-American Exposition.—We have received from Mr. Mark Bennit full notices of the intended Pan-American Exposition which has been arranged to last from May 1st till November 1st, 1901, at Buffalo, New York, U.S.A. The grounds around where the Exposition will be held are already fairly well laid out. A large part of Delaware Park is included within the area occupied by the various buildings and exhibitions. Conservatories and a large horticultural building are in course of erection. A forestry building and department will also be included. The intention of the Exposition is for the furthering of trade in general, and the establishing of more friendly relations among the states and countries of the Western Hemisphere. For further special information application should be made to Mr. Mark Bennit, Superintendent Press Department, Bureau of Publicity, Pan-American Exposition, Buffalo, New York, U.S.A.

Utility Poultry Club.—LAYING COMPETITION.—The competition began on October 17th and ends February 5th. The twenty pens (four pullets in each) are under the management of Mr. G. C. Ring, The Manor Poultry Farm, Slough. Prizes and specials to the value of £18 are being offered. Below is the result of the first month's laying.

Pen.	Breed.	Eggs. 1st month.	Pts.	Pen.	Breed.	Eggs. 1st month.	Pts.
1.	Faverolles (E.)	0	0	11.	Ply.Rks.(Ba.)	56	112
2.	Anconas	0	0	12.	Leghorns (Br.)	0	0
3.	Lanshans (Bl.)	0	0	13.	Wyandts. (Bf.)	0	0
4.	Houdans	0	0	14.	Leghorns(Wh.)	0	0
5.	Lincs. Buffs	16	30	15.	Wyandts. (Pr.)	0	0
6.	Leghorns (Br.)	0	0	16.	Legh'ns. (Wh.)	0	0
7.	Orpingtons (Bl.)	0	0	17.	Wyandts. (S.)	0	0
8.	Leghorns (Bf.)	28	56	18.	Minorcas (Bl.)	0	0
9.	Orpingtons (Bf.)	0	0	19.	Wyadts.(Wh.)	0	0
10	Leghorns (Bf.)	0	0	20.	Minorcas (Bl.)	0	0

In scoring, two points are given for every egg weighing over 1½ oz.

The manager reports: That pens Nos. 1, 10, 12, 14, and 16 were not hatched early enough. That pens Nos. 13, 15, 17, 18, and 20 were apparently hatched too early for November laying, they having all gone into moult after laying a little before the competition began. That the majority of the birds appear to have felt the change. That all the pens are in good health.—*L. W. H. Lamaison, Hon. Assistant Secretary, Southwold, Kenley, Surrey.*

Cypripedium chamberlianum.—In the current issue of *Revue de l'Horticulture Belge et etrangere*, the above Orchid is figured. Some interesting facts are also published. The writer in the *Revue* thinks this one of the most remarkable and beautiful introductions of these last years of the century. When Messrs. Sander & Co., of St. Albans, received the first consignment from their collector in New Guinea, they were somewhat puzzled as to its genus. At first view its characters, the large, vigorous leaves and its flower stalk, seemed to indicate an Angraecum rather than a Cypripedium. When a plant was shown at the Royal Horticultural Society's meeting of April 12th, 1892, it excited much interest, being so distinct both in habit and flower from any other Cypripedium. The plant is vigorous, the leaves are long, leathery, and persistant. The flower stalks are long and carry from twelve to twenty flowers each. These succeed each other, and there are instances where flowers have followed each other in opening on the same raceme, for a period of two years. Each flower is accompanied by a very ornamental bract. The flowers in general recall the colours of C. superbiens and C. Morganiae, and are very attractive. As with all imported stock, the plants will be found to differ among themselves in colour of flowers and in habit of growth. The plant was dedicated to Mr. Joseph Chamberlain. The plant succeeds in a temperate greenhouse.

A Russian Note.—During the winter months Russia, and particularly the district centring around Odessa, is badly off for fresh vegetables. Improved facilities for transport, however, are enabling the growers at Constantinople, Alexandria, &c., to send up the needful supply. Lemons, Oranges and similar fruits are grown nowhere in the Russian Empire except at a small station around Sukhum. Some 23,670 tons of fresh fruits were imported into Odessa in 1899. The Crimea region produced 32,000 tons of good Apples and Pears last year.

Exeter Gardeners' Association.—At the meeting of the above society held at the Guildhall, Exeter, on Wednesday, the 14th inst., Mr. H. Hemsley, The Royal Nurseries, Exeter, read a paper on "Herbaceous and Alpine Plants." Needless to say, the paper was as interesting as it was practical and exhaustive. The usefulness of hardy flowers, the various methods of exhibiting them, and their means of propagation and cultivation were explained. Mr. Hemsley suggested that the society should add a class and offer substantial prizes for a collection of hardy flowers to occupy 10 ft. or 12 ft. space, at the autumn show. This would do far more to encourage a knowledge and love for the best hardy flowers, than a class for a dozen varieties can ever do. A discussion followed, after which Mr. Hemsley was thanked heartily for the paper he had prepared. There were a number of vases with hardy flowers exhibited. Mr. Andrews occupied the chair.

Russian experiments in Electroculture.—According to the *Orcadian* some Russian scientists have been trying interesting experiments in electroculture. One of them ascertained that electrified seeds germinate more speedily, and gave better and quicker results than unelectrified seeds. Also, by burying in the soil one copper and one zinc plate placed vertically, and connected by a wire, he found that Potatos and roots grown in the electrified space gave crops three times heavier than those grown closely on a test plot. The Carrots attained the unusual dimensions of from 10 in. to 1 ft. in diameter. The other Russian scientist tried a series of experiments that were more original. He placed wooden posts about 10 yds. apart which were provided at their tops with metallic aigrettes connected by wires so that the plants were cultivated under a sort of network of wire. The ripening of Barley was hastened by about twelve days. A series of laboratory experiments upon boxes was also made. The temperature of the soil was raised by these currents; its moisture decreased at first, but began to increase after a course of three weeks, and at last the amount of vegetable matter in the soil was increased by electric currents. One is apt to look askance, or even to sneeringly laugh at such performances; but surely we have seen too many instances where the truth that he who laughs last, laughs loudest, has been proved. One must be astonished at nothing.

The Best Manures for Potatos.—In the Scottish Potato-growing experiments, the biggest yield was obtained with a combination of manures consisting of 10 tons farmyard manure, 4 cwt. superphosphate, 2 cwt. sulphate of ammonia, and 1½ cwt. sulphate of potash. Next to this came the crop of the field dressed with 20 tons of farmyard manure, 4 cwt. superphosphate, 1 cwt. sulphate of ammonia, and 1 cwt. sulphate of potash. Third place was occupied by the crop which got 10 tons of farmyard manure, 4 cwt. superphosphate, 1 cwt. sulphate of ammonia, and 185 lbs. of muriate of potash. The yield from the first named dressing, which cost 49s. 9d. per acre, was 5 tons 2 cwt. of Potatos dressed over a 1⅝-in. riddle, 2 tons 2½ cwt. of sound secondary Potatos dressed over a 1¼-in. riddle, and 10 cwt. of diseased or refuse Potatos. On the plot which got the 20 tons of farm manure, 4 cwt. superphosphates, 1 cwt. of sulphate of ammonia, and 1 cwt. of sulphate of potash at a cost of 33s. 3d. per acre, the weight of marketable Potatos dressed over a 1⅝-in. riddle, was 5 tons 4½ cwt., while of seconds there were 1 ton 18¾ cwt., and of refuse, 11 cwt. The 10 tons of farmyard manure by itself gave a crop weighing 4 tons 3½ cwt. of large tubers, 1 ton 11¼ cwt. of small, and 9½ cwt. of refuse, while the plot which got 20 tons of farmyard manure alone gave 4 tons 15 cwt. of large Potatos, 1 ton 18½ cwt. of seconds or small, and 12 cwt. of diseased or refuse tubers.—*The Farmers' Gazette.*

Pests We Have Not.—Under this title a writer to the *Journal of the Department of Agriculture of Western Australia* says that in his western colony they are absolutely free from sparrows, starlings, flying foxes, phylloxera, codlin moth, oyster-shell scales, wax-scales, Pear slug and Apple root borers. It would seem that this immunity is largely due to the careful system of inspection of imported fruits, and the disinfection of cases containing fruits. These pests levy a heavy tax on the orchards and vineyards of the eastern colonies. The absence of these pests, coupled with the wonderful suitability of this colony to the growth of all kinds of fruit, makes this western colony a paradise to the grower.

NOTES ON VINE GRAFTING.

I HAVE lately discussed the matter of Vine grafting and influence of stocks on Vines with several of the best known Grape growers in Scotland, and in each case those who have tested the matter thoroughly are of opinion that some varieties of Vines should not be used for stocks, as such impair flavour, reduce the vitality of the Vine, and often render the flesh of the Grape tough with an absence of juice. Much has been written on this subject during the last thirty years or more, and I fear that many of the untoward lessons taught have not been carefully heeded. The best stock in every respect I have found to be Black Hamburgh; the worst has been Gross Guillaume. Muscat Hamburgh, and others on the Hamburgh, have been much improved; on Gross Guillaume, the reverse has been the case. Muscat Hamburgh on Foster's seedling sets well and keeps as well as the latter, but the flavour is almost identical with that useful white variety. On White Tokay, Gros Colman, and Gros Maroc, are larger in berry but not improved in flavour, rather on the reverse side. Muscat of Alexandria on Tokay is reduced in flavour, but the berries are larger. Gros Colman on Gros Guillaume is decidedly inferior in every respect.—*M. T., Carron.*

ROSES FROM CUTTINGS.

THE opinions of Rose experts on the subject of Roses on their own roots or upon a stock, are as directly opposite as opinions could be. I have heard a very eminent Rose grower say that own-root Roses were never so vigorous nor so lasting as were "worked" plants. On the other hand, I have the opinion of a successful grower "that if a Rose from the cutting does any good at all, it will go on increasing in size and vigour, and produce more and finer blooms annually than any worked plant." It seems to me that the difference in vigour, &c., cannot be very noticeable when direct contradictions can be entertained. Personally I would rather have worked Roses. But while there are so many growers of Roses (and the band is continually augmenting) we will always have Roses propagated in fair numbers, from cuttings.

The system has the advantages of being simple and speedy. A stock can soon be raised from cuttings Take good pieces from stout wood of the current year, at the present time. If a number of cuttings are to be struck it is advisable to prepare a bed within a pit or frame, and insert the cuttings therein. Keep the frames close and slightly shaded against bright sunshine, dewing them over just often enough to maintain a soft, half-moist atmosphere. When a few good roots have been made they should be lifted very carefully for potting. After this operation, place them at once in a warmer house and encourage their growth until nice sized plants have developed.

A very large number of cuttings are placed directly in the open borders, outside of any glass protection whatsoever. Cuttings with a heel attached, that is, with a portion of the old wood at the base of the young cutting, are usually selected. These are inserted closely in one or more "nitches" cut with a spade in a sheltered and half-shaded bed of good loamy soil. The cuttings should be about 1 ft. in length, the lower end being cut straight across at a joint, and a few of the lower leaves removed. The cuttings should be inserted to a depth of 8 in., the soil being made firm. The surface may be hoed occasionally, and in springtime the ground should be watered, as then the roots will be in vigorous growth.

Still another method is that of inserting cuttings in small pots and keeping them through the winter in cold frames. During next summer they can be grown on out of doors and will furnish young plants to flower during summer.

These are the chief methods practiced at this season. At an earlier date soft young growths of the Teas and Noisettes can be struck, by placing them in pots of sandy soil, in a warm temperature. In striking, allowance must be made for losses.—*J.*

PLUMBAGO ROSEA.

This useful plant is not grown nearly as largely as it deserves to be. At this time of the year there is hardly any other plant that gives such a display in a warm greenhouse as this, with its long branching sprays of beautiful red flowers. They are always useful for grouping purposes, and on tables of plants arranged for effect they are indispensable. This was one of the objects Mr, J. Fulford, of Moor Hall, Cookham, used on his first prize table of miscellaneous plants with telling effect at the recent Maldenhead Chrysanthemum show. The best way to grow it successfully is to get good stout cuttings in the spring, about 3 in. in length, and insert in small thumb pots, or several round a small 60, using a light sandy soil, and placing in a propagating case till rooted, after which pot in small pots, and keep them growing in a warm house or pit near the glass. When the pots are well filled with roots, pot into large 60's and 48's size pots. These will be found most useful for decorative purposes. Old plants should be cut back in the spring and potted up. These will come in handy for cuttings, &c., as long shoots of these are exceedingly pretty, mixed with other cut flowers. Potting compost should consist chiefly of fibrous loam with a little peat or leaf mould added, and sufficient sand to keep it porous. Greenfly must be kept under.—*John Botley, Blythewood Gardens, Maidenhead.*

BULB PLANTING.

In many places these are not all put in the ground yet, and to those who would appreciate a good show in the early spring kindly allow me space to advocate their being planted in the turf more than is generally met with. Crocuses in variety do grandly with us on north and east slopes, and under large isolated trees whose bottom branches are gone, and where light and sun can have access to thoroughly ripen up their growth after flowering, and so do the feathered Hyacinths, and very pretty, too, springing up from a carpet of grass. We use a trowel for the work, merely removing a small piece of turf and placing the bulbs from 2 in. to 3 in. deep, and 4 in. apart, putting back the turf again after planting. The secret of success is in not cutting away the grass like growths until it is thoroughly ripe, which is not often the case until well into June.—*J. Mayne, Bicton.*

STARWORTS.

These are among the most precious autumn flowering plants. When boldly massed on the border they are effective. The flowers rich yet cool in their various shades of colour are more lovely when seen above and amongst evergreen shrubs. Aster acris, one of the earliest to bloom, is quite dwarf, with soft purple-lilac flowers almost hiding its tiny leaves. Another good kind is Aster Amellus, especially the larger form, bessarabicus, of which the flowers are deep purple-blue, having orange centres. Charming in their way are Aster diffusus horizontalis, red and white flowers; A. ericoides, white; A. longifolius roseus, rose; the profuse-blooming and white-flowered A. polyphyllus; A. turbinellus, lavender; and the white A. puniceus. Aster Novi-Belgii gives many beautiful varieties, not the least attractive being Purity, whose flowers are the purest white and freely-produced. A splendid form, Arcturus, has flowers of deepest blue and pretty dark green foliage. Archer Hinds, soft blue; Harpur Crewe, white, yellow centre; and Robert Parker, are also varieties of great beauty. The last-named grows tall and has large lavender-coloured flowers. Roseus and William Bowman are the two best varieties of Aster Novae-Angliae. The Christmas Aster grandiflorus is seldom seen at its best outdoors, owing to severe weather, but if lifted and brought into the greenhouse, no plant gives a better reward for so little trouble.—*Henry H. Gibson, The Gardens, Glencairn, Belfast.*

STRAWBERRY-GROWING IN THE PHILIPPINES.

Early this year a young lady started from Maine, attracted by the announcement that canned Strawberries were fetching 10s. a pint in Manilla. Confident that the description of the soil and climate would suit Strawberries, she embarked £100 (500 dols.) in the venture. She secured two acres of excellent land in a high rolling locality, with natural drainage, and set hopefully to work, ploughing, making rows, and setting out runners, which she had brought with her. So far they have done remarkably well, few vacancies occurring, and her whole first crop has already been engaged. She finds that there will be even a greater demand than she has anticipated, and will extend her borders greatly, endeavouring also to secure a succession of berries through an entire season. It seems to me that there may be something in this that would be worth our young gardeners' while taking up. Unquestionably there are great possibilities for traffic in hitherto unknown lines in these islands. Many soldiers when discharged have remained and gone into business there. Of course, in time, fruit culture there will be overrun, like everything else, but now there ought to be plenty of room. Vegetables also ought to be easy of culture, and ought to find a ready market among the many white settlers, who have their hands full otherwise, and very high prices would be obtainable, while land is cheap and fertile.—*C. Macquarie, Chicago.*

SEAKALE AND RHUBARB

Will soon be required in the kitchen, and if not forthcoming during the next month or so, pity the poor gardener at the hands of the cook. In many places a start will have already been made, but a good deal depends upon the convenience at hand where they can be forced. The two are bracketed together as amenable to the same treatment, and various methods are adopted for procuring the first few batches, both requiring more heat at this date than when the new year is with us. For several years past our first few gatherings have been had from the top of a roomy stokehole made similar to a large corn hutch, making sure it excludes all light and dust, covering the roots lightly with sifted leaf soil, and syringing every morning with fairly warm water. The Kale should be ready to cut within a month, the Rhubarb taking from a fortnight to three weeks longer. In another three weeks we shall force them both under a large heap of freshly gathered leaves, a kind of hut being made to keep the leaves up, and that we may get in and out a doorway is made on the south side. Here the produce comes to perfection and in much quicker time. The crowns must be kept moist or the produce will be far from tender.—*Grower.*

VIOLET PRINCESS OF WALES.

This Violet is without a doubt the best single variety in cultivation. It possesses many good qualities, having long stems and large blooms of a beautiful light purple colour. It is very useful for decorative purposes, and should be grown by all gardeners. It should be planted in frames in September when Melons and Cucumbers are over. In each frame put about two barrow loads of soil, consisting of two parts loam, one part leaf mold, and one of drift sand. Fill the frames within a foot or 15 in. of the top, and plant about 9 in. apart, well watering them in. They should then grow without more water all winter. Give plenty of air on all favourable occasions. Keep the soil well stirred up between the plants, and keep all dead leaves pinched off. In early spring have the lights off whenever the weather will permit, and water once a week with weak manure water, or a little artificial manure may be given about once a fortnight. After flowering plant out in a north-east position about one foot apart. They may also be grown in pots; pot up some young crowns into 32's. At the same time as you plant the others out stand the pot plants in the open, keeping all side shoots pinched off. In September take them into the house where they are to flower in a temperature of 50° to 60°.—*H. W. Lewis, Hayes Village, Kent.*

Kitchen Garden Calendar.

Digging.—Those who took advantage of the late fine weather to get out manure on to all vacant ground, the same having been spread over the surface, may now proceed with digging. The importance of this operation cannot be too deeply impressed on the minds of all those who are desirous of growing first-class vegetables. This is the season when preparations should be made for future crops; therefore it may be well to state now how we would arrange them. As is well known to all growers of first-class Onions, the ground cannot be too rich or two deeply dug for the roots of these gross feeders. With some it is a practice to sow spring Onions on the ground from which the Celery was taken, but with others such plots are reserved for roots such as Parsnips, Carrots and Beet, no manure being applied at the time of digging. In many gardens where heavy cropping is practised the ground is too much occupied to admit of autumn digging, for the plots from which the late potatos were lifted are either carrying a late crop of Turnips, or winter Spinach. The only vacant ground being that from which Parsnips, Carrots, Beet and late Cauliflower have been taken, or that devoted to Runner Beans, that previously occupied with Onions, being planted with spring Cabbage. Digging, however, may be proceeded with on all vacant ground; but the manner in which this is done must greatly depend on the kind of soil the garden consists of. For example we would recommend digging light sandy soils as deeply as possible on the flat, leaving the surface smooth in order that the only thing necessary for spring sowing or planting would be to rake down the surface and sow the seed. By so doing the soil becomes somewhat consolidated and so prevents evaporation during the summer. While on the other hand heavy clay and stiff loams should be left as rough as possible. Where trenching is properly carried out the soil, even of the most retentive nature, soon becomes workable. Many who are not accustomed to such work do not take out sufficient soil in the first instance. If it is intended to dig two spits deep the soil should be taken out to that depth at the commencement, and two spits wide. For stiff soils we would recommed No. 3 spades. These when new are quite heavy enough for any man to work with, though in some soils a No. 4 is not too large. When new these are about 12 in. long, so that if the top is shovelled into the bottom of the trench, and two spits afterwards, the soil will be dug to the depth of 2 ft. Where the ground will admit of being moved we would advise going even deeper, but if the subsoil is loosened each time the ground is dug, in the course of a few years there will be sufficient depth of good mould to grow any crop. For heavy soils the ground cannot be left too rough. If thrown up in ridges running from north to south so much the better, as then the sun and frost plays alike on both sides of them. Ground treated in this manner will need careful treating in spring; it must not be allowed to get too dry before being worked down fine or the clods will be so hard as to render them difficult to break.

Spring Cabbage.—Owing to the soil being so warm these have grown apace this autumn. In case of severe weather it will be well to prick out more from the seed bed, that there may be no blanks. Early Cabbages are always appreciated, but when they are too forward frost frequently injures them, throwing them back for two or three weeks, the second batches being the most useful. Savoys are now both plentiful and good, Perfection being one of the best with us. As these are very apt to split, owing to so much wet weather, the most forward should be pulled up and laid in by their heels in an open shed, where they can remain till required for use.

Broccoli.—Daily attention should be given to these, for the weather is very changeable. Any that show the least signs of turning in ought to be well protected, for after so much wet they would suffer seriously should frost set in. Those ready for use should be pulled up and taken to a cool place, where they may be protected from frost. Look well to plants in pits, and see that plenty of air is given them, or they may rot in the hearts.—*F. W. J.*

HINTS FOR AMATEURS.

The Planting Season.—Miles of hedges are now being planted. For fast growth the common green-leaved Privet is largely employed in every district of the kingdom. There is no objection to its use. It has too many merits to be lightly ignored. Still, there has for long, been a tendency to plant too much of it, and though the aphorism gives it that one cannot have too much of a good thing, each rule has yet an exception. To meet and see every garden barricaded with a Privet hedge gives one the "hump," to use a colloquial phrase. Beech hedges are always ornamental and do not take so very long to develop. Cypress hedges are always fresh, often aromatic, and are as successful when properly treated, as any other kind of hedge.

A word might be said of Sweet Brier hedges. They can be relied on to make formidable and dense protection. They are always improving the older they become, and when allowed to grow freely and without hard pruning, they may be expected to clothe themselves during summer, with many flowers. They too, like the Arbor-Vitae or other Cypresses, are sweet-smelling after showers. Only there is this against them that they must have plenty of air and sunshine and freedom to grow in their wild luxuriance. Neat Brier hedges can be formed, but something that is neater or better suited could in such cases be used in their stead. The best place for Brier hedges is around farm houses, or villas and cottages in the country. The Yew and the Holly suffer greatly in appreciation in these days of high pressure. No plants are, however, better adapted for forming hedges. The Yew does not do well on a dry soil. The Holly has a little more persistence, yet it, too, is apt to cast its leaves if the summer season proves dry for a prolonged period. Much can be done to enrich and solidify light or gravelly soils before a hedge is planted, and a good deal of good is ensured by top-dressing. The soil should be deeply trenched, the bad subsoil (if such exists) being bodily removed and fresh material brought in its place. This applies to hedges being planted around villas or near by dwellings, and which are desired speedily to be real features of ornament, or of shelter. With hedges in outlying parts of an estate one has to make the best preparations, consistent with limited expenditure, on the spot.

After having trenched and prepared the soil, and having obtained stout and robust plants, another important point is not to allow the roots to become dried. They should be exposed as little as possible. Nothing harms a plant more than such checks and hurts to its fundamental system—the roots. In planting, the roots must be well spread out, the soil being scattered over them rather gently at first till they are fairly covered. The bushes should, according to their size, receive a shaking to settle the soil about and among the roots. All the roots should not be on one level. Some should be lifted higher than others. It is always well to keep the roots toward the surface. The goodness applied to, or contained in, the upper "spit" of soil is then obtained by them. Firm the soil by moderate treading. The depth at which bushes or young trees should be planted goes by the line of mark at which they previously have been growing. Be careful not to plant much deeper, nor higher than this mark, which is generally evident at the base of the stem. These remarks apply principally to the planting of bushes, somewhat developed, and with which a great deal of care and process is required. At the same time even young hedge plants must be dealt with cautiously so as to ensure a good set off, or start in life. Pruning need not trouble one till about the time growth begins to move in springtime. Thorns (Crataegus) are then cut hard back; but most of the other plants I have named are only trimmed into decent shape. Hard pruning may be done at the beginning of the second year. It is essential to lay a strong central part and base. This is only done by pruning the plants close-in during the earlier years of their occupation.—*Beacon.*

The Association of American Nurserymen will hold their annual convention for 1901 at Niagara Falls, June 12th and 13th. Mr. G. C. Seager, Rochester, is secretary.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Dwarf *versus* **Standard Fruit Trees.**—*D.*: The standard trees can have the ground beneath them perfectly well cropped, and the practice is carried out in nearly every garden throughout the land. Lettuces, young Cabbages transplanted from the seed beds, and later on to be planted in brakes; various dwarf herbs such as Chervil, Sweet Basil, &c.; Parsley, Wallflowers, &c., are some of the crops that gardeners can plant and find to do well beneath standard trees. At the same time, those who have abundance of ground and labour to till it, may not care to disturb the roots of the standard trees. The ground, however, is merely pointed over with forks, so that the roots, which are ½ ft. deep, at least, are seldom injured. The trees, at least, bear well enough. With dwarf trees the grounds between them can alone be cropped.

Beans for Winter Forcing.—*O. L.*: Ne Plus Ultra is considered the best French Bean for general use, and is oftenest relied on for forcing. You may start forcing now, if you wish to have a very early dish, but avoid too hard forcing. They are best grown in large pots, placed on shelves.

Care of Shrubbery.—*Maggoire*: We do not advise pruning at this time. This work may be done when spring growth is about to start. There is then a fresh verdure soon after the tangled ends and older twigs have been removed. Do your planting now (see this week's "Hints") and tidy up the shrubbery.

Lilium wallichianum.—*Grower*: This fine Lilium was introduced from the Himalayas. We remember Mr. Wallace in his lecture on "Lilies" given in the Drill Hall in the summer time, referring to this species. He advised to grow it in pots, using turfy loam, the treatment being similar to that accorded to L. auratum. L. wallichianum superbum is stated to be perfectly hardy.

Planting Raspberries.—*H.*: All fruit trees and bushes may be planted at this season of the year. Do not cut down the Raspberry canes until the end of March.

Filling Window Boxes for Winter.—*J., Ireland*: It is now late in the season to be filling window boxes, but Wallflowers would do fairly well. We think it very much better, however, to use little shrubs. Aucuba japonica and Euonymus japonicus latifolius-aureus used by themselves make a bright and fresh display. Euonymus radicans variegata can be used along the edge. Any other useful little shrubs which occur to you may be tried. The tallest should not be more than 1 ft. high, and should be deeply and firmly planted, the shrubs being close together.

Making a Path.—*L. M.*: To form a dry and lasting path you would require to remove the present existing soil to the depth of 1½ ft. Make the bottom (above which the drainage is to be placed) convex, that is, high in the centre, and sloping to the edges. This foundation should be made as firm as possible. Then lay in the rough stones to form the drainage. These should not be merely thrown in and spread out, but should be placed on their narrow side, close against each other. This must be done by hand. It takes a longer while to make such a path, but one has the fullest satisfaction in enjoying it afterwards. After placing in this lower layer, proceed to fill in layers of smaller sized stones, finishing off with gravel and some sand or breeze to bind the surface. The whole path should be beaten and rolled till it forms a dense, firm, welded mass. Some clay should should also be sprinkled among the lower layers of stones to prevent any interstices or vacuums. The surface should also be convex, and gutters may, if desired, be laid along each side. 6 ft. to 8 ft. is the usual width of garden paths.

Making a hot bed.—*A. R.*: Collect a large heap of fresh stable litter, enough to make the size of bed you wish. Allow the litter to heat by fermentation. Turn it over once or twice, at intervals of a few days. By the end of ten days the straw will be browned and moderately short or pliable. Prepare then to make the bed. It should extend a foot and a half beyond the woodwork of the frame, and should when newly finished, be about a yard high at the back, sloping forward to about 2 ft. high at the front. The litter must be trodden firmly. Then place on the frame and fill within it, from 6 in. to 1 ft. of soil. Close the frame till this is warmed through, and it is ready for use.

GRANTULLY CASTLE.

Our visit to Taymouth Castle (recorded in a previous issue), which gave every satisfaction, by no means satiated our inordinate desire for beholding the cultivated productions of "Flora and Pomona." To appease this capricious yet engrossing appetite, in the cool of the evening we wended our way from Aberfeldy, by the sinuous banks of the Tay. Historians inform us that when this noble river was first beheld by the Romans from a point of vantage a little further south, they with one accord hailed it as "Ecce Tiber! Ecce campus Martius!" An exclamation which in latter years gave rise to the cantata:—

"Behold the Tiber! the vain Romans cried,
Viewing the ample Tay from Baigles side;
But where's the Scot? who would the vaunt repay,
And hail the puny Tiber for the Tay."

There was no question of finding the gardens, which are three miles east from Aberfeldy, and in full view from the road, but the day is close at hand when by reason of recently planted Firs they will be as secluded as the majority of country gardens.

Mr. Cumming, the gardener, to our great regret, was, owing to business which called him hence, absent at the time of our visit, but his absence was, to a certain extent, compensated for by the attentions of his affable foreman, who did the honours of the place and Mr. Cumming's improvements the justice they fully merited. Three and a half years ago Mr. Cumming who, for ten years previously, had been gardener and steward to Viscount Cough, St. Helens, Co. Dublin, took charge of these gardens. Although some of them had previous to his arrival been laid out, still the major portion of their development, especially that of the grounds, have been overseered by him, and their form reflects great credit upon his landscape forming capabilities.

In passing we may note, although it has already found prominence in a previous issue, that the week previous to our visit, he had the honour of winning a medal awarded for the best essay on herbaceous plants.

To give an idea of the rapidity at which the grounds are developing it may be noted that since 1897, 6,000 Rhododendrons, and 42,000 forest trees and Coniferae have been planted; and it is intended to continue planting at a similar rate for some years to come.

By a small stove we were introduced to the glass structures. Here were noted some well grown and serviceable Dracaenas and Pandanus Veitchi. A splendid batch of Panicum variegatum was draping the front of the stage, and rambling all over its upper surface, forming a groundwork, which from an ornate point was bright and effective, and from which arose, along with many others, those plants already enumerated. For the obtaining of an early supply a quantity of young plants of Primula sinensis in an advanced stage was located here on a shelf in close proximity to the roof. Luxuriant examples of Fittonia argyroneura and Fittonia Verschaffeltii, planted out underneath the stages, attracted special notice. The rich yellow flowers of Allamanda Hendersonii trained on the roof gave a touch of completement to an interesting stove.

The vineries, which contained a mixed collection of varieties, exhibited ample signs of able culture. In one of them a nice collection of young Palms was noted. Ferns, which were chiefly represented by Adiantum cuneatum, were in splendid order. From the fact that the majority of them were obtained as stray seedlings, and potted up about a year ago, to a beholder they were interesting and creditable to their cultivator. Covering the back wall of a plant house specimens of Ivy-leaved Pelargoniums were, by reason of the profundity of their floral productions, deserving of the old-time

appellation of "cut and come again." They revelled in a garish mass of Bougainvillea glabra and B. speciosa in full bloom. A medium-sized range of span-roofed houses, which last year were erected by the mechanics on the estate, contained amongst other things a splendid crop of Tomatos. On many of the plants large clusters were observed, and on counting it was found that from sixteen to eighteen fruits in a cluster were of common occurrence. Amongst Melons, which were all well cultivated, two apparently distinct varieties, which were received from reliable sources as Baron Hamilton, were noted.

In pots, forming floriferous pillars, and placed on either side of the doors, splendid examples of Humea elegans, waved in the breeze. Cinerarias and Carnations (especially Yule Tide) were evident in the frames. As known by many of our readers, Mr. Cumming is an enthusiast on Chrysanthemum culture, and no mean exhibitor, as testified by his successes at recent exhibitions held in Dundee and Edinburgh; and if the conditions are favourable, indications are sufficient of his re-appearance this incoming season as strong as ever. The plants were all in first-class condition in 8-in. pots, carrying three blooms to the pot; all neatly arranged in their respective family groups, according to their size. On the first crown, Mdme. Gustave Henry was showing colour, whilst a batch of the same on the second crown, which naturally is less forward, will form a splendid succession. In an advanced stage were likewise the buds of M. Chenon de Leché, Edith Tabor, and similar varieties which require a lengthened season for the expansion of their petals.

The different members of the "Carnot" family, such as G. J. Warren, Mrs. W. Mease, and the redoubtable Mdme. Carnot were in excellent condition. Concomitant with them were the various members of the Viviand Morel group, especially such standard varieties as Charles Davis and Lady Hanham. Prominent amongst the many other varieties were nice dwarf plants of the famous Nellie Pockett. Incurved forms, of which Baron Hirsch was most evident, were not forgotten in this superb collection. Expanding their delicate blossoms to the evening dew, a host of autumn-flowering 'Mums were noted. This collection contained such well tried varieties as Mdme. Desgranges, Mrs. Hawkins, and Lady Fitzwygram; whilst amongst those of more recent origin were Mdme. Marie Masse and Market White.

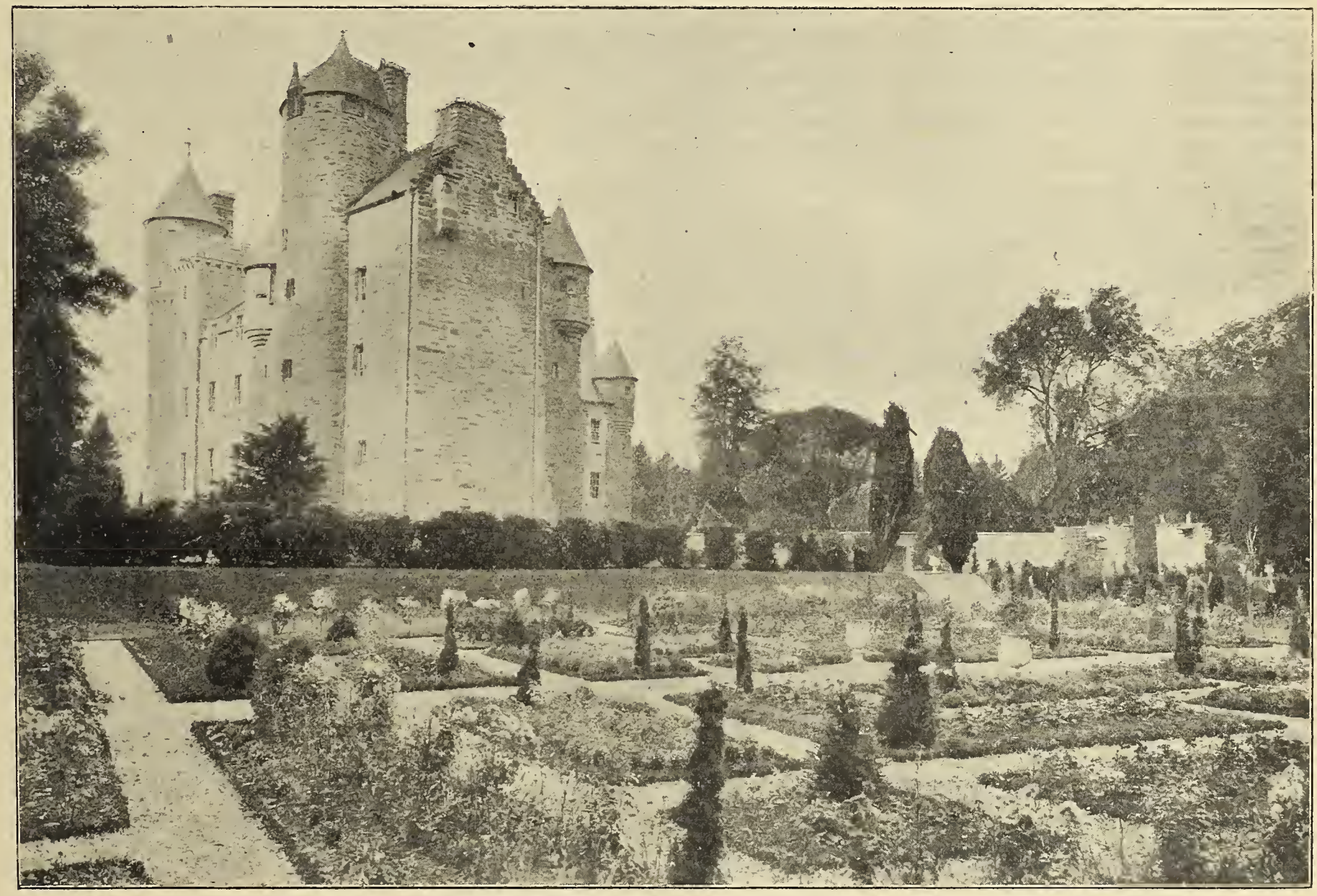
The kitchen garden, which has a northern exposure, is cropped to its utmost capacity, as need be, for not only has the requirements of the mansion to be catered for, but savoury dishes to restore the health and strength of some of our country's heroes (who by reason of their contact with steel and lead, have returned in somewhat indifferent health) have to be provided. With her customary generosity Lady Stewart, the proprietor, has not only provided those said heroes with the necessary food, but likewise with accommodation and attendance.

Clothing the north wall was a fine collection of Brier Roses, whilst a wide border at its foot contained the pick of the hybrid perpetuals and H. Teas. Sweet Peas, which were represented by all the latest introductions, showed an abundance of flowers above the robust haulm. Cactus Dahlias, which are largely grown, were equally meritorious. Carnations were also largely represented. A long border was gay with a fine display of flowers of that prime favourite, Duchess of Fife. In beds Salamander was very conspicuous, whilst amongst yellow grounds a seedling, at least equalling any of the named varieties, was noted. As the garden has only assumed form within recent years it is somewhat premature to surmise as to its probabilities in the production of fruit, but it may be remarked that such as it contained were of large size, but slightly deficient in colour.

The flower garden, the designing of which is one of the many tributes to the memory of the late lamented Malcolm Dunn, Dalkeith Palace, occupies a prominent position at the foot of a series of terraces in front of the Manor. Its form is that of an unequal sided square protected on one side by huge Lime trees, whilst a clipped Yew hedge margins the other, and consisting for the most part of narrow beds with intervening gravel walks. The beds were effectively planted with an assortment of bedding plants. Tuberous Begonias carpeted with Alyssum maritimum, formed a charming combination. Begonia semperflorens and Fuchsia Dunrobin bedder were deserving of comment; whilst lending grace and lightness to some long beds, Dactylis glomerata variegata was observed.

The castle itself—"The Tully-veslan of Scott's Waverley"—although almost entirely rebuilt seven years ago, still retains the contour, turrets, loop holes, not to mention a massive iron gate and the walls of a thickness of about 3 ft. of its predecessor. Entering as did Waverley by what was known as the nether portal, which still maintains its ancient form, and aptly described as opening in front of a wall ornamented with some rude sculpture, with battlements on the top, the castle is revealed to view. Immediately on passing through this portal an ancient and massive Yew tree, Taxus baccata, was noted.

Proceeding by a broad gravel walk, dividing the castle from the terraces which surmounts the flower garden, an entrance to the grounds is effected by a rustic bridge spanning a depression, that at a former period boasted of the appellation of a "moat." When erected, this bridge was constructed of unpeeled Larch, but by the devastating action of the weather the bark was soon removed. A substitute was found in a covering of virgin cork which now ornaments it, and if it does not improve, it by no means detracts from its rustic appearance. The grounds, which are annually being extended, have been so recently



GRANTULLY CASTLE, ABERFELDY.

planted that an opinion would merely be a surmise. Wide, smoothly shaven grass walks now in fine sweeping curves, then in straight lines, which terminate abruptly at sharp angles to again branch off in another direction, intersect and give variety to the landscape. In angles formed by the walks in the dales and recesses, and margining the woodland walks, numerous varieties in masses of a colour of spring-flowering bulbs have been planted We have it on oral authority, and can easily imagine that they make a lavish display in the spring time. This collection embraces all that is good—if there is aught bad amongst Narcissi; in all 17,000 bulbs of such varieties as Horsfieldi, grandis, Sir Watkin, Golden Spur, Empress, Princeps, incomparabilis, and Leedsii types; also poeticus and obvallaris.

Pine trees are largely planted in clumps, and most obvious are the plantations of Pinus sylvestris by reason of their redundancy. Bordering one of the already mentioned grass walks a bold line of young Abies noblis, feathered to their base and making rapid growth, were of all forms the most conspicuous. In one portion an attempt is being made to form a collection of all the rarer forms of Conifers. What was a few years ago denominated as a bog or marsh has been converted into a suitable home for many a fine shrub and tree. To give a touch of colour, in addition to the usual autumn tints, which her ladyship dearly loves, Acers, Scarlet Oaks, and other coloured foliage trees have been planted promiscuously.

As the evening waned darkness came on apace, and so did the rain. We were reluctantly forced to forego the pleasure of further contemplation of the beauties of Nature, rendered effective by the agency of man. This completed our sojourn in what is a lovely and pleasant Highland home, that will improve with passing years.—*D. M.*

CHRYSANTHEMUM SHOWS.

ULSTER HORTICULTURAL.—*November 13th and 14th.*

THE Chrysanthemum and fruit show held by this influential horticultural society at Belfast, on Tuesday and Wednesday of last week, was one of the finest which has been held in Ireland. This is saying much, but not too much. The show has passed as an unqualified success. The nobility of Ulster more or less all patronised the exhibition, but one of the most applaudable events in connection with the meeting was the fact that about a thousand children from orphanages and convents in Belfast were permitted to enjoy the display for a short while on Wednesday morning. Here is an idea for some other societies to make use of, and so help themselves to popularity by helping others. The nurserymen of the east Irish coast and a few from England were present, and greatly benefited the show. In the competitive classes Mr. J. McKellar, gardener to Lord Ashbrook, Castle Durrow, Co. Dublin, again distinguished himself. He is regarded as the champion Chrysanthemist of Ireland, and upheld his fame by winning first for twenty vases of Japanese blooms, distinct, three blooms in each. He staged amongst others Nellie Pockett, Pride of Madford, Mrs. Coomber, Mrs. Barkley, and G. J. Warren. Mr. Peter Brock, gardener to Capt. G. Nicholson, Glenmore, was second, having also a splendid lot; and third, Mr. Thos. Bradshaw, gardener to the Marquis of Downshire, Hillsborough Castle.

For fourteen vases ditto, in eight varieties, Mr. Peter McHaffie, gardener to Wm. Robertson, Esq., Netherleigh, Strandtown, showed a very fine collection, winning first. Mr. James Reid, gardener to G. H. Brown, Esq., J.P., of Helens Bay, was a good second, and Mr. Wm. Hodgins, gardener to John Torrens, Esq., Rosstulla, third. For six vases of single vars. Mr. Wm. Tyndall, Gilltown, Co. Kildare, led, followed by Mr. Wm. Dickson, Crawfordsburn.

Then in the class for forty-eight distinct Japs. Mr. J. McKellar beat T. H. Torrens, Esq., and third, Mr. Peter Brock. These competitors were the chief prize winners in all the cut bloom classes. For twenty-four incurved blooms, in eighteen varieties, Thos. H. Torrens, Esq., was first, and the Marquis o Downshire second. For twelve incurved, distinct John Torrens, Esq., led off, Lord Ashbrook came second, and Francis Watson, Esq., J.P., third.

The groups of plants were a strong feature of the show. For a group 16 ft. by 12 ft., Mr. P. McHaffie stood first; Mr. H. Kirkpatrick, gardener to A. D. Lemon, Esq., J.P., Edgecombe, Strandtown, second.

For a smaller group, Mr. R. Draper, Conway, Dunmurry, received first honours; Mr A. McHaffie, Willowfield House, Belfast, came second; and Mr. Thos. McDonald, Fort William, Belfast, third.

Mr. T. McDonald led for a group (7 ft.), arranged for effect.

For a group of stove and greenhouse plants effectively disposed, Mr. Wm. McDonald, The Moat, Strandtown, was in this case the first prize winner.

MISCELLANEOUS EXHIBITS.—Mr. Hugh Dickson, The Royal Nurseries, Belfast, set up an attractive exhibit of stove, foliage and flowering plants, arranged with great taste and skill. Orchids were a particular feature of the group, while choice Ferns, Begonia Gloire de Lorraine, Lilies, &c., were also included. He also staged a collection of Apples.

Messrs. Alex. Dickson & Sons, The Royal Nurseries, Newtownards, had a grand display of choice, artistic floral designs, composed of Eucharis, Lilies, Lily of the Valley, Orchids of sorts, Tuberoses, Chrysanthemums, &c. Their fruit exhibit was also most liberal and highly creditable, containing the best varieties of Apples and Pears.

Messrs. Wm. Clibran & Son, Altrincham, showed a display of cut Chrysanthemums.

Messrs. Isaac House & Son, Westbury-on-Trym, Bristol, had a sweet display of Violets.

Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, had a number of their choice new varieties of Chrysanthemums, including W. R. Church, J. Meredith, Matthew Smith, C.I.V., Khaki, &c.

Mr. J. E. Smith, High Street, Belfast, had a number of attractive floral designs. Mr. C. M'Kimm, Curator of Belfast Botanic Garden; and Mr. T. H. Dickson, superintendent of Ormeau Park, each had groups of Chrysanthemums.

The Ichthemic Guano Co., Ipswich, were also present with their goods.

CATERHAM.—*November 13th and 14th.*

THIS show, which was held in the Drill Hall, November 13th and 14th, was almost entirely confined to Caterham growers. The only outside exhibitors were Mr. Friend, gardener at Rooksnest, Godstone, who staged, not for competition, a splendid table of Chrysanthemum blooms; and Messrs. J. Laing & Sons, of Forest Hill, who had a well arranged bank of foliage and flowering plants and a superb collection of hardy fruit. Messrs. J. Peed & Son, of Norwood, also showed a group of Chrysanthemums. The exhibits of Chrysanthemums, Primulas, and other plants were highly creditable to all concerned. The same remarks are alike applicable to the exhibits of fruit and vegetables. The general effect within the hall was most pleasing. The success of this show depends on the gate takings, and we sympathise with the committee and secretary upon the deplorable weather they experienced. A special prize for foliage and flowering plants has been promised for next autumn, from which Chrysanthemums are to be excluded; the object being to create a rivalry in the neighbourhood in the growing of such things as Solanums, Bouvardias, and other winter decorative plants.

In one of the groups for miscellaneous plants we noticed a free use was made of Nerine Fothergillii, and in the other of Primula Forbesii, and most charming this minute Primula looked among Maidenhair and other Ferns. These two plants might well be taken in hand by exhibitors elsewhere. The principal exhibitions are as follows:—

For a circular group of Chrysanthemums and other plants, Mr. Lane was first; Mr. Wood, second; Mr. Halsey, third. For a group of miscellaneous plants, Mr. Halsey was first; second, Mr. Wood. For a group of Chrysanthemums (7 ft. by 4 ft.), Mr. Barber was first.

For twelve Jap. blooms and twelve incurved, distinct, Mr. Lane beat Mr. Halsey. For eighteen Japs., distinct, Mr. Lane was again first; Mr. J. Jones, second; and Mr. Halsey, third. For six Japs. and six incurved varieties, Mr. G. Young was first; Mr. Russell, second; and Mr. Prior, third. In the class for a vase of five Japanese blooms of any one variety, Mr. Halsey led; Mr. Lane came second; and Mr. Appleton, third. For nine Primulas, Mr. Halsey beat Mr. Appleton, and third, Mr. Taylor. For six plants of Begonia Gloire de Lorraine, Mr. Appleton was here first, and Mr. Brand, second.

There were also classes for fruits and vegetables in which the chief winners were those above named

CHESTER.—*November 13th and 14th.*

IN glorious sunshine the Paxton Society scored a record in entries, and undoubtedly an improvement in quality. Unfortunately for the executive it is not able to expand the Town Hall so as to accommodate its enlarged sphere. The staging was done admirably, and showed to advantage the exhibits, which were much appreciated as shown by the crowded attendance at the opening ceremony, which was performed by Lady L. Grosvenor under the presidency of his worship the Mayor.

In Section A, or that devoted to gardeners and market gardeners, the Apples and Pears were fine in colour and size. The chief first prize winners were Mrs. Townsend Ince, Mrs. A Dixon, the Rev. L. Garnet, Sir G. Maybrick, Bart., Capt. Fielden, Messrs. J. Sanderson, J. Day, B. C. Roberts, E. Dixon, H. Lyle Smith, E. Paul, and Simon Nowall. In the all comers class, Mr. John Watkins, Hereford, won for fifty dishes. His Peasgood's Nonsuch, Warner's King, Hollandbury Striped Beefing, Worcester Pearmain, and Cox's Pomona were fine in size and colour. Messrs. Pewtress Bros. followed with a good lot.

For six boxes packed for market, Messrs. Pewtress won with highly coloured Blenheim Orange. For Tomatos, Mr. E. Dixon led with Peachblow.

The groups of Chrysanthemums numbered six, all of unusual merit. Mrs. R. S. Hudson (gardener, Mr. E. Stubbs), had the premier lot, with grand flowers beautifully staged. For six Japanese, Mr. T. Gibbons Frost was first; and for four plants, Mr. R. Whipp. For four single varieties, Mrs. MacLaren (gardener, Mr. S. Garner). For the best arranged stand of twelve naturally grown trusses, single varieties, Miss Humberston (gardener, Mr. W. Wakefield) won with a pretty lot. For twelve Japanese, Mr. F. W. Soames was to the fore. For six blooms, Mrs. R. S. Hudson; six incurves, Mr. T. Case Morris (gardener, Mr. G. Sedgwick). For the best arranged table, Mrs. W. Welsby won with a light arrangement of single varieties.

Exhibits not for competition included a splendid table contributed by the Duke of Westminster (gardener, Mr. N. F. Barnes), Eaton Hall, consisting of fruits and cut flowers, artistically arranged. This fine exhibit was worthily accorded the society's Gold Medal.

Mrs. Hudson showed plants and cut flowers; Mrs. Tyrer (gardener, Mr. A. Ellans), a well flowered pot of Eucharis grandiflora; Messrs. Dicksons, Chester, plants and fruits; Mr. McHattie, fruits and plants; and Messrs. Isaac House & Son, Bristol, Violets.

Mr. G. P. Milne (secretary), Mr. R. Wakefield (president), and the committee ably carried out the arrangements.

DULWICH.—*November 13th and 14th.*

THE seventh annual exhibition of the Dulwich Chrysanthemum Society quite surpassed any of the earlier ones, the entries in the various classes totalling 20 per cent. more than those of last year.

Nine groups of 50 and 60 sq. ft. were arranged in the hall, five amateurs on one side and four gardeners on the other, besides many other smaller size groups. The first and second prize groups in each case were exceptionally fine, and the other entries were by no means outclassed. The staging of the group by Mr. H. F. Foster was, however, exceptionally well done, considering that this is the first time this member has shown a large group.

Mr. A. M. Falkner was again first for six bush plants, a very fine entry, grand plants of Viviand Morel, Charles Davis, and Pride of Madford particularly calling for comment. The John Shrimpton included in the third prize exhibit of Mr. H. G. McLean was also exceptionally meritorious.

The entries for small groups in the novices' classes were pretty well filled, the one for nine plants eliciting six entries, the first prize group being an exceptionally good one shown by Mr. T. Bradbury.

The classes for cut blooms open to gardeners and others were the only ones which were not well filled,

but there were several exhibits of exceptional value, that for twelve cut blooms, Japanese, shown by Mr. W. Taylor, of Tewkesbury Lodge, of fruit growing fame, being especially worthy of merit. The freshness and good finish of the blooms were very apparent, and the prize for the premier bloom was awarded to a magnificent bloom of Mrs. H. Weeks, which was shown amongst them, together with, amongst others, a noticeable bloom of T. Carrington.

The vase class for nine blooms in this section again filled well, and elicited six entries. Here again Mr. Taylor scored, with Mr. J. Richards a good second, and Mr. P. R. Dunn, third.

The twelve bloom class for amateurs was won by Mr. A. Shinn, a novice of last year, with a very fine twelve, which included a "Lady Hanham" as near perfection as could be desired by an amateur. The class for six blooms brought forth no fewer than ten entries, and the keenest competition resulted in Dr. A. Dixon Jollye being adjudged first, Mr. G. F. Baldwin second, and Mr. P. Falkner, third.

The vase classes in the amateur section elicited eight entries, and was won by Mr. P. Falkner, with Mr. W. M. Wells and Mr. G. F. Baldwin respectively second and third. The classes for baskets and epergnes were also noticeable features, twelve entries being received for three classes of baskets and six entries for two classes of epergnes. First prizes in the various classes were won by Mr. Meridew, Mr. A. M. Falkner, Mr. W. G. Segrott, Mrs. Taylor, and Mrs. Milbourne. The general effect of these decorative exhibits was considerably enhanced by their arrangement on three crossway tables, breaking up the lines of the cut bloom tables in a very pretty manner. Classes for Anemone, singles and pompons, were well filled, and gave rise to keen competition, first prizes being taken by Mr. H. McLean, Mr. W. S. Barham, and Mr. C. J. Bennetts. Beside the premier bloom in the show the best bloom in the amateur section was a C. H. Curtis shown by Mr. W. M. Wells, and in the novices' class also a C. H. Curtis by Mr. C. A. Young.

The judging occupied considerably more than the usual time, but was carried out in an exceptionally able and satisfactory manner by Mr. Percy Waterer and Mr. T. Nutting, who both expressed their appreciation of the really fine exhibits.

When it is considered that this is only the seventh year of the society, and that the total entries numbered 120 for thirty-one classes, it must be realised how exceptionally prosperous this South London society is, and the amount of credit that is due to its members.

Fine exhibits, not for competition, were staged, the collection of Chrysanthemums shown by Mr. J. H. Witty (the father of the society), of Nunhead Cemetery, having all its usual excellence. A basket of autumn berries and foliage shown by Miss Easterbrook exhibited all the dainty taste so marked in the productions of that lady's deft touch and airy fancy. Table decorations and fruit were arranged by Messrs. Laing & Son, and the Begonias sent by Messrs. Peed & Son were also much admired. The general arrangements reflected great credit on the show committee under the superintendence of Mr. H. Clements.

LIVERPOOL HORTICULTURAL ASSOCIATION.

—November 14th and 15th.

In somewhat dismal weather this annual fixture was again held in St. George's Hall, Liverpool, perhaps the most beautiful building in which the autumn queen holds her court. The entries were more numerous, whilst the quality was up to the high standard of these exhibitions. His Worship the Lord Mayor visited the show in the presence of a numerous gathering.

In the section for Chrysanthemums in pots, H. Cunningham, Esq. (gardener, Mr. W. Wilson), proved a most determined exhibitor, winning in the classes for four large flowering, trained, three pompons, one pompon, one standard, and one pyramid, with good blooms and models in form.

For one large flowering and six staked plants, F. Findlay, Esq. (gardener, Mr. E. Wharton), won: and for the single staked plant, Mr. Duncan was successful. For the group of 'Mums, W. H. Watts, Esq. (gardener, Mr. J. Bracegirdle), proved the winner, his stand containing many good blooms.

Cut Blooms.—In the class for forty-eight blooms (twenty-four incurved and twenty-four Japanese), for which was awarded the massive Silver Challenge Vase, presented by R. P. Houston, Esq., M.P., in addition to the first prize, was secured by last year's winner, Mr. J. Heaton, gardener to the donor. The Japanese were especially strong, including fine flowers of Mr. Louis Remy, Australie, Mdme. Gustave Henry, Mrs. Barkley, &c. Good incurved blooms were Lady Isabel, Mrs. C. E. Egan, Hanwell Glory, Mrs. Heale, and others. R. G. Allan, Esq. (gardener, Mr. W. Whittle), was second, in which his incurves told; Sir W. H. Tate, Bart. (gardener, Mr. G. Haigh), was third, staging very fine Japs.; I. H. Ismay, Esq. (gardener, Mr. W. Neish), fourth.

For eighteen incurved varieties, E. Ellis, Esq., won with blooms of good substance and form. For eighteen Japanese the same exhibitor scored; and for the twelve incurved varieties and for the twelve Japanese, J. E. Moses, Esq., won in each case. For six reflexed, John Findlay, Esq. (gardener, Mr. E. Wharton), won, and for twelve trebles of pompons the same exhibitor scored with beautiful blooms.

Plants.—For a group of Chrysanthemums and foliage plants, W. H. Watts, Esq. (gardener, Mr. J. Bracegirdle), won with a tastefully arranged lot. For four stove and greenhouse Ferns the same exhibitor was to the fore.

For three Orchids, Jos. Smith, Esq. (gardener, Mr. R. Finch), had the cream. O. H. Williams, Esq., had the best couple; and Mrs. Duncan the best single, with Cattleya labiata. One Cypripedium, O. H. Williams, Esq., won. For three Palms, W. H. Watts, Esq., staged fine specimens. Mrs. Cope (gardener, Mr. T. Carling), the best two. For four Poinsettias was won by A. MacKenzie Smith (gardener, Mr. W. Lyon), with splendid plants.

Fruit. — Six dishes, distinct, and four dishes dessert Pears were won by the Rt. Hon. the Earl of Derby (gardener, Mr. R. Doe). For two bunches of Grape Alicante, H. Cunningham, Esq., was to the fore; for two any other black, Mrs. Paterson was successful; for two Muscats, the Cheshire County Council with splendid bunches; for any other white, H. A. Briggs, Esq., with Golden Queen.

Certificates were granted to Messrs. Dicksons for fruit and plants; Messrs. R. P. Ker & Sons, Cyclamen and Begonias; Mrs. Cope, Acalyphas; Messrs. I. House & Son, Violets; Mr. J. Forbes, Hawick, Begonia Caledonia; and Messrs. Geo. Boyes & Co., Carnations.

The arrangements proved satisfactory.

HULL.—*November 14th and 15th.*

The seventeenth annual Chrysanthemum show held by the Hull and East Riding Chrysanthemum Society was opened in the Artillery Barracks, Hull, on Wednesday afternoon of the 14th inst. by the Mayor (Alderman Gelder), supported by a large and influential company of the local gentry. The Mayor said he was not an expert, but believed the blooms compared favourably with those of other years. He was pleased to see such an interest taken by the bulk of the people in flowers and other garden products, which tended to raise the standard of taste and the ideal of beauty amongst them. The Sheriff hoped the show would not clash with that at York another year. The band of the Scots Guards played during the afternoon. The show altogether was one of the finest that has been held.

Pot Plants (Open).—For a group of Chrysanthemums, interspersed with foliage plants for effect, the leading award was secured by W. Wheatley, Esq., Anlaby Road, Hull, being followed by W. T. Owbridge, Esq., Cherry Garth, Cottingham. Mr. J. Foster, jun., Cottingham Road, Newland, took the lead in the class for a group of miscellaneous plants (a sprinkling of Chrysanthemums in it being permitted). W. Wheatley, Esq., had the best drawing-room mirror panel of various flowering plants; and the other prize takers here were Mr. J. Foster, jun., Messrs. Green & Petch, Park Avenue, Hull, and R. J. Wolton, Esq.

The exhibits of bush and trained plants in the main hall attracted a deal of notice on account of their decorative effect. Mr. R. Thirsk, Grovehill Road, Beverley, an amateur grower, showed what could be done with Chrysanthemums for greenhouse decoration, &c. He had the best six bush grown specimens, on a single stem, but untrained. He also took the lead for six cut back Chrysanthemums, followed by W. Wheatley, Esq., and three bush grown specimens. In the latter case, he beat J. Elliot, Esq., of Eastgate, Beverley, and S. L. Halane, Esq. W. Higgins, Esq., Maple Street, Queen's Road, had the best trained Chrysanthemums. C. J. Ringrose, Esq., J.P., Cottingham Grange, had the best three trained standards and three bush trained specimens. Twelve and six table plants respectively were best shown by Mr. J. Foster, jun.

Cut Blooms.—In the open class for twenty-four incurved Chrysanthemums, in not less than eighteen varieties, the leading honours were carried off by J. B. Hankey, Esq. (gardener, Mr. W. Higgs), Fetcham Park, Leatherhead, Surrey, who had many fine blooms, neatly finished. A. Tate, Esq. (gardener, Mr. W. Mease), Downside, Leatherhead, Surrey, made a good second. The latter came to the front, however, for twenty-four Japanese blooms in as many varieties. The southern champions of big classes had much their own way here.

Mrs. Stracey Clitherow (gardener, Mr. Walker), Hotham Hall, Brough, staged the best six Japanese blooms of any one variety, beating A. Tate, Esq., and A. S. Wilson, Esq., M.P., Raywell, in the order given. S. L. Haldane, Esq., Coltman Street, Hull, showed the best twelve large Anemone or Japanese Anemone blooms; second, Col. A. K. Dibb, Kirkella; and third, A. Smith, Esq., Woodleigh, Hessle. Mrs. Stracey Clitherow again came to the front for twelve reflexed blooms, beating A. S. Wilson, Esq., M.P., and Mrs. F. B. Moore, Harland Rise, Cottingham, in this order. J. W. Bearpark, Esq., Great Thornton Street, Hull, took the lead for a group of not less than nine varieties of Anemones and Anemone pompons, beating Mrs. F. B. Moore and S. L. Haldane, Esq. For nine varieties of single Chrysanthemums, R. Hodgson, Esq., Westwood, Beverley, beat S. L. Haldane, Esq., and Mr. R. J. Wolton, Newland Loft Nursery, Hull. W. T. Owbridge, Esq., came to the front for the most tasteful arrangement of miscellaneous cut flowers, followed by B. Mackrill, Esq., The Thwaite, Cottingham, and H. Taylor, Esq., Newland, Hull.

For eighteen incurved blooms, not less than twelve varieties, the leading place was taken by H. S. Constable, Esq., Wassand, Hull. Mrs. Stracey Clitherow and Miss Ross, Elloughton Lodge, Brough, came second and third respectively. Mrs. Stracey Clitherow, however, came to the front for twelve blooms, incurved, not less than nine varieties, again beating Miss Ross.

H. S. Constable, Esq., was again to the fore in the class for eighteen Japanese blooms, distinct varieties, taking the lead of A. S. Wilson, Esq., M.P., and C. J. Ringrose, Esq., in the order given. The last-named came to the front for twelve Japanese varieties, showing well. He was followed by Mrs. Stracey Clitherow and S. L. Haldane, Esq., respectively. The old favourites, such as Mrs. George Glenny, Mrs. Rundle and Mrs. Dixon are still patronised in this neighbourhood, and the prizes offered were taken by Mrs. F. B. Moore, W. T. Owbridge, Esq., and W. Higgins, Esq. In the class for twelve blooms (six incurved and six Japanese), restricted to amateurs or those who keep one gardener only, the prizes went to E. K. Wilson, Esq., Little Tranby, Beverley; S. L. Haldane, Esq., and B. Mackrill, Esq., respectively.

A fairly large number of classes were strictly reserved for amateurs. For twelve incurved blooms, not less than six varieties, the prizes went to W. Grasby, Esq., Studley House, Plane Street, Hull; J. W. Bearpark, Esq., and J. E. Lott, Esq., Vancouver Crescent, Alexandra Road, Hull, respectively. The last-named came to the front for twelve Japs. in nine varieties, followed by W. Thompson, Esq., Wenlock Street, Hull, second; and H. Coverdale, Esq., Hallgate, Cottingham, third. Mr. R. Thirsk, Grovehill Road, Beverley, had the best twelve, best six and best three blooms of any varieties. For those who had never previously taken a prize at a Chrysanthemum show, the lead for twelve blooms was taken by T. Dickinson, Esq., Lorne Villas, Vauxhall Grove, Hessle Road, Hull.

YORK.—*November 14th, 15th and 16th.*

The twenty-first annual Chrysanthemum show, under the auspices of the Ancient Society of York Florists, was held in the Exhibition Buildings. The Japanese Chrysanthemums showed an advance upon former years, but on the other hand the incurved blooms indicated a falling away. Sir James Walker, who used to be an enthusiastic exhibitor, was absent from the show boards on this occasion, and no one

has yet taken his place, though a re-action may again bring the incurved section prominently to the front. Fruit and vegetables were in strong force, making altogether a fine show.

PLANTS (OPEN).—There was a falling away in the groups of plants arranged for effect in a space not exceeding 120 sq. ft., as compared with last year, but that shown by Mrs. Whitaker. The group was for Chrysanthemums interspersed with foliage plants, and the latter were particularly fine in the winning group. Mr. G. Cottam received the second award. For a group of Chrysanthemums (100 sq. ft) having a foliage plant in the centre and others round the margin, cultural excellency of the Chrysanthemums being the basis of merit, the leading award was taken by Mr. J. Pettinger, Strawberrydale Nursery, Harrogate, who was followed by Mr. J. W. Fields, and Mrs. Whitaker, in this order. Mr. Wm. Dickenson had the best four incurved Chrysanthemums in pots, beating Mrs. Gutch, who, however, came to the front for four Japanese and one Japanese Chrysanthemum, beating her antagonist in both cases. Pompons, single, and Anemone classes also brought a goodly number of entries, the two latter sections being shown to great advantage and effect. Mrs. Whitaker had the best table plants, and Mrs. Gutch the best Dracaenas.

CUT FLOWERS (OPEN).—As usual the greatest amount of interest was centred upon the large class for thirty-six Chrysanthemum blooms (eighteen incurved and eighteen Japanese, not less than twelve varieties of each). The Citizens' Challenge Prize (value £20), in addition to the money prize was carried off by the Earl of Harrington (gardener, Mr. J. H. Goodacre), Elvaston Castle. He had a fine set of blooms, but had a worthy rival in Mrs. J. S. Wade, Brantingham Thorpe, who took the second place. The remaining prizes were taken by Alderman Harding, and Mr. A. Wilson, in this order. The Earl of Harrington also took the lead for eighteen incurved blooms in not less than twelve varieties, and for twelve incurved, being followed in the first case by Mrs. Whitaker, and in the latter class by Mrs. Wade, and the Marquis of Ripon respectively. Mr. R. Lawson, Marquis of Ripon and Mr. G. H. Anderton took the prizes in this order for six incurved varieties.

In another important class for eighteen varieties of Japanese Chrysanthemums, the Ryecroft Silver Gilt Medal brought forward an old and tried competitor in the Earl of Feversham (gardener, Mr. D. Williams), Duncombe Park, Helmsley, who took the leading honours. He was followed by Mr. J. D. Hutchinson, Capt. C. Duncombe, and Mr. J. M. Lennard, in this order. For twelve Japanese varieties, the Earl of Faversham was equally successful, beating the Marquis of Ripon and the Earl of Londesborough, who were a good second and third. For six white Japanese blooms he again came to the front, as well as in the classes for six blooms of any other except white, and six Japanese yellow. Though thus very successful he did not sweep the boards of the leading awards as on several previous occasions. Mr. F. Middlebrook beat him for six blooms of a golden yellow Jap.

The prizes for six single varieties were taken by Mr. J. D. Hutchinson, Capt. C. Duncombe and Alderman Chadwick, respectively. Capt. C. Duncombe, however, beat Mr. J. D. Hutchinson for six pompon Chrysanthemums. Mr. J. M. Lennard took the lead in the class for twelve Anemone-flowered varieties, showing in fine form. Messrs. Theakstone & Son had the best stand of twelve varieties of Chrysanthemums, not disbudded, and having three sprays of each variety. For twelve bunches of cut flowers in not less than eight varieties the premier award was taken by Sir J. W. Pease, Bart., M.P. (gardener, Mr. J. McIndoe), Hutton Hall, Guisborough, beating the Earl of Londesborough. Messrs. G. Longster & Son, had the best hand bouquet of Chrysanthemums; while Mr. G. R. Akester had the best bouquet of miscellaneous flowers. The latter was beaten by Lord Barnard for a dinner table epergne, which was got up in remarkably fine taste. The Rev. G. Yeats had the best basket of Chrysanthemums cut with their own foliage. Mr. J. Sinclair took the lead for a vase of Chrysanthemums not exceeding 18 in. in height and was equally successful with his stand of Violets open only to gardeners and amateurs within five miles of the city.

The Citizens' Challenge Prize (value £10) and a money prize open only to amateurs who do not employ a gardener, was taken by J. G. Lawson, Esq., M.P. For a group of Chrysanthemums arranged for effect in a space not exceeding 50 sq. ft., the leading honours were taken by Mr. J. Emms, of Acomb, a working man who has taken up Chrysanthemums as a hobby. His blooms were of handsome size and the plants were most tastefully arranged, eliciting many well deserved encomiums from the visitors. He also had the best six Japanese blooms in the amateur section.

FRUIT.—The Grapes were the most important feature in this section, and were arranged as usual in a prominent position in front of the platform. In the class for six bunches the Earl of Harrington took the premier honours with two fine bunches each of Muscat of Alexandria, Gros Colman and Barbarossa. He was followed by the Rt. Hon. F. J. S. Foljambe, Lord Hotham and the Earl of Londesborough, in the order named. Many of the black Grapes were not well finished, but white Grapes were handsome. The Rt. Hon. F. J. S. Foljambe came to the front for black Grapes; while Alderman Chadwick had the best white Grapes.

Sir J. W. Pease, Bart, M.P., took the lead for a collection of fruit, beating the Earl of Feversham. The Earl of Harrington took the lead, however, for the collection of dessert fruit, beating Lord Hotham (gardener, Mr. J. Allsop), Dalton Hall. Sir J. Pease, Bart., and the Earl of Londesborough took the remaining prizes in a well contested class, there being seven fine collections entered. Apples and Pears were well shown. The best lot of cooking Apples came from Alderman Chadwick. In one class for dessert Apples, W. Hutchinson, Esq., beat Sir J. W. Pease, Bart., but in a similar class the order was reversed. The last named took the lead for six dishes of culinary Apples and twelve varieties of Apples, six and three dishes of Pears.

VEGETABLES were a marked feature of the show, including splendid Leeks, Onions, Brussels Sprouts, Carrots, Parsnips, Tomatos, Celery and Potatos in great quantity and variety. The prizes offered by Messrs. Sutton & Sons brought many competitors, J. Whitehead, Esq., Sir J. W. Pease, Bart., J. W. Clarke, Esq., T. Seymour, Esq, and Rev. G. Yeats taking the prizes in the order named. J. Whitehead, Esq., took the leading prizes for a tray of nine vegetables, twelve kidney and twelve round Potatos, six varieties of Potatos and a dish of Tomatos. G. W. Reader, Esq., took the lead for another tray of vegetables; and Sir J. W. Pease, Bart., won the first prize offered by Messrs. Kent & Brydon, for a collection of vegetables.

MISCELLANEOUS EXHIBITS.—Messrs. Sutton & Sons, Reading, were awarded a Gold Medal for their splendid exhibit of Cyclamen, Primulas and Potatos. Of the latter they had a very large collection representing all classes and types of the noble tuber. A Gold Medal was also awarded to Messrs. George Bunyard & Co., Maidstone, for a grand collection of Apples and Pears, the former numbering 100 dishes and eliciting much admiration from the visitors for their size and colour.

Certificates of Merit were awarded to Messrs. W. Wells & Co., Ltd., Earlswood, Redhill, Surrey, for an exhibit of new Chrysanthemums; to Mr. H. Deverill, Banbury, Oxon., for the Onions, Banbury Tankard and Lord Keeper; Messrs. Isaac House & Son, Westbury-on-Trym, Bristol, for Violets; Messrs. Wm. Cutbush & Son, Highgate, London, for various flowering plants; Mr. Ralph Johnson, Goodramgate, for foreign fruits; and Messrs. Waltham & Son, Scarborough, for plants.

STOCKPORT.—*November 16th and 17th.*

THE show being held in the Volunteer Hall in favourable weather, the entries were hardly what could have been desired This may be accounted for that a new society had sprung up during the year within a short distance. Another important matter was that the fixture was on at the same time as Manchester. The cut flowers were in goodly numbers. John Chadwick, Esq. (gardener, Mr. W. Wainwright), secured the chief prize in this section for his nine incurves and nine Japanese distinct; second, J. Whitehead, Esq. For a group of Chrysanthemums, Henry Bell, Esq, was adjudged first, with fair blooms. In the group where Chrysanthemums were not permitted, L. N. Foster, Esq., was to the fore.

For six dishes of fruit, J. Watts, Esq., secured the premier award, staging black and white Grapes, Apples and Pears.

For the two classes for Grapes, Mr. W. Neild, Holmes Chapel, secured the first in each class.

For six kinds of vegetables, E. Frank, Esq., (gardener, Mr. J. Wood), won with an excellent collection.

KENLEY CHRYSANTHEMUM.—*November 15th*

THIS is a young society whose prospects certainly are good, being well supported by some of the leading residents. It was held in the Commemoration Hall, a beautiful and commodious building and a distinct benefit to the locality. The elements here were most adverse, especially during the fore part of the day during which the attendance was scant. In the evening it became known that J. Lawrence, Esq., a resident and most liberal supporter of this and other movements for the benefit of the locality, who is at present High Sheriff of the City of London, would be present, accompanied with Mrs. Lawrence. The latter graciously presented the prizes. Sheriff Lawrence honoured the ceremony by wearing his official robes, and in making a most genial speech expressed his gratification at being amongst his own people. He congratulated all interested upon the success which had attended their efforts in bringing so good an exhibition together, making especial reference to the cottagers. The successful ones among them had from him a hearty shake of the hand and a pat on the back as they descended from the platform. He gave voice to a very general feeling existing at the present time that our rural industries need looking-up and quickening in such a manner as to render us less dependent upon the foreigner than we are, for some of the homely necessaries and comforts of life. Three good hearty cheers for the President (Sheriff Lawrence) and his lady with the singing of the National Anthem brought the proceedings to a close.

The stage was well decorated with foliage and flowering plants, including some Chrysanthemums by Messrs. J. Laing & Sons, Forest Hill, who also showed a table of fruit; Messrs. J. Peed & Son, a group of Chrysanthemums; and Mr. Box, some fruits.

A table of Begonia Gloire de Lorraine exhibited by Mr. Woodgate deserves special notice. The plants were by no means the largest we have met with, but take them all in all, certainly the best.

The chief prizewinners were Messrs. J. Bannerman, Woodgate, Embery, Waite, Cooper, Everhead, Woodhams and Dennis.

SCOTTISH HORTICULTURAL.—*November 15th, 16th and 17th.*

THE Edinburgh public look forward to the Chrysanthemum show of the Scottish Horticultural Association as one of the chief events of the autumn season. The show, we are pleased to say, was a distinct success from the financial standpoint. The entries, however, showed considerable shrinkage. In all there were 992 entries—about 200 less than the number of last year. For cut flowers there were 396; for plants, 149; fruit, 125; and for the City of Edinburgh Prize and Scottish Cup, three and nine respectively. Within the market, everything was bright and rich in colour, the quality of the exhibits being all-round of high quality. Needless to say, the Band of the Grenadier Guards added an additional prime attraction. The local and a number of London nurserymen, staged splendid groups and exhibits. We acknowledge the courtesy and kindness shown us by Mr. Robert Laird, the able secretary, in face of the many demands made upon his attention; and to Mr. James Grieve, Sen., who, as convener of the Arrangement Committee, "had his hands full" in the earlier part of Thursday. Even with his advancing years, his energy and activity seem to abate nothing. Sir Lewis McIver formally opened the show. The judges, officials, and others met to luncheon in the Royal British Hotel in the afternoon.

CUT BLOOMS.—Groups of Chrysanthemums are not a feature of the Edinburgh show at this time, the main display resting with cut blooms. As we have pointed out, Mr. T. Lunt, gardener to Capt. Stirling, Keir, Dunblane, won the City of Edinburgh prize (open to private gardeners and amateurs only) for twenty vases of Chrysanthemums, distinct, three blooms of each, with Chrysanthemum foliage only,

This first prize is valued at £20; and has been won three times successively by Mr. Lunt, this proving to be a record.

The blooms were of gigantic size and excellent quality. It would be impossible to single out any variety as being of particular merit, as all are exceedingly fine. The varieties shown were as follows:—Edith Tabor, Mdme. M. Ricoud, Madeline Davis, Mrs. White Popham, Pride of Madford, Lily Ridgeway, Mdme. A. Rousseau, Mrs. J. Bryant, Oceana, Mrs. A. H. Hall, Henry Weeks, J. Bidencope, Mrs. J. Lewis, Mons. Hoste, Mons. Chenon de Leché, Mrs. Barkeley, Mrs. Harman Payne, Mrs. Weeks, R. Hooper Pearson, and Australie.

The second prize went to Mr. J. Beisant, gardener to Mrs. Armitstead, Castle Huntly, Longforgan, who had also an exceedingly strong collection. Mr. D. Nicoll, Rossie, Forgandenny, came third. Only a few points separated the first prize from the second, and only one divided the second from the third. The best bloom in the show was found in Mr. Beisant's second prize set; this being a bloom of the new variety named "Scottish Chief," yellow, which received a F.C.C. on October 29th, when shown before the floral committee of the N.C.S. Mr. Lunt again led for the thirty-six cut Japanese blooms, distinct, beating Mr. R. Kenyon, of Woodford Green, Essex. Mr. D. Nicoll came third.

The Scottish Challenge Cup, open to Scottish growers only, also brought forth a spirited competition. The cup is tenable for the year only. Twelve vases of blooms, distinct, were asked for, and again Mr. Nicoll carried it off. Mr. Lunt was second; and Mr. J. H. Cumming, Grantully Castle, Aberfeldy, came in third. For twelve Japs., distinct, Mr. R. Walker, Rockland Lodge, Helensburgh, led off; Mr. J. H. Cumming was second; and third, Mr. D. Buchanan, Bargany, Girvin. For twelve Japs. in four vars., Mr. W. N. Moir, Rosehaugh, Avock, beat Mr. Cumming. Mr. W. Lumley, Broomhall, Dumfermline, won first prize for six Japs., distinct; Mr. W. Lamont, Colinton Road, Edinburgh, was second; and third, Mr. Cumming. For six of any one Jap., Messrs. T. Lunt, W. Lumley, and D. Buchanan stood in this order.

In the "one vase" class containing one variety, that devoted to the variety Chas. Davis, was won by Mr. A. McMillan, of Douglas Castle; one vase of Mrs. J. Ritson, by Mr. G. Shotton, Swarland Hall, Northumberland; one vase of R. Hooper Pearson, by Mr. J. Bird, Raehills, Lockerbie; one vase of Mutual Friend, by Mr. J. Bird; one vase of Lady Hanham, by Mr. G. Shotton; one vase of M. Chenon de Leché, by Mr. T. Lunt; one vase of Mdme. von André, by Mr. R. W. E. Murray, Blackford House, Murrayfield; one vase of Mdme. Gustave Henry, by Mr. J. R. Redpath, Kingsmuir Hall, Peebles; and one vase of Miss Nellie Pockett, by Mr. J. Bird.

Competition in the smaller vase classes maintained the keenness of the higher classes. In Class XIX., for four vases, each containing six blooms, the prize of £5 went to Mr. D. Kidd, Carberry Tower, Musselburgh; Mr. T. Lunt came second (£3); and Mr. R. Whannell, Gilmerton, third (£2). For a like entry, but only four varieties, three blooms each. Mr. R. Bruce, Seafield, Ardrossan, led the way, followed respectively by Messrs. A. McInnes, Eskhill, and J. Boucher, Aikenhead, Cathcart. For two vases, six blooms each, Mr. R. Cosser, Inveresk, was first; Mr. R. Bruce, second; and third, Mr. J. MacGregor, Clifton Park, Kelso. For three vases of decorative Chrysanthemums, in three varieties, not disbudded, Mr. A. E. Todd, Stoneybank, Musselburgh, received the first award; Mr. T. H. Cook, Gosford, the second; and Mr. A. M'Mullan, third award.

Incurved Blooms.—The £5 first prize for twenty-four incurved blooms, distinct, was carried off by Mr. G. Shotton. The revival in favour of the incurved varieties does not appear to have waxed much in Edinburgh yet; we hope it may do so, for incurved blooms are wonderfully sweet and beautiful.

Messrs. G. Shotton and A. C. Cameron, Binrock, Dundee, were first and second respectively for the twelve incurved varieties. Messrs. J. H. Cumming, J. Boucher, A. C. Cameron, and G. Shotton practically took all the prizes for incurved blooms.

Decorative Classes.—The section for hand baskets, epergnes, and tables of Chrysanthemums forms one of the best features of the show. For a hand bouquet of Chrysanthemums (any foliage), Miss E. E. Todd, Musselburgh, won the chief award; Miss A. E. Todd followed for second; and third, Miss A. Knight, of Lenzie. For an epergne or vase filled with coloured Vine leaves, any green to be used, Mr. J. Gault, Murchia, Pollockshields, beat Miss Geddes, of Roseburn Gardens, Edinburgh. For a basket of coloured foliage and berries, Miss Geddes here beat Miss E. E. Todd. For a basket of Orchid blooms, Mr. John Gault stood first; and Miss A. E. Todd, second.

The first prize of a handsome tea set, valued at £1 10s., presented by Messrs. Cranston & Elliott, Ltd., for the best arranged epergne or vase of Chrysanthemums, any foliage to be used, was won by Miss A. E. Todd.

In the amateurs' cut bloom classes the principal winners were Mr. J. Higgins, Dovecot Park, Anstruther; Mr. R. C. Dickson, Raploch, Stirling; Mr. A. Brydon, Tweedbank, Innerleithen; and Mr. R. H. Dow, Wolseley Street, Dundee.

In the open class for the best new Chrysanthemum, not in commerce, Messrs. W. Wells & Co., Ltd., Redhill, Surrey, won the Scottish Horticultural Association's Silver Medal, with the variety W. R. Church. The same firm also won the Bronze Medal for the second best new variety with Mabel Morgan.

Plants.—For six pots of Chrysanthemums, distinct, singles and pompons excluded, the handsome first prize of £10 fell to Mr. W. Pullman, Hollywood, Edinburgh; and second (£5), to Mr. D. Cavanagh, St. Edwards, Edinburgh. For four pots ditto, not disbudded, W. D. Cavanagh was first and Mr. Geo. Wood, Oswald House, Edinburgh, second.

In the classes open to nurserymen only, Mr. J. Downie, Beechhill, Murrayfield, Midlothian, led off for eight specimen Palms. Messrs. Todd & Co., Shandwick Place, Edinburgh, came second. The same order held for six ditto. Messrs. Todd & Co., however, were first for six table plants.

The chief winners in the plant classes open to private gardeners and amateurs only were Messrs. George Wood, Malcolm McIntyre, A. McMillan, A. Duff, G. Chaplin, J. Hunter, A. Curran, A. McInnes, G. M. McKinna, A. Knight, C. Comfort, D. Mathieson and A. Dickson.

Fruit.—Messrs. D. & W. Buchanan, Kippin, won the first prize—a handsome electro-plated epergne, value £3 10s.—for four bunches of Grapes, distinct. Mr. J. Leslie, Pitcullen House, Perth, came second; and Mr. D. Kidd, Carberry Tower, Musselburgh, third. The Messrs. Buchanan led also for the two bunches; Mr. Leslie, second; and Mr. W. Williamson, Tarvit, Cupar, third. Those already named, together with Messrs. M. McIntyre, T. H. Cook, G. McInlay, Murray & Son, Park Hall; J. Day, J. W. Carnegie and W. M. Moir were the chief winners in the fruit section.

Vegetables.—The association's Silver Medal and 3 gs. were carried off by Mr. J. Waldie, of Dollar, for a collection of ten kinds of vegetables. Mr. R. T. Rae, of Roxburgh, was second, and Mr. A. Dickson, of Innerleithen, third. The first and second held their places in the class for six kinds, Mr. D. Nicoll here coming third. Mr. A. C. Cameron won for the collection of salads. For eight Leeks, Mr. A. McMillan led off; and for six Cauliflower or Broccoli, Mr. J. Anderson, Peebles. Mr. J. Davidson had the best heads of Celery. For twelve varieties of Potatos, Mr. J. Gemmell, jun., was placed first. Both fruit and vegetables were very good.

Miscellaneous Exhibits.

Messrs. R. B. Laird & Sons, Ltd., Pinkhill Nursery, Murrayfield, Midlothian, had a very fine collection of Coniferae, set out in a pleasing rounded oblong on the floor.

Messrs. Dobbie & Co., Rothesay, N.B., set up a nice stand of decorative Chrysanthemums in very attractive style. They also showed samples of Dobbie's International Prize Leek, which were indeed very fine.

At the west end of the market, Messrs. Cunningham and Fraser, Comely Bank Nurseries, Edinburgh, exhibited a fine lot of specimen Hollies, Aucubas, &c., in very fine condition.

Mr. R. C. Pulling, Woodford, Essex, had a very neat table of Chrysanthemums, with an underground of Maidenhair Ferns. The blooms were set out in single vases, and were interspersed with neat, richly coloured Crotons. The table as a whole looked very well.

Mr. M. Cuthbertson, Rothesay, N.B., set up a fine table of decorative Chrysanthemums in their best form. They were shown in vases, and furnished a very creditable lot.

Messrs. W. Wells & Co., Ltd., Redhill, Surrey, showed a liberal display of fine Chrysanthemum blooms, especially good being their stands of single varieties. Earlwood Beauty is a splendid white; "White Thread," and Miss Harvey are two pretty feathery varieties.

Mr. John Downie, Beechhill, Murrayfield, had one of the chief exhibits of the show in decorative flower work. One of his designs was a toy mail cart done up in Orchids and Lilies, having also white Pigeons with outspread wings on the handle bars. Other designs on the table were shields, hearts, anchors, designs of shells, and the Union Jack. All were placed on a ground of blue silk, bordered with white of the same material.

Mr. Fortune, Queensferry Street, Edinburgh, showed a table in much the same style. Prominent in the centre was a Victoria Cross with photo. of Lord Roberts, and in each of the other arms Baden Powell, Lord Kitchener, &c. It was done up in red, white, and blue, and looked very fine.

Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, S.E., was forward as usual with a grand display. His large table at the west end of the market contained a collection of splendid Chrysanthemums. They were set up in noble vases, raised high above the general groundwork of the table, which was filled up with grand blooms in single stands, interspersed with Crotons and Ferns. Amongst varieties of special note were Mrs. Barkley, Mr. G. Mileham, Edith Shrimpton, Mr. W. H. Webb, Edwin Smith, Henry Stone, Nelly Perkins, Ella Herxheimer, and Miss Jessie Cottee. (Gold Medal).

Messrs. James Dickson & Sons., Hanover Street, Edinburgh, showed a pretty collection of evergreen shrubs, Palms, variegated Ivy, &c.

Mr. John Forbes, Hawick, exhibited a small group of his ivory-white sport from Begonia Glorie de Lorraine, named Caledonia.

Messrs. Isaac House & Son, Westbury-on-Trym, Bristol, had a beautiful exhibit of Violets.

MANCHESTER.—*November 15th, 16th and 17th.*

The general opinion is that the last show was most certainly the best and reflects great credit upon Mr. P. Weathers, who in so short a time has raised the position of the exhibition to the results that were shown in St. James's Hall. The spacious building is an admirable one for the purpose, as the exhibits can be arranged in a manner satisfactory to the visitors and out of the usual monotonous straight lines. One of the chief exhibits was that staged the whole length of the building consisting of Chrysanthemums and foliage plants in an irregular bank with groups of 'Mums in self colours brought from the gardens of the Royal Botanical and Horticultural Society, which afford evidence of the cultural skill of Mr. Weathers and his staff.

Gold Medal Exhibits.—As usual there is a loyal band of helpers to aid in the work of the society and by their rare and valuable exhibits raise the tone of the exhibition, whilst adding to the interest of the visitors. To the following Gold Medals were deservedly awarded:—Mr. R. Doe, gardener to the Right Hon. Earl of Derby, Knowsley, for a splendid table of hardy fruit interspersed with Smilax and Chrysanthemums; Mr. James Cyher, Cheltenham, group of Orchids; Messrs. Dickson & Robinson, Potatos and plants; Mr. J. Robson, Altrincham, Orchids; Messrs. H. Cannell & Sons, Swanley, cut flowers; Messrs. Hugh Low & Co., Bush Hill Park, Middlesex, table of Orchids.

Silver Medals.—Messrs. H. Low & Co., Middlesex; Messrs. Dickson, Brown & Tait, Manchester; Messrs. Clibran & Son, Altrincham; Messrs. Charlesworth & Co., Bradford.

Plants.—These were staged in the usual grand Manchester form with fine flowers in quantity, but a little too long in the stem to be seen at their best. For a group of Chrysanthemums and foliage plants Mr. W. Elkins, Pendleton, won with a fine lot in which Crotons, Palms, and other stove plants were made the most of. For nine large flowering Chrysanthemums, G. H. Gaddum, Esq., Dewsbury (gardener, Mr. H. Branden), won with a grand lot. For six pompons, James Brown, Heaton, Mersey, won with nicely flowered pyramids, and for six Japanese the same exhibitor was also successful.

CUT BLOOMS.—The leading class for forty-eight blooms, twenty-four Japanese and twenty-four Incurved, distinct, for which the Manchester Challenge Cup, presented by John Wainwright, Esq., together with £10 for the first prize, was won by E. Behrens, Esq. (gardener, Mr. H. West), Whitchurch, with a very strong stand, the finest Incurved blooms being Lady Isabel, Bruant, Mdme. Ferlat, W. Tunnington, C. H. Curtis, &c., and the finest Japs., Mrs. Barkley, J. Carrington, Graphic, Lord Salisbury, Mdme. G. Dubrie, Lady Hanham, Mrs. Mease, Edith Tabor, &c. A. James, Esq, Rugby, and Mr. J. H. Goodacre, gardener to the Earl of Harrington, Derby, were second and third.

For twenty-four incurved blooms, not less than twelve varieties, E. Behrens, Esq, again had the premier lot. For twelve, distinct, A. James, Esq., had the best.

For thirty-six Japanese, in not less than eighteen varieties, E. Behrens, Esq., again took the lead, followed by Mr. F. Vallis, Chippenham, who for eighteen blooms, in not less than nine varieties, forged ahead to the first position. For twelve varieties, A. James, Esq, had the best. The thirty-eight large flowering plants caused some little difficulty, some staging all the large varieties, others only Japs, and incurved. The prizes went as named, J. Watts, Esq., Cheadle; Thomas Brocklebank, Esq, Woolton (gardener, Mr. J. Vaughan); and J. Lamb, Esq., Bowdon.

For a basket of cut blooms, Mrs. Agnew was first with Source d'Or, tastefully arranged.

Mr. John Forbes, Hawick, Scotland, had an exhibit of his new white Begonia Caledonia.

SOUTHPORT.—*November 15th.*

THE nineteenth exhibition was fully up to those of the past, the exhibits being of a bright and healthy nature, the beauty of which would be enhanced by covering the stages with some suitable material.

The groups of Chrysanthemums were good, Councillor Shuttleworth taking the lead with well grown blooms nicely arranged.

For six ornamental plants, Mrs. Williamson (gardener, Mr. J. Heath) secured the first and the society's medal with medium-sized fresh plants. For six table plants, Mrs. Martin had the best. For a group of plants, Chrysanthemums excluded, Mrs. Martin (gardener, Mr. J. L. Monks) won with plenty of greenery brightened with white and scarlet flowers.

For three untrained Chrysanthemums, the same exhibitor was in front; and for the single, Councillor Shuttleworth was first.

For twelve Japanese and twelve incurved blooms, Henry Thompson, Esq. (gardener, Mr. W. Blackhurst) was first, also winning for twelve Japanese. For twelve incurves, Mrs. Martin led the way. For three stove and greenhouse Ferns, Councillor Shuttleworth had fresh plants. Two Orchids, J. J. Holden, Esq., had the best. Three Lycopodiums, W. Vernon, Esq., scored, and for three table plants, W. Crankshaw, Esq. The first prizes for Grapes went to Mr. W. Blackhurst for black, Mr. E. Swift for white, and Mr. W. Taylor for one bunch of Barbarossa. For six dishes of hardy fruits, Mr. T. Smith took first prize and the society's Bronze Medal.

The amateurs' section was well filled and of superior character to that hitherto staged. Messrs. W. Clibran staged a nice lot of Chrysanthemums in variety.

BRADFORD.—*November 16th.*

THE past show was the fourteenth that has been held by the Bradford and District Chrysanthemum Society. It was held in St. George's Hall, Bradford, on Friday, November 16th. Unfortunately, the season seems to have minimised the percentage of available show blooms, and the Bradford show, in common with others, showed a falling-off in point of entries. The quality of the blooms was, however, up to the usual. The local classes were stronger than ever. The society's Silver Challenge Cup for the best twenty-four Japanese blooms, in eighteen distinct varieties, was again won by Mr. W. Midgley, gardener to Mrs. Mason, Bankfield, Bingley. He thus wins the cup outright. Mr. Wm. Dawes, gardener to Lord Trevor, was placed second; and Messrs. Geo Fairburn & Son, Carlisle, third. The principal prize-winners in the open classes were Mr. Geo. Singer, Coventry; Mr. J. Brook, Heaton; Messrs. Geo. Fairburn & Son; Messrs. H. Clark & Son; Mr. W. Brook, Mr. J. L. Shearman, Sir F. Ripley, Bart., and Mrs. Mason.

Mr. John Forbes, Hawick, Scotland, showed Begonia Caledonia in A1 condition.

BOLTON.—*November 16th and 17th.*

THIS excellent show well upheld its reputation for its finished productions. The entries were also satisfactory. The groups, as usual, were of high-class form, the chief honour this year falling to E. T. Crook, Esq. (gardener, Mr. J. Wainwright), who has, after a few well tried battles, succeeded, and that with an excellent combination, his Crotons showing off to great advantage. J. W. Makant, Esq. (gardener, Mr. H. Shone), followed with an excellent lot, but a little flat.

For the group of Chrysanthemums W. H. Lever, Esq. (gardener, Mr. J. Horracks), led the way with fair blooms interspersed with Ferns. The half-circle or mirror group was won by J. Heywood, Esq. (gardener, Mr. G. Lawson), with good taste. For eighteen Japanese and eighteen incurved cut blooms the chief honour was awarded to the Dow. Lady Hindlip (gardener, Mr. C. Cook) with smart, well formed blooms, including Mrs. Barkley, Mrs. Mease, E. Molyneux, Le Grand Dragon, Duchess of Fife, C. H. Curtis, &c. J. Stanning, Esq. (gardener, Mr. J. Kirkman), was second with a good stand.

For twelve incurves and twelve Japanese, R. G. Allan, Esq., Mossley Hill (gardener, Mr. W. Whittle), was in the coveted place with good blooms. For a basket J. Mosley, Esq., won with a light lot of Source d'Or.

For two bunches of white Grapes and two bunches of black, E. Lord, Esq. (gardener, Mr. J. Wright), won in each class with Muscat of Alexandria and Alicante. In the amateur classes J. W. Makant, Esq., won for Grapes. Ernest Knowles, Esq., won in the local classes with the same varieties.

Messrs. W. Wells & Co., Earlswood Nurseries, Redhill, Surrey, had some new varieties, including Lord Ludlow, Mabel Morgan, and R. W. Church, the latter being certificated.

READ THIS.

THE competition continues as usual next week.

The prize last week was awarded to Mr. H. W. Lewis, Hayes Village, Kent, for his article on "Growing Carnations in the Open," p. 182.

QUESTIONS AND ANSWERS.

Araucaria imbricata unsatisfactory.—*Argus*: The poverty of the subsoil is no doubt the cause of the dying of the lower branches of the tree, and you should set about enlarging the root-run of the tree this winter. You can do this in two ways, namely, by taking out a trench all round the tree and filling it in with good material; and secondly, by heaping fresh material over the roots. In taking out a trench round the tree it would be unwise to go too near it, otherwise you would injure too many of the feeding roots. If the tree is 12 ft. high, the inner edge of the trench should be 6 ft. from the bole of the tree. Remove the turf from the trench right to the trunk to the tree, making a bed round it, which need not be turfed over, as you can plant it with Daffodils and sow showy annuals of some kind over the bed to hide its bareness in summer. Take out the trench 18 in. deep (we should not go deeper), save all the roots you can, and fill in the trench with old potting soil from Chrysanthemums or any other rich soil, mixing with it plenty of leaf mould and well decayed hot-bed manure. A greater quantity of manure, well decayed, may be placed over the bed as it will not some in contact with the roots till well rotted. Top-dressing may be given annually and fresh roots will grow into it.

Hardy Plants for a Subtropical Bed.—*Landscapist*: You do not say what is the size of your bed. There are many plants that might be used, but you should not use too many kinds in one bed as the dense foliage of one kind would hide the beauty or gracefulness of another type. For instance, Ailantus glandulosa might be planted at intervals of 4 ft. apart along the centre of a bed; and the central line could be surrounded by Rhus typhina at similar distances or nearly, but alternately with the first. The front line might consist of Rhus glabra laciniata. All these should be cut down near the base in March, and they will throw up strong stems in summer with large leaves, the fewer the stems the larger the leaves. Another combination might consist of Paulownia imperialis in the centre with Catalpa bignonioides round them, with an edging of the herbaceous Funkia Sieboldii, which has very large leaves of similar shape to the trees just mentioned.

Names of Plants.—*A. J. B.*: 1, Ruellia Portellae; 2, Fittonia argyroneura; 3, Aster grandiflorus; 4, Fuchsia procumbens.—*A.C.*: 1, Rudbeckia speciosa; 2, Veronica pinguifolia; 3, Veronica Traversii; 4, Veronica salicifolia; 5, Gaultheria procumbens; 6, Cotoneaster frigida.—*T. H.*: 1, Ficus repens minima; 2, Ficus radians variegata; 3, Salvia rutilans; 4, Salvia splendens; 5, Salvia azurea grandiflora; 6, Eupatorium riparium.—*H. J.*: 1, Cypripedium Sedenii; 2, Maxillaria punctata; 3, Oncidium Forbesii; 4, Oncidium praetextum; 5, Cattleya labiata var.; 6, Cattleya bowringiana; 7, Dendrobium Dearei.—*W. H.*: 1, Selaginella krausaiana Brownii; 2, Selaginella apus; 3, Asplenium Hemionitis; 4, Doryopteris palmata; 5, Doodia caudata; 6, Blechnum occidentale; 7, Adiantum caudatum.

Communications Received.—J. Fraser Smith.—F W. B.—J. M.—P. M. T.—J. B.—S. C.—Aros.—Ed. Webb & Sons.—A. McD.—W. M.—D.C.—R D.

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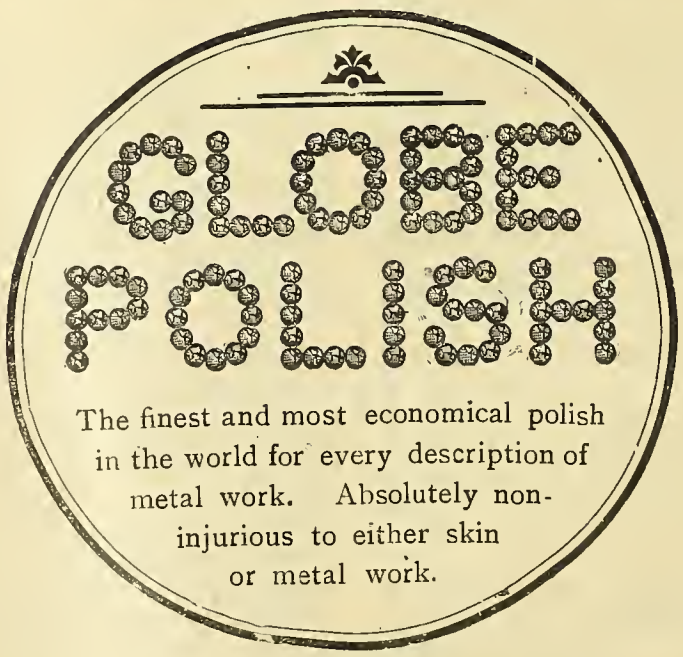

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, DECEMBER 1st, 1900.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, December 4th.—Royal Horticultural Society's Meeting; Mid-winter show of the National Chrysanthemum Society (3 days).

TWO ASPECTS OF A FRUITFUL YEAR.—The bountiful fruit harvest of the past season has been the subject of much debate or discussion by the provincial papers, both north and south of the Thames for weeks or even months past. In the Midlands some of the correspondents bewailed the fact that other writers had raised an outcry about overproduction with the result that it brought down the market prices to a figure that was altogether unprofitable; and that this being the case speculators proceeded to buy up large quantities of fruit at a low figure, well knowing that the harvest was by no means so abundant as it was stated to be. Thus while the fruit growers practically sold their produce at a loss, the middle men reaped all the profit. If this thing actually happened the fruit growers ought to profit by the lesson in future and not give way to panic when their fruits are ready for market and must perforce be gathered or allowed to go to waste. What is wanted is a continuous supply and not a glut at one time and a corresponding deficiency in the course of a week or two. At one of the fruit conferences held at Chiswick in the eighties we remember hearing a successful, and, if we remember rightly, a retired market gardener, triumphantly remark how he used to grow early varieties only, harvested and took them to market, returning with the money in his pocket, so that his fruit crop caused him no further trouble or anxiety. Competition, especially by foreigners, could not have been so keen in those days, otherwise the superiority of the fruit in question must have commanded the market. Moreover, it is obvious that if all the growers were to cultivate early varieties only, the result must be a market glutted with produce incapable of being preserved until it can be consumed. The remedy or palliative for this sort of thing must no doubt be sought for by various expedients, such as preserving the fruit in various ways, so that it may be kept till demand overtakes the supply, and by finding fresh markets in various provincial towns, which require fruit, and thus to some extent relieve the congestion in the metropolitan markets.

In writing to the *Kent Messenger*, E. D. Till, Esq., says that "never, perhaps, in all previous experience, has so bountiful a season been attended with so much disappointment to Kentish fruit growers," and he suggests that "it is not in reducing the sellers' commissions, nor in any such palliatives, that relief can come, but in seeking practical methods by which the superabundance of one season may be stored to supplement the deficiencies of another or several seasons." He regards it as surprising that hundreds of tons of stone fruit (Plums and Damsons chiefly, we should understand) should have been allowed to rot on the ground ungathered while we go to the grocer before the winter is fairly upon us and pay 6d. per pound for foreign prunes. Surely some means could be devised whereby we could convert these hundreds of tons of Plums into British prunes, and so benefit the home producer, and his dependents. It might not pay small growers to erect drying apparatus for the sake of a surplus of fruit that only occurs intermittently; but a number of them might combine together for the common good; or what might be found more practicable, an independent party might start a business for the purpose of canning, drying and otherwise preserve the surplus fruit of a district. By paying so much a ton for fresh fruit the owners of the preserving plant would become the possessors who would thus relieve all the growers equitably from all further responsibility or care. The price might even be smaller than that obtainable in the market and yet leave a margin of profit for the cultivator. Fruit drying and preserving on a large scale would be more likely to pay

than on a small scale, unless a frugal peasantry were to take up the work and live contentedly on a smaller profit than at present as they do in many Continental countries. In either case it remains for the parties concerned to help themselves, as all such work to succeed must have personal attention and direct interest in working out the same.

The Technical Education Committee of the Kent County Council seemed determined at one time to go thoroughly into the subject of experimenting with evaporating machines for the drying of fruit. On the strength of that supposition the above-named writer attended an auction on the banks of the Thames and bought a brand-new "Ryder" evaporator of the largest size and removed it to his neighbourhood. From that time the Technical Education Committee would seem to have walked in an opposite direction, and the evaporator remained unheeded at a rental in a neighbouring barn. Experiments were commenced, however, with the cold storage of fruit, some of which have been mentioned in our pages a few years ago. The Technical Education Committee were also urged to undertake experiments in cyder-making when there was a superabundance of Apples in 1895; but they threw cold water on this scheme. Private enterprise, however, came to the rescue, under the title of the Swanley Cyder Co.; and we are informed that they have made 100,000 gallons of cyder since 1895. Mr. Till happened to attend a fruit conference organised by the Technical Education Committee of the Worcestershire County Council, in Worcester, during October last, and he was surprised to find a small evaporator at work. This was operated by Mr. J. Harper, of Ebley, Stroud, whose machine was entirely intended for domestic use, by being placed on a kitchener. Mr. Till told him of the disused "Ryder" evaporator, and in the course of a few days he journeyed into Kent, inspected, purchased and removed the whole apparatus. Kent is so much the poorer, we were going to say, but it may yet take the lesson to heart and thus profit by the example set by another and possibly more enterprising neighbour. It has been reported that the "Ryder" apparatus is successfully worked by electricity in Switzerland.

The above refers to the commercial aspect of fruit culture in a year of superabundance, which is almost as disastrous as a year of scarcity, simply because no means have yet been devised for dealing with fruit (chiefly stone fruits and soft fruits) except for immediate consumption. To private gardeners, on the other hand, a heavy fruit harvest is always a source of much gratification. There are few gardeners, we presume, but rejoice to see the shelves of the fruitroom heavily laden with what is always in great demand for the household in proportion to the extent of the family. In addition to the gardener's gratification of being able to supply the requirements in this respect, his employer is saved the expense of making good the deficiency from market, it may be with foreign fruit, which becomes a necessity in years of scarcity. Much of the foreign fruit that comes to our shores is of poor quality compared with the homegrown article, particularly if used in its proper season. Market fruit is also lacking in that variety which every well stocked garden is able to supply in the way of early, mid-season and late sorts, as well as those differing in flavour, and suitable for dessert purposes, on the one hand, or culinary purposes on the other. Where the family is small, it may be that the surplus fruit has to be sold; and this custom is much more prevalent at the present day than formerly, the object generally being to keep down the expenses incurred in the upkeep of the garden in places where agricultural depression and the consequent depreciation in land have been making themselves felt. In any case a heavy fruit crop is almost everywhere if not universally appreciated in private gardens both by gardener and proprietor. This would also be the case with the market grower provided there were adequate means for turning a superabundant crop to adequate account.

Rose manures.—Guano and superphosphates are favourable to Rose growth. Pig dung, as a natural manure stands first, and night soil for Roses comes second.

Wargrave Gardeners' Mutual Improvement Association.—At the meeting of November 14th, Mr. Jas. Caswell, gardener to Rev. H. M. Wells, of "Scarlett's," read a practical paper on "Crotons and their culture." Full cultural details were given. Some shapely plants were exhibited.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, December 4th, in the Drill Hall, James Street, Westminster, 1-4 p m. A lecture on "The Heating and Ventilation of Glass Houses," will be given by Mr. A. Donald Mackenzie, at 3 o'clock.

Walsall and District Gardeners' Mutual Improvement Society.—The members of the above society met on Tuesday, November 13th, in the Victoria Temperance Hotel, under the presidency of Mr. G. H. Thompson. A lecture on the "Culture of Chrysanthemums" was delivered by Mr. W. Shingler, of Wolverhampton. The lecturer was interestedly followed; he exhibited some splendid blooms of Chrysanthemums.

Beckenham Horticultural Society.—On Friday, November 25th, Mr. A. Hemsley gave a very interesting paper on the cultivation of Ferns in general. Ferns, Mr. Hemsley said, were getting more popular every year, especially the choice varieties. Ferns make, as a rule, much better plants raised from the spores. When saving spores for sowing—should you not be ready for sowing at once—place them in a paper bag. When you find the spores escaping he advised the meeting not to rub the fronds, but let the spores drop naturally. Fill pots with good loam and place charcoal or sphagnum on top. After sowing place in a light position with a sheet of glass for covering. Soil for potting should consist of loam, leaf-soil, and manure, not much peat A good discussion followed, after which a hearty vote of thanks was given for the interesting paper. Messrs. Peed exhibited a choice collection of Ferns, including several varieties of Gymnogrammes, Platycerium, Davallias, Nephrodiums; also a group of flowering plants, Cypripediums, in variety, Cattleyas, and Begonia Gloire de Lorraine.

Shop Window Exhibition of Chrysanthemums.—Messrs. B. Shearn & Son, 234, Tottenham Court Road, London, recently offered a Silver Cup valued 10 gs., with one Gold and one Silver Medal as awards in a competition for twelve vases of Chrysanthemums, four blooms in each. There were four competitors. Messrs. W. Wells & Co, Ltd., Earlswood Nurseries, Redhill, Surrey, were first; Mr. G. Hunt, gardener to P. Ralli, Esq., Ashstead Park, Epsom, second; Mr. R. C. Pulling, Monkhams Nursery, Woodford Green, third; and a consolation prize was awarded to Messrs. Cragg, Harrison, & Cragg, Heston, Middlesex. All of these showed fine blooms, though the first prize collection was exceedingly strong and very superior. This entry contained the varieties Chas. Davis, Mdme von André, Janet Lady Clarke, Lord Salisbury, Lord Ludlow, C. J. Salter, Mabel Morgan, Mrs. Barkley, Mr. Louis Remy, W. R. Church, and Mdme. A. Capitante. Most of these are new. Judging from the public comments on this show one must conclude that similar shop exhibitions are very much needed in order to familiarise the people with Chrysanthemums.

Weather in London.—The London weather still continues free from the pernicious fogs. Rain, some sunshine, and a general, even mildness has prevailed during the week. The rain has at times fallen heavily.

Nurserymen of the United States, America, are taking full advantage of the opportunity to send stock into Canada. The only ports of entry are St. John, Windsor, Niagara Falls, Vancouver, and Winnipeg. The traffic must cease by December 15th.

The Workmen's Compensation Act.—A case which we think of some importance to gardeners was instanced in the legal query colums of *Gardening Illustrated* last week. A workman (gardener) wanted to know if he could claim compensation for a certain injury. This occurred while he was standing on a ladder sawing the thick bough of an Apple tree, and just as the saw got through the bough it flew up, hitting him on the elbow, and the ladder slipped, and he fell. He has now left hospital, though the arm is far from well, and the part where the bone was taken out has not yet healed. The lawyer's answer to him was, that the Workmen's Compensation Act does not apply, and nothing in his statements show any liability on the part of his master under the Employers' Liability Act. The latter cannot be said to be in default, and the injured gardener is not entitled to compensation from him.

"Wall Fruit Trees."—This was the subject of a paper read by Mr. T. Turton, the well-known fruit exhibitor, of Sherborne Castle Gardens, Dorset, at the fortnightly meeting of the Reading and District Gardeners' Mutual Improvement Association, and as Mr. Turton was one of the originators of the society, it is needless to say the attendance was very large. The paper given was an exceedingly practical one, touching upon Apricots, Peaches, Nectarines, Pears, Plums, Cherries, Currants, and Gooseberries, also soil, situation, training, pruning, &c. An interesting discussion followed, in which the following took park:—Messrs. Stanton, Hinton, Neve, Powell, Lees, Chamberlain, Exler, Townsend, Turner, Alexander, Baskett, and Lever. A hearty vote of thanks was accorded Mr. Turton for his paper. The exhibits were not so numerous as usual but were of excellent quality, viz.:—A large heap of Sutton's Selected Ailsa Craig Onion, each of the thirty bulbs staged being typical of this noted strain. Mr. Stanton, of Park Place Gardens, showed a basket of Coe's Golden Drop and Blue Imperatrice Plums. Two new members were elected.

The Retirement of Mr. John Baxter.—Some little time ago Mr. John Baxter, who has served as gardener to Colonel McCall, Daldowie, Broomhouse, Glasgow, for the long period of forty-one years was presented with a walking-stick and a purse of sovereigns, in recognition of his services. At the same time Mrs. Baxter received an umbrella. Again on the 21st of November, at the annual meeting of the Scottish Pansy and Viola Association, in Glasgow, and after the usual business was settled, Mr. Stewart, the chairman, made a few graceful and well chosen remarks, and in the name of the members, presented Mr. Baxter with a handsome umbrella, bearing a suitable inscription; and Mrs. Baxter with a fur necklet as a token of the respect in which they are held, on the occasion of leaving Daldowie, after forty-one years service, and what he had done for the advance of Violas during the last twenty-five years. During his long and active life Mr. Baxter has been a very enthusiastic cultivator as well as a raiser of Violas. Up till 1893, at least, he always took the first prize for seedling Violas, open to all, at the Scottish Pansy Society's annual meeting in Edinburgh. One of his proudest feats was the taking of the first prize for twenty-four bunches of Violas, open to the United Kingdom, at the great International Exhibition in Glasgow. We have been cognisant of his notoriety as a raiser of Violas for many years; and have grown a number of his finest varieties, including Duchess of Fife, White Duchess, York and Lancaster, Blue Cloud, and others. White Flag, Ravenswood, Gipsy Queen, Ada Adair, and Countess of Elgin were also varieties sent out bearing the name Baxter in brackets after the new varieties labelled as above. Many of them are still very popular amongst growers and for bedding purposes generally.

Smokers will be pleased to learn that a law on their behalf was recently passed. Any retailer or manufacturer who has in his possession tobacco containing more than 4 per cent. of oil shall be liable to a penalty of £50, and the tobacco shall be forfeited.

Crataegus Pyracantha Lelandi, as a shrubbery plant, we wonld say, has a future before it. In the sheltered belts of shrubbery in high-lying Finsbury Park, London, N., we were delighted to see sturdy bnshes of this beautiful shrub, densely laden with the crimson-scarlet berries. At the edge of a belt such plants are very ornamental. Those who are planting might include some bush plants of this Crataegus.

Shiplake Cottage Garden Society.—The annual meeting of the committee of the Shiplake, Dunsden and Harpenden Cottage Garden Society took place, by kind invitation of Rev. and Mrs. Hart-Davis, at the Vicarage, Dunsden, on November 7th. After dining with the hosts, the committee passed the balance sheets for the preceding year, and re-elected the able secretary and treasurer, Mr. C. Lovejoy. Votes of thanks to the Rev. and Mrs. Hart-Davis brought a very pleasant evening to a close.

Chertsey Concert in Aid of the Gardeners' Royal Benevolent Institution.—The concert promoted by Mr. A. H. Brown, superintendent of the garden department of the School of Handicrafts, Chertsey, in ald of the R.G.B I, and referred to by us recently, was held in the Constitutional Hall, on the evening of Thursday, November 15th. It proved an unqualified success, reallsing a sum of £12, which goes to the Institntion. Harry J. Veitch, Esq., occupied the chair. Mr. Brown had been fortunate enough to secure the services of several talented artistes—notably, Misses Edith Welling and Edith Hants, of Brighton, whose vocal performances are always much appreciated by the Chertsey folks. Mr. Argyle Galloway (Brighton), Mr. Walter Lewis and Mr. Abel Starkey were also well received. Instrumental music was added by Misses Belbin, M. Belbin, N. Lynn, C. Wade and Mr. H. Hamilton, pupils of Mr. F. Monk, who himself acted as accompanist during the evening. Mr. Veitch detailed the objects of the institution in a speech made during the interval.

Croydon and District Horticultural Mutual Improvement Society.—A meetlng was held on Tuesday evening, November 20th. at the society's room, "The Sunflower" Temperance Hotel. The chair was occupied by Mr. W. J. Simpson, Mr. M. E. Mills occupying the vice-chair, over fifty members being present and five new ones elected. F. W. Burbidge, Esq., M.A., Trinity College Botanic Gardens, Dublin, presented to the society copies of his "Gardens of the Sun" and "Horticulture," and a hearty vote of thanks was accorded Mr. Burbidge. To Mr. P. Bunyard was also given a vote of thanks for his present of six dozen exhibition vases. The chairman next introduced Mr. W. E. Humphreys, The Grange Gardens, Hackbridge, who gave a most concise, clear and practical paper on "Cattleyas," embracing Laelias and Laeliocattleyas. Having noted some of the principal species and varieties, Mr. Humphreys at once dealt with their practical cnlture. First, the most suitable houses, heating and ventilation; soils, pots and potting. The selection and treatment of imported plants, hybridisation, sowing and management of seedlings were skilfully treated on. Insect pests and diseases were also ably dealt with. Throughout the paper Mr. Humphreys showed hlmself to have a thorough knowledge of the subject, and a mutual pleasure in imparting his experience to others. At the conclusion, the lecturer received a unanimous vote of thanks. An interesting discussion followed. Mr. Kromer, Bandon Hill, exhibited a fine collection of Cattleyas:—C. labiata, C. gigas, C. aurea, C. schilleriana, and C. Harrisoniae; also a very fine dark type of Miltonia moreliana. Messrs. Peed & Son also exhibited a nice collection of Cattleyas, with Begonia Gloire de Lorraine; Mr. M. E. Mills, an excellent dish of Pear Double de Guerre; Mr. J. R. Box, a collection of vegetables. A vote of thanks was given the exhibitors. The secretary announced that the next meeting would be on December 4th; subject: "Yews, Historical Trees, Cllpped, and Hedges," by Dr. Brook Ridley, M.D.—*J. Gregory, Hon. Sec., 60, Canterbury Road, Croydon.*

WAYSIDE COTTAGE GARDENS.

After all that we sometlmes hear said about the fickleness and gloomlness of our climate there is this to be said, that it ofttimes gives some pleasant surprises to the pessimists who are too frequently croaking and groaning about it. If any earthly thing will lift these desponding souls out of the mental quagmlre in which some appear to have hopelessly sunk, surely the splendid spell of sunny weather we have had, and hope heartily enjoyed, should do it. A country walk at this time of the year under the splendld climatic conditions which have recently prevailed is one of the best tonics for both liver and brain, and pity is it that more do not, or cannot, avail themselves of this remedy for brain fag. Half a day at blackberrying would often do far more good than any quantity of noxious drugs swallowed down in a fit of desperation. I have passed by many country cottages in whose gardens there are at this moment a wealth of flowers which the dwellers in our suburban districts may well envy. With the sun shining in unclouded brightness, with the soft, balmy air, it is difficult to realise how near we are to the dreary wlnter days. There are the porches of the waysld cottages, adorned it may be with festoons of Virginian Creeper in all its beauty of gold and crimson, interspersed with Canary Creeper, Traveller's Joy, and crimson Nasturtinms.

Anon I pass another draped with hardy Passlon Flower still in full bloom, another with the Duke of Argyle's Tea in berry. This, well berried, is one of the most handsome climbers I know, but for some reason I have rarely found it well berried. Now and again Crataegus Pyracantha is in evidence, densely laden with its coral-red berries. A few strong flowers of the white Jasmlne are seen in places. What delightful adjnncts these porches are—a trysting place for young lovers. What welcome resting places they are for the tired stranger, and the man of toil, to whose home they belong; and here too those whose days of toil are over find a sweet resting place where they can sit and dream over the past in restful enjoyment of the placid scenes around them, in some instances it may be in company of those whom they successfully wooed and won in the evenings of long past days under the same rustic covering with its leafy adornments which still shelter them. How enjoyable are these old country folks' gardens with their trim Box hedges, their Yews trimmed in all sorts of fantastic forms, with just now a profusion of flowers, reminding us of the height of summer. The Michaelmas Daisies, Anemone japonica, Pyrethrum uliginosum, Phlox decussata in variety, Periwinkle, Sunflowers, Rudbeckias, Cactus and other Dahlias, and Begonias, for these are becoming cottagers' flowers.

Over some roofs and against their walls Roses Gloire de Dijon and W. A. Richardson are ln frequent evidence where spared by mildew. Grapes are rlpening and the fruit crops are abundant. The large autumn Stonecrop with the sun shining upon it, and the Cardinal Butterfly hovering about it, forms one of the most attractive sights of the season. Nor should the old-fashioned hardy Fnchsias be forgotten; a series of rather mild winters have allowed them to attain proportions seldom seen in some localities. Gaillardias and Mignonette, with some of the earlier flowering Chrysanthemums complete my list of the autumn flowers seen in cottage gardens in profusion during the advent of St. Luke's snmmer. It remains to be seen whether the advent has surpassed its glories. I hope not. At the same tlme the present state of the weather seems really too good to last out much longer.

Of wild flowers there are not many lingering with us. The dwarf Furze is the brightest I know of just now. It often occurs to me that this would be a good substitute for yellow Calceolaria ln a ribbon border, flowering as it does in profusion during the greater part of the summer till late in the autumn. I think that if some one among the able superintendents of our London parks would give it a trial they would be pleased with the result. Turning away into a less frequented byway I came across old crumbling walls draped with Toadflax and sprinkled over with rosettes of Wall Rue. Here and there old walls and bnildings were made beautiful with a covering of Ivy in bloom, from whlch bees were busily gathering their last stock of store for the coming winter. In these by-lanes we gather a few reminders of summer, some of the large Bindweed, a few Silenes, now and again a Buttercup and Daisy.

The chief glory of the hedgerows now are the autumn tints of the foliage and the ripening berries of the Dog-rose, Sweet Brier, Pyrus Aria, and the Hawthorn. These are well aglow with their crimson berries. The wild Roses rambling over other bushes show off their brighter berries with the sun shining upon them more pleasingly. Then there is the dark purple berry of the Spindle wood. The foliage of some of these dies off a dark purple. The seed vessels of Clematis Vitalba festooning the hedgerows are very interesting; the height this will climb to is something astonishing, and occasionally the foliage dies away, assuming most beautiful hues. I have been at times puzzled as to what it could be high up in the trees with colours reminding me of some of our most beautiful exotic climbers. A country walk in the autumn will afford a most enjoyable time to any lover of Nature, and afford lessons to the reflective mind not easily forgotten, and on a clear day the views from the Surrey hills are as beautiful now as at any time. I have a greater liking for the old and decaying than the younger ones can ever be expected to have.—*W. B. G.*

BEDDING PLANTS DURING WINTER.

How often we hear complaints in spring about Calceolarias having kept badly, Pelargoninms damping off, and so forth. Accidents will sometimes carry off many plants, but a little care and trouble obviates all risk. I put Calceolarias into cold frames in the usual way, and seldom or never lose a single cutting. After inserting the cnttings, I keep the frame close and shaded for a few days, then gradually inure to light and air, until even at night in mild weather the sashes are left partly open. Even during wet weather the sashes should be tilted at the back. This allows a free current of air, and yet sheds off the rain. Of course, during hard frosts double mats are used, but nothing more. These remarks apply equally to Violas, Pansies, Pentstemons and all other subjects nsually wintered in cold frames. With the less hardy plants, such as Pelargoniums, Ageratums, Nasturtiums and such like, pits or houses with fire heat are necessary. Get the plants as near the glass as possible and give air on every favourable occasion. Damp is the worst enemy of the gardener during the next three months, but with gentle firing and judicious airing this may be thoroughly overcome. Let me say that the saving of the coal bill ls not always the most economical course in the end. Of course, strong fire heat and no air is fatal to all bedding plants, as lt draws them up soft and spindly.—*C. Blair, Binny, Uphall.*

FERNS IN BASKETS.

A great many Ferns, if grown in wire baskets suspended from the roof of the fernery or stove, are not only seen to better advantage in that way but also thrive better than when grown in pots. In fact the best drooping varieties have a very poor appearance if placed down on the stages, as their superior look is hidden with other surrounding plants. The baskets must vary in slze to suit varieties, one about 8 in. wide and 6 in. deep is the proper size for neat growing sorts such as Adiantnm ciliatum, A. amabile, Davallia bullata, D. hemiptera, &c. Some of the strong sorts such as Goniophlebium subauriculatum, Davallia fijiensis, &c., require baskets 2 ft. ln diameter, and 1 ft. deep is not too large. Put a good lining of sphagnum or slices of fibry peat all round on the inside of the baskets, then a mixture of leaf mould, good peat, fibrous loam, and sand, adding a little charcoal, and old brick broken into small pieces. This mixture suits the most of Ferns, unless the Adiantums which do with very little peat. They must all be kept moist in the growing season, and it is a good plan to take down each basket once a week or so and dip the whole into water. Platyceriums dlsplay their "staghead" fronds better if hung on the wall on rustic blocks of wood, although they too *do well* in round baskets.—*John C. Dick, Champfleurie Gardens, Linlithgow, N.B.*

Cypripedium chamberlainianum, with its twisted moustache-like petals, flowers continuously for a very long perlod.

THE ERADICATION OF MEALY BUG AND SCALE.

The best method of doing this is by the "gas treatment," especially in vineries and Peach houses. First calculate the number of cubic feet in the house to be fumigated, and for every 100 cubic ft. get ⅓ oz. of potassium cyanide, ⅓ oz. of sulphuric acid, and ⅓ oz. of water. For the cyanide make boxes with sliding tin bottoms (to which attach a wire or string to pass through ventilator or wall) to hold from 2 oz. to 3 oz. of the cyanide. Underneath each box, which should be at least 3 ft. from any foliage, place a soup plate, so that the contents of the box fall into it when the false bottom is removed. In the evening shut up the house closely, after putting the acid and water in the soup plates and placing the box containing the potassium cyanide in position over it. Pull out the false bottoms of the boxes by the string or wire through the ventilator, thus causing the cyanide to fall into the acid mixture in the soup plate beneath. Early next morning ventilate freely *from outside*, as the gas is very poisonous. Do not fumigate in the light, or scorching may result. Of course, delicate foliage plants will not stand this treatment, but for vineries and Peach houses it is an invaluable remedy. Be very careful when doing the above, as both the cyanide and the gas produced are very poisonous indeed.—*C. J. G.*

MUSHROOMS.

Mushrooms are at all times in demand, especially in winter when they are said to be forced, although it is hardly correct to say that they are really forced in winter, for the necessary conditions to their culture are more easily given in winter than in the strong heat of summer. From 50° to 60° is quite warm enough to grow mushrooms. The dung should be gathered from hard fed horses, and put into a heap for a few days, and then spread out, after which put it again into a heap, and allow it to remain five days, when it will be fit to make a bed, which must be no deeper than 1 ft. after it is trodden firm. It must be well firmed, as a more lasting heat can be kept in it by doing so. As soon as the heat rises to 75° or 80° it is ready to receive spawn. Half a bushel will do a bed from 8 ft. to 10 ft. square. Break the spawn into pieces about the size of a walnut or less than a hen's egg. Plant it in the manure 2 in. deep and 9 in. apart. After you get the bed spawned cover with 2 in. of turfy soil. Keep a damp atmosphere in the house by syringing the roof and walls twice daily. A thin covering of clean straw will keep the bed much warmer, and this can get a slight spray with the syringe.—*T. S. Dick, Castlemilk Gardens, Lockerbie, N.B.*

HARDY CYCLAMEN.

Every rock and hardy Fern garden should possess a liberal quantity of these beautiful hardy Cyclamen or "Sow Bread." They are easy of cultivation, and will stand the rigours of even the most severe winters. The winter-flowering kinds will send up their dainty little flowers while the ground is yet carpeted with snow. Although they thrive in almost any fairly open soil, the most suitable compost is an open, porous, sandy peat, with a proportion of limestone well mixed, and mortar rubbish sprinkled about them each spring.

They delight in raised positions, slightly shaded, such as sloping banks and under the shelter of Elm or other trees where the superfluous moisture is absorbed by their roots, as they seem impatient of stagnant moisture. I have seen Cyclamen Coum in huge masses in Cornwall flowering abundantly, and where they luxuriate amazingly, seeding and spreading as an ill weed in the shade of the beautiful Embothrium, and also in the crevices of all mestone wall, where they have taken possession and bloom every year unheeded. Their habitat is widely distributed in Italy, Greece, and the Mediteranean littoral. The varieties Coum, a beautful red; ibericum and var. album; repandum flower from January to May; and europaeum from June to October; neapolitanum, africanum, cilicicum, from September to December. The leaves add considerably to their beauty, whether in marginal lines intermixed with Snowdrops, Winter Aconites, Squills, or amongst hardy Ferns being marbled and veined, with the under surface of a purplish tint.—*W. L., Hither Green Lane, Lewisham.*

THE CHRYSANTHEMUM.

As the plants pass out of flower they should be at once cut down to within two or three inches of the base, thinning out all weakly shoots where at all crowded, and placing the plants in quite a cool structure and as near the glass as circumstances will allow. A cold frame or pit is an ideal position, packing a few leaves or strawy litter between the pots to protect them from frost, covering the glass at night as a further precaution, and giving an abundance of air during the day. In two or three weeks sturdy, well-matured cuttings should be forthcoming from the majority of plants. Those that are shy in pushing from the base should be shaken fairly clear of old soil, placed in smaller pots and given shelter in a Peach house or vinery just closed. In making the cuttings, let them be from three to four inches in length, dibbling in same in previously prepared 3-in. pots of loam and leaf-soil, with a dash of sand on top, three to five cuttings in a pot. Water in with a rose can and place in a cold frame with cocoanut fibre as plunging material, closely matting up each night, tilting up the lights a little for an hour each morning to keep the foliage dry, and removing any decaying foliage daily. If hard weather is feared, the frame could be placed in a cool house, raising same near the glass roof.—*J. L. Reynolds, Stoke Fleming, near Dartmouth.*

THE PROTECTION OF CHOICE SHRUBS IN WINTER.

In many parts of the country some of our most beautiful shrubs are not sufficiently hardy to withstand a severe winter, and where this is so, means should be taken to protect them. Even the slightest protection will often bring them through our hardest weather. Those most liable to be harmed are Piptanthus nepalensis (the evergreen Laburnum), Carpentaria californica, Fremontia californica, Pittosporum eugenioides, Phlomis fruticosa, Raphiolepis japonica, Benthamia fragifera, Buddleia Colvillei, Eucryphia pinnatifida, Veronica Traversii, Nyssa sylvatica, Caryopteris Mastacanthus and the white variety albus. All the Ceanothus require protection; we had C. Gloire de Versailles killed stone dead last winter. Berberidopsis corallina, Indigofera decora, I. decora alba, I. gerardiana, Teucrium latifolium, Viburnum Sieboldii, V. macrocephalum, and Erythrina Crista-galli also require protection. The best way to protect the shrubby specimens is to put some stout stakes round the plant close to the lower branches, and tie all tightly together at the top. Then place the protecting material all round, inside the stakes and tie with string, so as to prevent any blowing about. In the case of wall shrubs, drive a few nails in round the plant and tie the material over it. The common Bracken is capital for this purpose, and a good quantity should be obtained in the autumn and kept in the dry, ready for use when required.—*A. Thatcher, Aldenham, Elstree.*

PLANTS FOR HOUSE DECORATION.

The production of plants for house decoration figures largely in the routine work of most gardening establishments at the present day In addition to providing a good stock of Palms, Ferns, Codiaeums, Cordylines, &c., the provision of smaller plants suitable for hiding the pots of larger subjects when arranged in stands or other receptacles, should not be overlooked. Such plants as Panicum variegatum, Tradescantia zebrina, Pellionia Daveauana, Pilea muscosa, Fittonia Verschaffeltii and F. argyroneura are eminently adapted for this purpose, as they are readily propagated and quickly grown. Cuttings inserted thickly in 3-in. pots filled with light sandy soil, quickly strike root in a propagating case, and if grown on in a house having a minimum temperature of 60°, make plants fit for use in about eight weeks. It is advisable to harden off the plants slightly before using, by placing in a lower temperature, as when used for decoration they last longer in good condition. When removed from the mansion the condition of the plants is such that it is not worth while to retain them, but a fresh batch of cuttings should be put in, and the old plants consigned to the rubbish heap. Besides the plants mentioned, small plants of Isolepis gracilis and Carex brunnea variegata are very useful and may be readily increased by division. Small Ferns of such genera as Adiantum and Pteris are indispensable. No difficulty should be experienced in raising a good stock from spores.—*E. C.*

RUDBECKIA SPECIOSA.

This charming autumn-flowering perennial is decidedly one of the best for the herbaceous or mixed garden border. Its large Daisy-like flowers of golden petals surrounding a disc of rich, dark velvet make it for size and colour all that can be desired. The flower stems are wiry and long, and from their durable nature cause the flowers to last long in a cut state. As a rule flowers look best arranged with their own foliage, but I prefer the Rudbeckia flowers placed thinly amongst lanceolate foliage. Green or variegated leaves of Anthericums lend a pleasing effect placed amongst and pointing above, with common-berried Asparagus below. The effect is enhanced if Palms or Cycads are placed in proximity. Rudbeckia speciosa is positively hardy in the most exposed parts of the British Isles. It is low growing in foliage, sending up flower stems 2 ft. high, freely producing abundance of cut bloom from early in August to well into November. It does not like annual transplantation, as it flowers more freely when allowed to remain some years in a comparatively rich medium loam which should be well drained. It is easily propagated by division in early spring, or it may be obtained from seed. Where, however, stock is limited it may be lifted after flowering, and divided to single crowns, and given the protection of a cold frame during winter.—*Henry H. Gibson, The Gardens, Glencairn, Belfast.*

MISTAKES IN FRUIT CULTURE.

Mr. Geo. Bunyard, V.M.H., lectured before the Fellows of the R.H.S. in the Drill Hall, on Tuesday, November 20th, his subject being "Mistakes in Fruit Growing." In opening, Mr. Bunyard said his paper was principally intended for amateurs. Notwithstanding all the teachings, either written, oral or practical, each season brought to light fresh instances of wrong treatment. Very frequently it happens that trees are much too deeply planted. The roots cannot thrive when they are out of the influence of sunshine (warmth) and air. These are necessary if healthy action is expected. All Apples on the Paradise stock and Pears on the Quince should be planted one inch below the junction of the stock and scion. Trees on the free stock should be planted as close to the surface as possible. The line of mark shown on such plants as they come from the nursery will be a sufficient guide. All trees sink a little after being planted. It is thus advisable to plant orchard trees slightly higher than their ultimate level to allow for this sinking. A very little higher will do if the soil is well firmed around them when planting. Wall trees should not be wholly fastened or nailed-up till the springtime.

All fruit trees delight in a firm root hold. It is thus advisable to leave 3 ft. of firm alley or undisturbed border next the wall, when trees are nailed on it. Brick walls are great absorbents of moisture, so that watering is really far oftener needed than the average cultivator imagines. Sometimes the borders are low on one side of the wall and high on the other. Under these conditions, the low side is likely to be moist, while the higher side is dry. This is not conducive to healthfulness and fruitfulness.

In pruning, espaliers are sometimes pruned too early in summer simply to secure a tidy appearance. Other trees in the gardens of inexperienced amateurs appear as though they had been "stubbed" hard in with a pair of shears. To remedy trees so treated, the boughs should be thinned out, and the shoots may be allowed to grow for a couple of years; the pruning merely taking the form of regulating.

Mr. Bunyard advised that cordons after planting should be trained up straight till they reach the top of the wall. They might then be root pruned and trained out obliquely. When trees are root pruned, especially if they have not dropped their foliage (September, October), they should be syringed overhead twice or thrice during the day. They may even require a light shading.

A word was devoted to the subject of thinning fruits. The folly of not thinning has been demonstrated in many instances this year. The gathering and means for preserving the trees from insect attacks were discussed. Cleanliness all around the trees was one of the first means to prevent aphides from appearing. The refuse heap of the garden should be as widely removed from the orchard or

fruit ground as possible. Burn all rubbish and apply the residue to the roots of fruit trees as a fertiliser. Fruits should not be gathered unless they are ready to sever without force. For dessert Apples, Mr. Bunyard advised that clean straw be strewn beneath the trees so that the fruits might fall when ready.

Attention was directed to the nourishing of trees in orchards. The practice of feeding fat sheep in such places was commended. Old labels should be replaced before they become obliterated, or before their fastenings cut into the bough upon which they are. In conclusion, trees should be bought only from the best nurseries and a good price is cheapest in the long run.

ORCHID NOTES & GLEANINGS.

By the Editor.

A yellow Oncidium macranthum.—A distinct and beautiful variety of this species finds its way to us through Mr. Geo. Russell, from Mr. Robert Hetherington, Westmount, Newmilns, Ayrshire. The usual brown colour, with which the sepals should be shaded, has almost disappeared, leaving them of a golden yellow, with the faintest suspicion of brown, and a faint green tint in the veins. The petals are nearly orbicular, with a cordate base, beautifully crisped at the margins, and of a clear lemon-yellow colour. The lip is also much more yellow than is usually the case. The basal lobes are pale violet-purple, and the two short horns near them are brownish, but all the rest of the lip and the bold six-horned crest are yellow. In the ordinary form, a large portion of the lip is white, and bordered with violet-purple. Mr. Hetherington may well be proud of this variety of a species not very much given to variation.

Odontoglossum crispum Grievei.—About a dozen years ago, Mr. Geo. Russell, gardener to J. B. Mirrlees, Esq., Redlands, Glasgow, bought a plant of O. crispum from Mr. James Grieve, of Edinburgh, and it turned out to be a beautifully spotted one. Mr. Russell and others were so pleased with it that he named it as above by way of a souvenir. There are six to eight circular, brownish-purple spots on the centre of each sepal, the colour being so rich that it is almost as conspicuous on the back of the sepals as the front. The petals are pure white, and so is the lip, with the exception of the yellow disc and the markings on the crest. A long arching spike of the variety is very pretty.

PLANTS AND THEIR FOOD.

The interesting extract from *Knowledge* in The Gardening World, November 24th, on "Plants and their Food," shows a condition of plant life that the purely practical horticulturist is never able to discover for himself. That the majority of plants took in their food by root hairs, although common knowledge now to practical horticulturists, it is but recently that they did know, and but for scientific research it is hardly possible they ever would have known anything about these slender, short-lived hairs.

We are again favoured as practical men by the information that some species of fungus take the place of root hairs in some plants that are devoid of root hairs—"the fungus establishes itself in the external cells of the root, whence it sends out into the soil free filaments which serve the purpose of root hairs."

The benefits from a union of this kind will be mutual. The fungus receives organic food which (for want of chlorophyll) it could not obtain for itself; and the higher plant receiving plant food which it could not take up for the want of root hairs.

The question of "fungus root" is not sufficiently explained yet to be of practical benefit to horticulturists. In fact it is safe to assume that the scientific knowledge of plant life is not complete enough to enable us to build up a knowledge from science alone, sufficient to produce results equal to the highest practical results we see at our horticultural exhibitions. Yet to scientific research we, as practical men, are greatly indebted for the elucidation of many questions that would remain unsolved. —*W.K.*

HARDY FRUIT GARDEN.

Soils and Planting.—So long as the present open weather continues a great deal of planting can be performed on light soils, at least. Where heavier ground exists the recent rains will have retarded operations. The land required a good deal of soaking, however, and does not take long to become workable. In very light soils it is generally advisable to incorporate about as much fresh loamy soil as half the quantity that is taken out when making the holes. The half that is added stands in lieu of one-half of the light soil which may be taken away, or simply spread about. I have even seen soils so gravelly and light that the bottom of the holes excavated for the trees had to be puddled with adhesive clay, and not a spadeful of the old soil (the gravel and sand) was put back when filling up during the planting. New soil was entirely employed. Puddling the bottom in this manner may seem an outrage on all laws of drainage and planting, but it must be remembered that such holes were over 3 ft. deep, and as wide, while all around was the gravelly soil which would take off any amount of water. If the bottom of the holes in such soils was not puddled to form a "pan," all the goodness of the fresh soil and that of the top-dressings would pass right away down, and be lost. As a rule, Apples do well on light soils, especially when they are mulched. They are not liable to make luxuriant wood growth, but what they do make is firm and fruitful. If I had my choice I should always prefer a moderately light to a moderately heavy soil.

While touching the question of soils the practice of liming them comes up. Certainly heavy soils are benefited by and fitted to receive far greater quantities than light soils. We do not fully appreciate the value of lime, or far greater quantities would be applied. Many a broad acre in Old England could be made most productive by deeper tillage and by adding a few dressings of quicklime. There is a theory afloat (and is cleverly argued, too) that lime makes heavy soils lighter, and light soils heavier; that is, more porous in the one case and firmer in the other. The argument is that each of the particles of lime glue together a quantity of the excessively fine grains of sand which compose clay and heavy loams, and so act in making these grains of larger dimensions and, of course, leaving greater interstices between them. On the other hand, the too porous character of the sandy soil is remedied by the solidifying power of the lime, which also, in this case, binds the sand grains and lessens the spaces between them. Both lines of reasoning seem good, though in the latter case the effects are less convincing. Stone fruits receive more lime than that for other kinds of fruit trees. Avoid doing damage to the roots either by exposing them or by coarse treatment. To plant when the ground is very damp is bad practice. The soil is sure to shrink when it dries, and will settle considerably. There is the liability also to tread damp soil too firmly, to the detriment of the roots. Moderate treading is at all times safest. Young trees in the orchard should at once be fastened, but must again be refastened in the spring.

Raspberries, Plums, Apples, Pears, Cherries, Gooseberries, and Currants, may all be planted now. —*J. H. D.*

The Orchid Growers' Calendar.

Bolleas.—Now that the rank and file of the more popular kinds of Orchids such as Odontoglossum crispum and Cattleya labiata, are at a discount, it would be profitable to the collector, and the grower for sale to turn their attention to the culture of some of the more quaint kinds which, when brought before the public, in flower very rarely fail to fetch good prices.

At present there seems to be a craze for kinds that produce many flowered scapes of the most striking colours to the exclusion of the more modest but quietly beautiful species of which Bolleas are one. True, there are not many species, and, in consequence, the chances of anything new turning up are not so great; yet we think they should be included in every collection of average pretentions.

Their culture—which, of course, most concerns your readers—is somewat easy if you have a nice warm division in which to place them. Pots and pans are suitable receptacles in which to grow them, providing they are elevated well above the rim, so that the spikes, which are in some varieties pendulous, may have a chance to develop without interference. They enjoy plenty of moisture at the roots, therefore the compost, which should consist of peat and moss in about equal parts, should not be pressed too tightly about the roots, or the water would not pass freely away.

Shade is essential or the foliage will suffer, as will all plants of a similar construction if exposed to the sun's rays. B. coelestis is, perhaps, the more generally known and grown, but the one we prefer is B. lawrenceana, a lovely delicately coloured species. B. Lalindei and B. Patinii resemble each other very much, the lip in Lalindei being of a deeper yellow, otherwise they are identical.

Pescatoreas.—These are much like the Bolleas in the manner of growth, and the treatment differs but very little, as, having no pseudo-bulb to speak of, they must not be allowed to get too dry at any season of the year. The flowers are very quaint-looking, besides being sweet scented. Some prefer to grow them on blocks where they do well for a time, but to keep them in good health year in and year out pots and pans are the best. The shift from the old block to the new is not so easily done without injury to the roots, as it is to repot or repan as the case may be.

There are a dozen or more species and varieties that will give pleasure to the grower who bestows ordinary care on them. P. Klabochorum, P. bella, P. dayana and varieties, P. backhousiana, P. cerina, and P. Wallisii are amongst some of the best. The coolest and shadiest end of the warm division suits them admirably.—*S. C.*

Gleanings from the World of Science.

The undermentioned subjects were discussed at a meeting of the Scientific Committee of the Royal Horticultural Society on the 20th ult.:—

Oak leaves.—Rev. W. Wilks showed additional specimens illustrating the great diversity in the lobing of the leaves. One specimen was pectinate, like the frond of a Blechnum.

Dimorphic Orchid.—Mr. Harry J. Veitch showed a spike bearing flowers like those of Odontoglossum crispum above and blooms of O. wilckeanum beneath. The specimen came from Mrs. Briggs-Bury, Bank House, Accrington. The inference is that the two-fold character is due to the dissociation of hybrid characters. The plant was referred by Mr. Rolfe to Odontoglossum Denisonae.

Diseased Peas from Broughty Ferry.—Dr. William Smith reported that "the specimens sent were attacked by the Pea-mildew, which showed as a white mould on all parts; later, after the material dried up, numerous black winter fruits of the Erysipheae group of fungi confirmed the earlier observations. The species is probably Erysiphe Martii, Lev., although an almost similar species is also said to attack Peas. In the summer of 1899, I found the same disease, accompanied by the same fungus, on garden Peas in the Lothians, near Edinburgh. Flowers of sulphur, thoroughly dusted on with a sulphur puff or bellows, would check it. Spraying with Bordeaux mixture will be more effective, but the low value of the crop raises the question whether it would pay to spray the plants several times each season." It was stated that in some districts the cultivation of late varieties was given up owing to the excessive prevalence of mildew.

Fruits of Pyrus japonica.—Mr. Divers brought from the Duke of Rutland's gardens, at Belvoir, fruits of this species. Mr. Hudson remarked that they made very good jelly. Dr. Masters said that the fruits of P. Maulei were even better for that purpose.

Pea with a double plumule.—Mr. Cuthbertson sent a germinating Pea in which there were two cotyledons, and a radicle as usual, but the plumule, instead of being single, was double. Whether that doubling arose from the formation of two distinct plumules or from the branching of one, was not obvious. Dr. Masters showed a drawing illustrative of the peculiarity, upon which he made some comments.

HINTS FOR AMATEURS.

Roses.—Plant Roses! you will never regret planting Roses. "The extraordinary beauty of the autumnal Rose crop this year," as a lady recently remarked, was enough to cause one to lay out the whole garden as a rosery pure and simple. Really the wealth of Roses to be had until quite lately was most surprising. We have our hybrid perpetuals, but against the Teas and hybrid Teas they are nowhere in keeping up a display. It has been fully demonstrated too, that the latter are quite hardy enough for all ordinarily situated gardens. They do as well in Scotland, along its east coast, too, which is much the colder part, as they do away in the south here. By all means choose the best ground and the most sheltered spot you can. The plants will be all the happier for it, but plant them—that's the injunction.

As a rule I abjure poetry, unless it is very simple and beautiful. The following words by Louise Chandler Moulton have both these recommendations:—

"Roses that briefly live,
Joy is your dower;—
Blest be the Fates that give
One perfect hour:—

"And, though, too soon you die,
In your dust glows
Something the passer-by
Knows was a Rose."

These lines are pretty but though more or less true of the Rose flowers in a cut state—I refer to the ephemeral nature of them—we cannot accept the description as fitting Roses in growth. Rather would we sing "Roses, Roses, it is Roses all the way;" they can be had so long in bloom.

I have said enough about how to plant and how one might arrange the Rose dell, or bed, or border. The following favourite varieties of Teas and hybrid Teas are best when planted in little beds so as to afford a decent sized patch of one variety at a time. The true ornamental value of the Rose is also brought out by planting in masses. Where accommodation is very restricted a mixed collection in borders and beds should be chosen. Here are those I think will find acceptance at the hands of all: Mdme. Hoste, Medea, Bridesmaid, Papa Gontier, Souv. de Catherine Guillot, Perle d'Or, Marquis of Salisbury, Gustave Regis, Mdme. Guinoissean, L'Ideal, W. A. Richardson, Francisca Kruger, The Bride, Muriel Grahame, Marie Van Houtte, Maman Cochet, Ma Capucine, Isabella Sprunt, G. Nabonnand, La France, Kaiserin Augusta Victoria, and Vicountess Folkestone. Many others might be named but any one wishing to form a nice little collection to start with, will find these all choice sorts. If he is in doubt about any variety succeeding in his special district let him consult the nearest reliable nurseryman or gardener. Unless those who are consulted are of wide experience and have tried a number of varieties and have formed an estimate on their needs and hardiness, the advice is of little avail. There are many plants thought to be too tender out of doors in various parts of the land, but it will very frequently be found that under experienced management and careful treatment they can be made to do fairly well.

Grape Culture.—Many amateur gardeners would like to try the growing of Vines. I have seen capital crops from canes grown in small span-roofed houses. Having a house at disposal, any person who has a fair amount of leisure and who can leave the ventilating arrangements in capable hands when occasion requires it, should have no hesitation to planting a few good canes. Plants, or at least, some plants, notably Ferns, can be grown with tolerable success in a vinery. The vinery can be used at this season of the year for the Chrysanthemums, and when these are past and cut down, the spring seeds, cuttings, &c., will find the vinery the most suitable place for growth. Canes can be bought for 7s. 6d. each. Choose Black Hamburgh, Buckland Sweet Water, Lady Downes, Royal Muscadine, Frontignan for flavour. Any of these ought to succeed. They are tried and favourite sorts, the first and two last named being particularly commendable for all ordinary purposes, or greenhouse treatment. Then about the border. To start with this need not be very large. Four feet wide and 2 ft. deep will be quite sufficient.

Select a yellow, fibrous loam. Chop up the turves (which should lie in stack for about six months); and to five barrow loads of this add one barrow load of fairly rough old mortar, broken up pieces of brick (crushed bricks), with a good dash of charcoal, wood ashes and some spent Mushroom bed dung. Mix this well together. The bottom of the Vine border should be drained. Two pipes taken to the outside will be sufficient. Above them place rough stones, broken bricks, crocks, &c., for more perfect drainage. Then over this undermost stratum, lay newly cut turves, grass side downward. Fill in some soil and plant the Vines from 9 ins. to 1 ft. deep, making them firm. Finish off the surface and keep the house aired. After a week, water the border. This is practically all you will have to do. It only requires to be masterly taken in hand, when the difficulties pass away. The gardening papers usually contain sufficient advice come the season, about how to pinch and deal with the shoots, &c.

Planting Shrubs.—Notes on the finer classes or species of shrubs are always of interest to those who love their outdoor gardens, whether the notes appear at the flowering season or now, when the shrubs are being planted. In order to induce planters to select a wider representation of the fine trees and shrubs with which all the best nurseries are stocked, I wish to name a number of them. Even the private gardener or he who has much of such work, might do worse than consider the addition of a few lesser known, but highly desirable subjects in this section.

It is to be regretted that a considerable number of the most graceful and decorative of the shrubs are not robust enough to succeed north of the Thames. Nearly all of them, of course, do admirably southward from the Bristol Avon, and along the south coast, but while they may grow seemingly well about London and up through the Midlands, it is only once in a while, when exceptionally favourable seasons happen, that their owners ever enjoy a sight of their blossoms. I refer to the Ceanothus tribe, to Fremontia californica, Eriobotrya japonica, some of the Magnolias, the Pomegranate, Berberidopsis corallina, and such other shrubs. The gardeners who are not favourably situated for the successful culture of such subjects as those just named might use their persuasion when new houses are being erected to have a Temperate House included. By a careful system of planning such a house could do turn for a greenhouse and Chrysanthemum house, and at all times of the year it could be most attractive.

Our present purpose, however, is to select some hardy ornamental shrubs.

Forsythias.—To begin with an especially valuable genus, the Forsythias. come quickly to mind. This is a happy fact, too, for they are among the earliest of the hardy shrubs to flower. Their long, moderately slender brown shoots are "strong" from base to top with pendant yellow flowers, and any sunny bank, or even a spot on the rockery will suit them well. So much was written in reference to them in THE GARDENING WORLD last spring that I need not entail further space here. Only one word more, to say that the small villa garden is as suitable for the Forsythias as a great one. In public parks and larger gardens they may be planted in large masses, and with blue Squills below them the contrast produced is charming.—*Beacon.*

(To be continued.)

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Lasiandra.—*L. S.*: Come up with the times "L. S.," and name your plant Tibouchinia macrantha! Happily this splendid greenhouse climber is well-known all over the country, but a great mistake is often made in having a number of ill-grown, undeveloped plants instead of one or two full-spread specimens. Vigorous and well tended plants will bloom freely and will always be a pleasure. The plant under notice can be propagated from cuttings of the young wood taken in spring and rooted in the same way as a Pelargonium or Fuchsia. The plant enjoys a temperature averaging 50° to 60°. The roots should be confined, but regular supplies of liquid manure are desirable.

Top-dressing a lawn.—*A. G.*: The present is altogether a wrong time of year to think about enriching your lawn. Leave the work till March. Toogood recommends as a suitable fertiliser the following, which should be mixed: 56 lb. pure dissolved bones; 27 lb. sulphate of ammonia; 18 lb. kainit; 5 lb. commercial sulphate of iron; and 6 lb. gypsum. This may be applied at the rate of 2 oz. per square yard in spring. Or it may be given in the evening in the form of liquid manure, by dissolving 1 lb. of the mixture in ten gallons of water. If this artificial fertiliser is too inconvenient, we advise you to scatter very rich, and very fine soil over the surface. Bone meal, sifted loam, wood ashes, finely sifted dried natural dung, all mixed and applied in the form of a light dressing, will have a wonderful recuperative effect on the lawn. Soot dusted over on showery mornings is also a valuable enricher. At this season, keep the lawn well brushed, so as to disperse the rich worm casts. Occasionally too, you might take a roller over the surface, to consolidate the bottom. A good lawn is a grand feature of any garden, and no pains should be spared to keep the lawn right.

Fruit Trees Stunted.—*Ranger*: Evidently your Pear and Apple trees have been much neglected, both in pruning and feeding. From your remarks we conclude that the trees have been excessively spur-pruned. To remedy this you will have to judicially thin out the boughs, and the old spurs. If you are not experienced in pruning leave the spurs alone, and when the young shoots develop, chose and leave only the stoutest and best placed ones. Do little pruning for two seasons, the idea being to furnish the trees with a sufficiency of fresh, young wood. Another year look to the state of the roots; meanwhile top-dress them with manure, soot, wood-ashes and dustings with fertilisers.

Small Ferns to be Potted.—*Nina*: We think that if you can find space to keep the Pteris Fern plants through the winter it would be decidedly better than potting a number of them into a large pan. As you have no warm house it would be a check to the plants in their present condition. If you must pot, be sure you crock the pan very well, make up a light compost and keep the Fernlets well up to the surface. In the after treatment, do not be lavish in watering them, and place them in the lightest and cosiest part of the house.

Laying a Stone Edging.—*Ned Roy*: The Box-plants may be lifted and placed closely together, in trenches half a foot deep, making them firm by treading. They may be placed where they will not be disturbed. Then in place of the Box edging we think the flat stones you refer to can be admirably adopted. Make the ground firm and stake out the line of the edge. A garden line should then be stretched from pin to pin, and a notch cut by means of a spade, straight down in front of the line. A depth of 5 in. or 6 in. should be cut out. Then trim the flat-sided stones to something approaching evenness. Place them end to end, closely, level at the top, straight up, and having looked to these points fill in a few stones on either side, after which make the base firm and cover in the soil. Such edgings are best for kitchen gardens.

Strawberry Forcing.—*K. T.*: The Strawberries in pots will not grow much at this time. They are, however, still making roots. The pots should be fairly well filled, and with plenty of roots and a good crown, your plants will be quite up to the standard. Early forcing commences at the beginning of January, usually in Peach houses that have been started by then. In your case place them on a shelf within 1½ ft. from the glass; allow a temperature of 60° at first. This may be increased up to 75° after a week or two. Dew the plants over, and feed with weak liquid manure, twice a week. Maintain a drier atmosphere at the flowering period. Thin the fruits to ten per plant. In the meantime protect them from too much rain or likely frosts.

Apples Still Hanging.—*A. L.*: Your adviser was in error; you were right. Sturmer Pippin and some others ripen late. The fruits sometimes hang even after the leaves have fallen, but so long as they will not readily come off the tree leave them alone. Ten

degrees of frost will not depreciate their worth. A thoroughly ripened late Apple will keep for months.

Selection of Lilacs.—*Arthur Biggs*: The following are the best in our experience:—Marie Lagray, single white; La Tour d'Auvergne, semi-double, lilac-mauve; Souvenir de Louis Spath, heavy inflorescences of deep mauve flowers; Mdme. Lemoine, double white; Pres. Grevy, semi-donble, pale lilac-mauve; and the old Syringa persica itself. These are all splendid sorts and can be got from the leading nurseryman. Plant at the present time in a free, warm soil. Prune just after flowering, by thinning out weak, and shortening strong shoots.

Roses for Pillars, Archways, &c.—*A. D.*: Turner's Crimson Rambler, Paul's Carmine Pillar, Polyantha grandiflora, Polyantha Simplex, Psyche, White Pet, Allister Stella Gray, Thalia, Manda's Triumph, Belle Lyonnaise, Aimée Vibert, Flora, Felicité-Pérpetué, Dundee Rambler, The Garland and Gloire de Dijon. A good few others might be added, but these are amongst the very best. The prices vary from one shilling to half a crown each. Plant in rich, good soil.

Coal Dust.—*A.*: Coal dust is a splendid addition to most soils, especially those inclining to be heavy.

COELOGYNE DAYANA GRANDIS.

The accompanying illustration of this grand variety was prepared from a photograph sent us by Mr. John Proctor, gardener to Sir William Henderson, Devanha House, Aberdeen. When photographed, the specimen carried twelve of its long and gracefully suspended racemes, bearing in the aggregate 287 blooms, or an average of almost twenty-four to each raceme. Two of the finest racemes carried thirty-one blooms each, and Mr. Proctor would like to know, through the medium of The Gardening World, what is the greatest number of blooms on a raceme that has been produced by this variety. The plant was bought at a sale in Edinburgh, quite a small piece, just imported, about six years ago. We may add that Mr. Proctor grows a good many Orchids of different kinds, Cattleyas, Dendrobiums, and Laellas being favourites. Another photograph accompanying that reproduced showed grandly grown and flowered specimens of Oncidium sphacelatum and Dendrobium thyrsiflorum walkerianum, for which he received the first prize, and was highly commended at the annual show of the Royal Horticultural Society of Aberdeen in August last.

NOTES FROM NEWQUAY.

(*Concluded from p.* 154.)

Having touched on some of the more prominent plants on the sea coast and cliffs about Newquay, I propose to ramble away from the coast through this "fabled land of giants," note a few of the more interesting things, and then to bring these desultory papers to a close.

The subject of Cornish botany, however, could be made most fascinating in competent hands, for there are, perhaps, few parts of England where the local flora is more interesting or of greater extent as regards the number of rare species within its limits. Cornwall is not mountainous, hence no Alpine plants are to be found, but it is extremely hilly and undulating, so much so that a coach ride across the country involves nearly as much *walking* as riding. Where, then, there are hills there must be vales, and where much humidity there will be found trickling streams, turfy bogs, and salt marshes. And so the open and exposed character of the country, joined to its mild climate, its rock-bound coasts, its varied elevation, its maritime position, and other features, must necessarily exert a considerable influence on the character of its flora. Thus there are several British plants peculiar to Cornwall. But it is said that there is a great similiarity between the flora of West Cornwall and that of Ireland. This points to a time when a great continent stretched across the Atlantic, say, from Spain to Ireland. But enough of preface.

One of the interesting British plants referred to I picked up near Newquay in a moist situation, and sheltered from the strong south-westers. This is the Balm-leaved Figwort (Scrophularia Scorodonia) found only in the extreme south-west of England and south of Ireland, according to a local authority. That being so, and having a great respect for rare plants, I merely resorted to the expedient of a "twig" or two of its downy, wrinkled leaves, as a souvenir of a pleasant ramble, and as a memento of a visit to a land where—

"Nature's woods are mixed and many."

Overlooking the spot where this plant was found, and on the breezy heights, the fragile flowers of the narrow-leaved Flax (Linum angustifolium) were quivering in the sun. The elegant, soft blue, silk-like petals of this delicate looking flower are so fugacious that it is a lesson in fragility to watch how soon these tender floral appendages dissociate themselves from the grosser parts of the flower. A little further inland, on an elevated ridge, the great purple flowers of the Orpine or Live-Long (Sedum Telephium) were easily distinguishable. Locally, this plant is known as "Cock's Comb," a not inappropriate designation in certain stages of the flower. This is the largest and showiest of the British Stonecrops, and is, therefore, well worth a position in the garden where size is a desideratum.

Cochlearia anglica, or the English Scurvy Grass, is a crucifer that delights in sea air; Verbena officinalis or the Common Vervain, affects waste ground, but as a Verbena no gardener would give it room. Rosa spinosissima is a different plant, and would naturally recommend itself to an all-round Rosarian; Reseda Luteola, or the Yellow-weed, is a poor relation of the garden Mignonette; Lycopsis arvensis, the small Bugloss, is a rough looking but interesting plant on account of the curve in the tube of its bright blue flowers; Anchusa sempervirens, the evergreen Alkanet, is another blue-flowered member of the Borage tribe, which, although not considered to be a native, takes on native, airs; Lysimachia vulgaris, the Great Yellow Loosestrife, is a "Primrose" of a robust character; Melampyrum sylvaticum, one of the Cow Wheats, implies *woods*, which are not common on the west coast of this county; Bidens cernua, the Bur-Marigold, nods its drooping, button-like, brownish-yellow heads of florets and leafy bracts; Saponaria officinalis, the large and showy Soapwort, is a plant of handsome proportions, with flesh-coloured flowers, and if not "after the manner born," is, nevertheless, a wilding in these parts. It is well worth notice and cultivation. Dozens of other wild plants are admissible here, but space prohibits mention. Still, there are a few of sterling merit which will not be gainsaid. Such, for instance, is the Cornish Moneywort (Sibthorpla europaea), which elsewhere in England is a rare species. It is a charming little trailing plant of the first water hence I was delighted to come across it in its native wilds. It is always associated with water—it trails over the mossy stones of the purling brook, or depends in graceful, thread-like, tangled masses from the banks of the rocky rivulets. Its leaves are small, round, and silver-penny-like, and of a delicate green colour, while its flowers are very minute, and of a pale flesh tint. In a word it is a little gem, and Dr. Sibthorp's connection with the plant is one of which any botanist might be proud. Another interesting plant, and one which occupies similar positions to the Moneywort, is Campanula hederacea, the pretty little Ivy-leaved Bell-flower; in fact, in looking for one the other is sure to be found, at least in the Luxulyan Valley, where, although the waters are discoloured from the China clay washings, it does not seem to affect the luxuriance of the vegetation. In some parts, however, the streams are so white and

Coelogyne dayana grandis.

the valley so rich in sub-aquatic plants that it may fairly be said to be a land flowing with milk and water.

The leaves of this exquisite little Bell-flower are even more delicate in texture than those of the Moneywort, while the pale blue blossoms are produced on such slender, hair-like peduncles, that the softest zephyr must affect their tiny tinklings.

The Campanula is well known in gardens, but this is the only wild one which is represented in the flora of western Cornwall.

Anagallis tenella, the Bog Pimpernel, and Hydrocotyle vulgaris, the Marsh Pennywort, delight to live in association with their less common brethren, if four plants of distinct and widely separated genera can be so associated. Anyhow, they grow together in perfect harmony, so to speak; occupy the same sites; dip into the same soils; drink of the same dews; and otherwise regale themselves of Nature's sweets.

In this district I alighted, after much observation, on Osmunda regalis, the magnificent "Flowering" Fern; which, though conspicuous enough when seen in all its regality, is nevertheless becoming almost as rare in a state of nature as the British Maidenhair.

Still, it came to me; for I had a presentiment that I was in the Royal presence, and so, after much bog beating without success, I mounted a rocky projection and scanned the immediate neighbourhood. Something in the near distance impelled me forward. Good; it was a clump of the regal Osmunda! but so surrounded by Bracken as to be invisible except from the elevation aforesaid.

Of other Ferns I noted about twelve species, among them being Lastrea montana and L. aemula, the lemon and hay-secented Ferns respectively. Asplenium adiantum nigrum was everywhere in rocky walls and stony places, while the Hart's-tongue (Scolopendrium vulgare) exhibited greater variation and more vigour than I have seen it anywhere. It is no exaggeration to say that every third one varied, but as the variations were all in the same direction and of a lobate or undulate character, Mr. Chas. T. Druery would not value them very highly. Anyhow, I came across one which I deemed worthy of removal. It occupied a position in a hedge over a rapid little stream, and it measured 40 in. from tip to toe, 4½ in. across the frond, and possessed a crest or lobate head 10 in. in diameter! The Hart's-tongue abounds in Cornwall, so does the common Polypody (Polypodium vulgare), the former lines the banks and fills the hedges with its long strap or tongue-shaped fronds, which show much abnormality, and to which the natives apply the opprobrious term of "Dock" Fern, while the latter often caps the rough hedge banks to the exclusion of other plants. This Fern is known locally as the "Ladder" Fern, a not inappropriate appellation, and far and away more descriptive than the other term.

My notes are by no means exhausted, but I fear my readers are, and as I propose to return on the morrow to "my native heath," I must leave all reference to the Cornish varieties till time and space permit.—*C. B. G.*

BEGONIA LAFAYETTE.

This beautiful bedding variety of tuberous Begonia is honoured by a coloured plate in the issue of *Revue de L'Horticulture Belge*, for September 1st. From the letterpress accompanying it we learn that Messrs. V. Lemoine & Sons, of Nancy, put it into commerce in 1889. It is one of the best which this indefatigable firm has obtained. The origin of this charming Begonia is, however, difficult to trace. But the Messrs. Lemoine assure us that B. Daviesii largely predominates. B. Daviesii has given rise to a number of good French varieties. The medium-sized, double flowers are of a deep glowing crimson-scarlet, and are well held above the foliage on stout stems, which is a characteristic contrary to many other tuberous Begonias, especially when they have double flowers. The bronze-green foliage admirably sets off the glowing colours of the blooms. When planted in masses it has a marvellous effect, and at the Paris Exhibition this year the beds of this Begonia attracted universal attention.

The Manetti is a vigorous variety of hybrid China Rose introduced fifty years ago from Italy by Mr. Rivers.

PLANTS RECENTLY CERTIFICATED.

The Royal Horticultural Society made the undermentioned awards on the 20th ult.:—

Orchid Committee.

Cypripedium Priam.—The parents of this hybrid were C. Niobe (seed bearer) and C. insigne Chantini. The dorsal sepal is orbicular, white, mottled with purple and green at the base. The petals are oblong, undulated at the upper edge, and dull brownish-purple, while the lip is dark purple-brown and shining. Three species are concerned in the hybrid, which is very handsome. (First-class Certificate.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

Cattleya H. S. Leon.—The dark crimson-red lip of this hybrid is its most striking feature. The petals are pale, as might have been expected of the parentage, C. Schroderae eximia × C. gigas sanderiana. (First-class Certificate.) H. S. Leon, Esq. (gardener, Mr. A. R. Hislop), Bletchley Park, Bucks.

Laeliocattleya gottoiana Mrs. Douglas.—The original Laeliocattleya gottoiana was described as a natural hybrid when it appeared in 1891 as an introduction from Bahia. This has now been confirmed by an artificial hybrid raised by Mr. James Douglas, Edenside, Great Bookham, Surrey, who raised the above-named variety from the original Cattleya Warneri × Laelia tenebrosa. The original C. Warneri received a First-class Certificate from the R.H.S. when shown by Sigismund Rucker, Esq., on June 19th, 1866. This plant was bought by Mr. Douglas, in whose possession it has been ever since, and shows the longevity of Cattleyas. Lc. gottoiana Mrs. Douglas has pale yellow sepals, tinted with pink at the tips and edges. The petals are shaded with pink on a creamy ground, and are darkest at the apex. The lip is veined and shaded with deep crimson, and is rosy at the edges. Award of Merit.

Laeliocattleya Mrs. Birkbeck.—The parentage of this bigeneric hybrid was Laeliocattleya callistoglossa (itself a bigeneric hybrid) × Laelia purpurata. The sepals and petals are pink, the latter being folded along the middle. The lip has a white tube with a crimson band along the middle, while the lamina and side lobes are intense crimson-purple. (Award of Merit.) Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

Cypripedium Cobbiae.—This secondary hybrid is notable for its massive flower and dwarf habit. The parentage was C. Mrs. Charles Canham × J. Howes. The dorsal sepal is pale green, lightly veined with purple towards the sides, and white at the edges. The obovate petals are brownish-purple, and the shining lip shaded deep brown on a yellow ground. (Award of Merit.) Walter Cobb, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells.

Angraecum distichum.—The fleshy, compressed leaves of this curious species are arranged in two dense rows, in the axils of which the white flowers are borne singly, but many on a stem. (Botanical Certificate.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking.

Pleurothallis stenopetala.—The pale yellow flowers of this species are borne in clusters at the base of the cordate-oblong, solitary leaf. (Botanical Certificate. Sir Trevor Lawrence, Bart.

Coelogyne fimbriata.—The sepals and petals of this pretty, miniature species are pale yellow, and the lip deep brown on the centre. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

Coryanthes mastersiana, Lehman.—The strangely formed flowers of this species are small and buff-yellow, spotted crimson in the interior of the cavity of the lip. A spoon-shaped process at the base of the latter is coppery-brown. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

Maxillaria mooreana.—The flowers of this species are also small compared with those of its relatives and white. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

Floral Committee.

Tacsonia militaris.—The leaves of this Tacsonia are deeply three-lobed, downy and glaucous on the under surface. The flowers are crimson-scarlet, with a violet-black corona of short filaments at the mouth of the calyx tube. We were informed that it was a natural hybrid between T. Van-Volxemii and T. ignea from the Transvaal. It was described in *The Gardeners' Chronicle* last December by Dr. Masters, who admitted that he could see evidence of T. insignis in the hybrid, but doubted the influence of T. Van-Volxemii. In some respects it suggested that T. manicata (ignea) was the other parent. In any case it is a very handsome greenhouse climber, flowering naturally from November to May. This being the case, it should be grown in a conservatory or greenhouse kept gay with flowering plants all the winter, in a temperature suitable for such.

Chrysanthemum Major Plumbe (Japanese).—The blooms of this variety are of great depth, but moderately wide, owing to the way that the clear shining yellow florets are incurved at the tips and interlaced with one another, giving the whole bloom a curly appearance. There is much material in the bloom. (Award of Merit.) Messrs. W. and R. Owen, Floral Nursery, Castle Hill, Maidenhead.

Chrysanthemum Mrs. J. Bryant (Japanese).—The blooms of this bold variety are of large size and rich amaranth-rose. (Award of Merit.) Mr. Henry Perkins, gardener to W. F. D. Smith, Esq., Greenlands, Henley-on-Thames.

Chrysanthemum Miss Jessie Cottee (Japanese).—In this we have a golden-yellow sport from Etoile de Lyon. The outer florets are long and tubular, while all the others are flat, gradually shorter towards the centre, giving the bloom a very characteristic build. (Award of Merit.) Mr. M. E. Mills, Coombe House Gardens, Croydon.

Fruit and Vegetable Committee.

Cabbage Dobbie's Selected Winningstadt.—Some authorities spell the latter name "Winnigstadt." In any case the new variety which has been in the process of selection during the past six years is a much finer table Cabbage than the type. The seeds were sown on the 3rd April, and the hearts are now 5 in. to 7 in. deep, perfectly conical, solid, heavy, and beautifully white in the interior, with the crumpled leaves so closely packed as to give the firmness almost of a cricket ball. The plants are very dwarf with small glaucous leaves. (Award of Merit.) Messrs. Dobbie & Co., Rothesay, N.B.

Pear Beurre Buisson.—The fruits of this mid-season Pear are 3½ in. to 4 in. long, and vary from pyriform to oblong, the latter shape recalling Marie Louise. The yellow skin is thickly spotted with russet all over the surface. The eye is set in a shallow cavity. The flesh is white, melting, juicy, sweet and somewhat aromatic, making the variety of first-class merit. It was shown at the National Pear Conference held at Chiswick in October, 1885, by the late Mr. Ingram, of Belvoir Castle, so that it is not new; but probably its merits have hitherto been overlooked. It received a First-class Certificate on this occasion when shown by Mr. W. H. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham.

The following awards for Chrysanthemums were made by the Floral Committee of the N.C.S., at the meeting on Monday, November 19th, 1900.

Mr. Frank Hammond.—A sweet incurved variety of more than usual size, bronzy-red toward the base, with beautiful buff yellow centre. (F.C.C.) Mr. N. Molyneux, Rookesbury Park, Fareham, Hants.

Miss Roberts.—A distinct, large petalled, sulphur-yellow Jap. The build and habit of the blooms are pleasing. (A.M.) Messrs. W. and R. Owen, Castle Hill, Maidenhead.

Miss Bignall-Wilds.—A Jap. of average merit, with somewhat reflexed florets. The canary-primrose colour is very sweet. (A.M.) Mr. H. Weeks, Thrumpton Hall, Derby.

The following varieties were asked to be again sent up:—

Miss J. M. Webber.—A pleasing Jap., bright amaranth above, silvery-lilac reverse. From Mr. Weeks.

Mr. J. Cutts.—A medium sized Jap. of slightly incurving form; colour, rosy-mauve; also from Mr. Weeks.

A. R. Knight.—A Jap. of enormous size, with coarse, broad petals of a rosy-bronze colour.

Arthur King.—A pretty incurved variety, white, and faintly tinged with lilac-blush. From Messrs. W. and R. Owen.

Miss Nellie Perkins.—A large, narrow-petalled, soft rose-lilac Jap. From Mr. Perkins, Greenlands.

Viscount Sudeley.—A distinct and beautiful incurved variety, pure white in colour; also from Mr. Perkins.

SEEDLING CHRYSANTHEMUMS.

A BOX of blooms of seedling Chrysanthemums reaches us from Mr. A. McDonald, gardener to H. St. Maur, Esq., Stover Park, Newton Abbott, Devon. In addition to his duties in the garden, Mr. McDonald was made steward on the estate some time ago so that he cannot give seed raising that attention which he would like. Nevertheless he sowed seeds about the end of January last and raised fifty seedlings. These were pinched in March and the first buds taken. Most of them are very promising, and some of the blooms were sent us last week.

He had a very fine white one about 9 in. deep, and others having much material in them. Several of the yellows give indications of producing handsome blooms another year. One of these was a clear yellow, raised from Pride of Exmouth. The outer florets are drooping and of great length while the others are spreading. One raised from Mr. Hugh Crawford had shorter, broader petals, of a deep yellow and compactly arranged, though not quite full in the centre. A sister bloom from the same parent had a fuller centre and canary yellow florets. A third from the same parent was altogether of different form, having long and broad, bright yellow florets, tinted and lined with bronze, particularly in the centre of the bloom. The florets are more or less curled and incurved at the tips so that the variety may prove an incurved Japanese next year. A white variety, tinted with pink, and a bronzy-red and yellow also came from Mr. Hugh Crawford, thus demonstrating the extreme variability of modern Chrysanthemums. The bronzy-red is a very dense bloom and should attain a large size another year.

A soft lilac-purple seedling from Pride of Exmouth should make a pretty and clean looking bloom. An orange-red variety from Mrs. J. P. Bryce is rather peculiar in its way, being densely built, and appearing as if it had several centres round the sides of the bloom; but the florets are rather short to produce the size required for exhibition.

GARDENING MISCELLANY.

LASTREA GOLDIEANA.

THIS beautiful hardy Fern, whose nomenclature is so confused, was brought to this country from North America (the Great Lake region) by Mr. John Goldie, a Scottish botanist. At Kew, Lastrea goldieana is placed under the genus Nephrodium, while Americans classify it as an Aspidium. Perhaps, after the various botanists have argued the pros. and cons. for some dozen or twenty years longer a stricter system of classification may be arrived at. But we here refer to this Fern from the fact of an appreciative biographical notice, with a portrait of the discoverer, in the *Fern Bulletin* for October. Mr. John Goldie was born in the parish of Kirkoswald, Ayrshire, on the 21st of March, 1793, and lived till 1886, when he was in his 94th year. His early botanical quests (after he had equipped himself at Glasgow Botanical Gardens) were successful enough in themselves, but on three separate occasions, his notes and collections from Canada, New York and other tracts were entirely destroyed. He had a hard struggle to keep at his profession in America, but eventually succeeded in bringing home a number of flowering plants and Ferns, the best known amongst the latter being Lastrea, *alias* Nephrodium, *alias* Aspidium goldieanum. The fronds of this Fern are 2 ft. to 3 ft. long, 1 ft. or more broad, and bear long pinnae. They are also slightly toothed. This Fern used to be seen much more freqrently on hardy rockeries than is the case at the present time

MANURE FOR ROSES IN POTS OR BORDERS.

"MIX together, one part of nitrate of soda, one part kainit, two parts superphosphate and one-quarter part sulphate of iron; or one part nitrate of potash, one part guano, one part superphosphate and one-sixth of sulphate of iron. Apply to the borders 1 oz. to the square yard every fortnight; to pots 1 oz. in a gallon of water once a week, from the early stages of growth until they commence to flower. Guano is also very suitable." The above mixtures are easily made and have a quick acting effect, which is what is specially wanted where Roses are forced.

WEBB & SONS' ROOT COMPETITION.

THE awards in the above competition for the valuable prizes offered by Webb & Sons, The Queen's Seedsmen, Wordsley, Stourbridge, for root crops grown from their seed and with the aid of their special manure, have just been decided. The judges were Mr. E. Bennett, Patsbull Farm, Wolverhampton; Mr. W. Hier Evans, Radyr Court, Llandaff, Cardiff; Mr. Lewis Roach, Quatt, Bridgnorth, and the following is a copy of their awards, from which it will be seen that some heavy crops have been grown this year.

DISTRICT 1.

Five acres of Webbs' Swede, open to the Counties of Salop, Stafford, Montgomery, Warwick and Leicester. First prize, £15 15s.: Mr. F. H. Sharrod, Cherrington Manor, Newport, Salop, 35 tons 5 cwt. 2 qrs. 24 lbs. per acre; second prize, £10 10s.: Mr. W. Nunnerley, Kenwick, Ellesmere, Salop, 34 tons 7 cwt. 0 qrs. 16 lbs. per acre; third prize, £5 5s.: Mr. Edward James, Donnington Farm, Newport, Salop, 27 tons 14 cwt. 1 qr. 4 lbs. per acre.

Three acres of Webbs' Mangold. Prize, £5 5s.: Mr. J. E. Weaver, Stone Mill, Stone, Staffs., 58 tons 12 cwt. 3 qrs. 12 lbs. per acre.

DISTRICT 2.

Five acres of Webbs' Swede, open to the Counties of Hereford, Monmouth, Brecon, Glamorgan, Carmarthen and Pembroke. First prize, £15 15s.: Mr. John Davies, Hardens Down, Reynoldstone, R.S.O. Glam., 35 tons 12 cwt. 3 qrs. 12 lbs. per acre; second prize, £5 5s.: Mr. A. F. Partridge, Wharton Court, Leominster, 33 tons 5 cwt. 2 qrs. 24 lbs. per acre.

Three acres of Webbs' Mangold. Prize, £5 5s.: Mr. Philip Price, Howick Farm, Chepstow, 63 tons 10 cwt. per acre.

DISTRICT 3.

Five acres of Webbs' Swede, open to the Counties of Oxon, Berks, Bucks, Wilts, Hants, Surrey, Worcester and Gloucester. First prize, £15 15s.: Mr. H. W. Stilgoe, The Grounds, Adderbury, Banbury, 30 tons 8 cwt. 2 qrs. 8 lbs. per acre; second prize, £5 5s.: Mr. J. R. Butler, Churchill, Kidderminster, 30 tons 5 cwt. 2 qrs. 24 lbs. per acre.

Three acres of Webbs' Mangold, open to the Counties of Oxon, Berks, Bucks, Wilts, Hants, Surrey and Worcester. Prize, £5 5s.: T. Simpson Jay, Esq., Warren Farm, Wimbledon, 54 tons 1 cwt. 1 qr. 20 lbs. per acre.

DISTRICT 4.

Three acres of Webbs' Mangold, open to the County of Gloucester. Prize, £5 5s.: Mr. F. Rhymer, High Woolaston, Lydney, 42 tons 14 cwt. 1 qr. 4 lbs. per acre.

DISTRICT 5.

Five acres of Webbs' Swede, open to the County of York. First prize, £10 10s.: Mr. W. Scorer, Skelton, Ripon, 34 tons 8 cwt. 2 qrs. 8 lbs. per acre; second prize, £5 5s.: Mr. J. Barker, Ellerton Hill, Scorton, 33 tons 2 cwt. 3 qrs. 12 lbs. per acre.

Three acres of Webbs' Mangold. Prize, £5 5s.: Mr. W. Moore, Holtby Manor, Dunnington, York, 49 tons 10 cwt. per acre.

DISTRICT 6.

Five acres of Webbs' Swede, open to the Counties of Norfolk and Suffolk. Prize, £10 10s.: Mr. T. Kidner, Halvergate Hall, Norwich, 39 tons 4 cwt. 1 qr. 4 lbs. per acre.

Five acres of Webbs' Mangold. Prize, £5 5s.: Mr. S. Nightingale, Scratby Hall, Great Yarmouth, 39 tons 14 cwt 1 qr. 4 lbs. per acre.

DISTRICT 7.

Five acres of Webbs' Swede, open to the Counties of Bedford, Cambridge, Cornwall, Cumberland, Cheshire, Derby, Devon, Dorset, Durham, Essex, Herts, Huntingdon, Kent, Lancaster, Lincoln, Middlesex, Northumberland, Notts, Northampton, Rutland, Somerset, Sussex, Westmoreland, Cardigan, Carnarvon, Denbigh, Flint, Merioneth and Radnor. First prize, £15 15s.: Mr. S. S. Raingill, The Grange, Ringway, Altrincham, 48 tons 8 cwt. 2 qrs. 8 lbs. per acre; second prize, £5 5s.: Mr. W. Little, Oulton Hall, Wigton, Cumberland, 40 tons 11 cwt. 1 qr. 20 lbs. per acre.

DISTRICT 8.

Five acres of Webbs' Swede, open to the Counties of Roxburgh, Haddington, Berwick, Edinburgh and Linlithgow. Prize £10 10s.: Mr. John Meikle, Grougfoot, Linlithgow, 31 tons 17 cwt. 0 qr. 16 lbs. per acre.

DISTRICT 9.

Five acres of Webbs' Swede, open to the County of Perth. First prize, £10 10s.: Mr. John McLaren, Powside, Erroi, 33 tons 10 cwt. 2 qrs. 24 lbs. per acre; second prize, £5 5s.: C. A. Murray, Esq., Taymount, Stanley, 32 tons 8 cwt. 2 qrs. 8 lbs. per acre.

DISTRICT 10.

Five acres of Webbs' Swede, open to the Counties of Forfar, Fife and Kinross. Prize, £10 10s.: Mr. James Auchterlonie, Leckerstone, Dunfermline, 34 tons 0 cwt. 2 qrs. 24 lbs. per acre.

DISTRICT 11.

Five acres of Webbs' Swede, open to the Counties of Aberdeen, Banff, Kincardine, Inverness and Elgin. Prize, £10 10s.: Mr. Geo. A. MacLean, Westfield, Elgin, 33 tons 4 cwt. 1 qr. 4 lbs. per acre.

DISTRICT 12.

Five acres of Webbs' Swede, open to the Counties of Dumfries, Kirkcudbright and Wigtown. Prize, £10 10s.: Mrs. A. Craig, Cumstown Mains, Kirkcudbright, 42 tons per acre.

DISTRICT 13.

Five acres of Webbs' Swede, open to the Counties of Stirling, Dumbarton and Clackmannan. Prize, £5 5s.: Mr. Alex. Lucas, Craigton Farm, Causeway Head, Stirling, 34 tons 14 cwt. 1 qr. 4 lbs. per acre.

DISTRICT 14.

Five acres of Webbs' Swede, open to the County of Ayr. Prize, £10 10s.: Messrs. J. & W. McKerrow, Dalmilling, St. Vuivox, Ayr, 35 tons 12 cwt. 3 qrs. 12 lbs. per acre.

DISTRICT 15.

Five acres of Swedes or Turnips, open to the County of Peebles. Prize, £5 5s.: Mr. Chas. A. Gracie, Easter Happrew, Stobo, 28 tons 11 cwt. 1 qr. 20 lbs. per acre.

DISTRICT 16.

Five acres of Yellow Turnips, open to the County of Lanark. Prize, £5 5s.: Mr. George Findlater, Jerviswood Mains, Lanark, 44 tons per acre.

SOCIETIES.

ROYAL HORTICULTURAL.—*November 20th.*

BEGONIAS were the ruling features of the meeting on Tuesday, November 20th, in three of the leading groups of plants. The winter flowering race, such as Winter Cheer and Ensign, and the general favourite Gloire de Lorraine, were all remarkably well flowered. Chrysanthemums, as might have been expected, also occupied a leading place in number of varieties rather than in quantity.

Messrs. James Veitch & Sons, Ltd., Chelsea, staged an interesting group of Orchids, consisting largely of hybrids, amongst which the Laelio-cattleyas were prominent. For instance, there were Lc. labiena massiliensis, Lc. Frederick Boyle, Lc. Lady Rothschild, Lc. Decia, Lc. statteriana and others. Cattleyas included C. Portia, C. Chloris, &c. Very handsome were Cypripedium Baron Schroeder, C. Prospero, C. Artemis, C. arthurianum pulchellum, &c. (Silver Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, near Enfield, exhibited a neat and pretty group of Orchids, consisting of Cattleya labiata and Cypripediums. Very pretty were Cypripedium insigne Sanderae, C. i. Ernesti, C. i. Ballae, all practically yellow varieties of C. insigne. The hybrid C. Nandii, C. oenanthum superbum and C. Milo were also fine. (Silver Banksian Medal.)

J. P. Morgan, Esq. (gardener, Mr. J. F. McLeod), Dover House, Roehampton, occupied one side of a table extending the whole length of the available space, with a fine lot of well flowered plants of Cypripedium insigne, set up with Palms, grasses and Maidenhair Ferns. The plants were uniformly well grown and profusely flowered. (Silver Flora Medal.)

F. Knight, Esq. (gardener, Mr. E. Marston), Thundersley House, Essex, exhibited a group of well grown and flowered Cattleya labiata, many beautiful varieties of Cypripedium Charlesworthii, with self-coloured as well as veined and marbled dorsal sepals of large size. He also had several varieties of Dendrobium Phalaenopsis schroderianum. (Bronze Banksian Medal.)

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking, exhibited a varied and interesting lot of small flowered Orchids chiefly, including Coelogyne fimbriata, Angraecum distichum

and Polystachya Buchananli. A strange looking and rare species was Coryanthes mastersianum (Lehman). Several Botanical Certificates were awarded.

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, staged a showy group of Laelia pumila gigantea, Cattleya Mrs. J. W. Whiteley, C. labiata Ruby, Laeliocattleya Mrs. Birkbeck and other Orchids.

Mr. James Douglas, Edenside, Great Bookham, Surrey, exhibited Laeliocattleya gottoiana Mrs. Douglas, a very distinct variety, and Laelia Briseis.

Messrs. F. Sander & Co., St. Albans, exhibited well flowered plants of Cattleya lablata percivaliana and Cymbidium tracyanum. J. T. Gabriel, Esq. (gardener, Mr. Ranson), Palace Road, Streatham Hill, S.W., exhibited Cattleya dowiana aurea Gabriel's var. W. A. Bilney, Esq. (gardener, Mr. Whitlock), Fir Grange, Weybridge, staged Laeliocattleya intermedio-flava. Oncidium Mantinii crawshayanum was shown by de B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks. Walter Cobb, Esq. (gardener, Mr. Howes), Dulcote, Tunbridge Wells, exhibited Cypripedium Cobbiae. Messrs. J. Veitch & Sons, Ltd., exhibited Cypripedium Priam, Oncidium Mantinli superbum and other new varieties and hybrids. Mrs. Haywood (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, exhibited the hybrid Cypripedium bingleyense (C. insigne × C. Charlesworthii).

Mr. C. J. Wakefield, 58, Hindon Street, S.W., showed a new patent of his which he calls the "Floral Aid." This is a simple device for the easy and expeditious arrangement of cut flowers, grasses and the like. It is adaptable for Rose bowls, jardiniers, open silver ware, &c. These "Floral Aids" are made of wire formed in loops through which the flowers pass. The patent is interesting and may well be enquired more fully into by those who have much floral work to do.

From The Royal Gardens, Kew, came a branch of Brownea Crawfordii (macrophylla × grandiceps). This is a tropical tree with large Sumach like leaves, and huge orange-scarlet flower trusses.

Mr. W. H. Witty, Nunhead Cemetery, put up a small group of spidery varieties of Chrysanthemums in pots. The centre of the group was occupied by a large upright mirror, the plants being placed like a great frame all around it. The effect was not greatly appreciated. (Bronze Banksian Medal.)

Messrs. Cannell & Sons, Swanley, Kent, showed a large collection of Begonia Gloire de Lorraine, in 6-in. pots. The plants were very robust—indeed, as strong as we have seen, and profusely covered with deeply hued flowers. The effect was rich and pleasing. (Silver Flora Medal.)

Messrs. James Veitch & Sons, Ltd., The Royal Exotic Nursery, Chelsea, staged a long table of winter-flowering Begonias. These should at once be taken notice of by all; and we expect to see them everywhere in a few years. The varieties Ensign, Winter Cheer, Winter Perfection and Venus, are the more distinct of this section at present. The plants are persistent bloomers and very prolific. (Silver Gilt Banksian Medal.)

Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, were forward with a fine group of cut blooms of Chrysanthemums. The singles were well represented, as were the Japs. and incurved varieties. Of the latter Lady Symons, Torronga, Sir Geo. White and Janet Lady Clarke were worthy of special notice. Lady White, Glorious (a purple market variety), Miss Alice Byron and Sir R. Buller were conspicuous Japs. C. J. Salter, W. R. Childs and Georgina Pitcher are good new varieties that demand attention. The display on this case was very select and was the centre of considerable attraction. (Silver Gilt Banksian Medal.)

J. C. Morgan, Esq. (Mr. J. F. McLeod), Dover House, Roehampton, set up a group of Begonia Gloire de Lorraine, Lilium Harrisii, Maidenhair Ferns, Palms and Cocos. Crotons were set up at each end. (Silver Gilt Flora Medal.)

Mr. W. J. Godfrey, Exmouth, Devon, showed a number of vases of Chrysanthemums. Common Tangler, crimson and gold; Kittie, bronze-red; Black Hawk, deep crimson; and Capt. Bellamy, yellow, were attractive decorative varieties.

Messrs. H. & J. Elliott, Courtbushes Nursery, Hurstpierpoint, sent up a small group of tree Carnations.

Mr. R. C. Sanders, Halton Gardens, Tring, showed a basketful of a Carnation named Ladysmith. This is a blush variety; and Miss Minnie Hulbrand, a fancy variety.

Messrs. Dobbie & Co., Rothesay, sent a batch of Dobbie's Selected Winningstadt Cabbage, of very firm build and beautiful form. This received an Award of Merit.

Messrs. Harrison & Sons, Leicester, displayed a collection of vegetables, including Leeks, Onions, Potatos, Carrots, Parsnips, Beet, Kales, &c. (Silver Banksian Medal.)

Mr. Will Taylor, Osborn Nursery, Hampton, Middlesex, set up bunches of Reine Olga Grape.

CHRYSANTHEMUM SHOWS.

BISHOPS-STORTFORD.—*November 14th.*

The Bishops-Stortford (Herts.) Horticultural Society revived the autumn Chrysanthemum, fruit, and vegetable show, only last year, after a prolonged period of hibernation. The venture met with success, so that now the show may be expected as an annual event. This year's autumn show was held in the Great Hall, Bishops-Stortford, on Wednesday, November 14th. The exhibits on this occasion were very fine indeed, and both fruits and vegetables were of high merit. The want of music of any sort left the show rather quiet and certainly did not add the fullest charm to the function which it has the power of giving.

In the competitive classes for twenty-four Japanese blooms, distinct, H. A. Blyth, Esq. (gardener, Mr. G. Barker), secured the first place; and J. Balfour, Esq. (gardener, Mr. A. Jeffries), came second. H. A. Blyth, Esq., also won first for the twenty-four incurved blooms, distinct. Mrs. Menet (gardener, Mr. T. H. Lodge) was second. For twelve bunches of single Chrysanthemums, Mr. P. L. Johnson came off first; and Sir James Blyth, second.

Col. Archer Houblon (gardener, Mr. William Harrison), beat Mrs. A. Taylor (gardener, Mr. E. Harris), for four vases of Chrysanthemums.

In the classes for plants, that for a large group arranged for effect was secured by J. Barker, M.P. (gardener, Mr. Geo. Beech), The Grange; and second, Sir J. Blyth (gardener, Mr. J. Richardson). In the amateurs' section for six plants in pots, W. Holland, Esq. (gardener, Mr. W. Brown), beat H. F. Norman, Esq. (gardener, Mr. F. Willey). For nine table plants, A. G. Sandeman, Esq. (gardener, Mr. G. Fulford), was first; and Mr. J. Balfour, second. For six winter-flowering Begonias, Mr. W. Smith was foremost; and Col. Archer Houblon, second.

In the fruit classes the same competitors were in evidence who were successful with cut blooms and plants. The Bishops-Stortford Graperies were first both for white and black Grapes. Mr. J. Barker followed second for the white; and Sir James Blyth, ditto for the black Grapes. For six dishes of dessert Pears, Mr. A. G. Sandeman was first; Col. Archer Houblon, second; and Mr. F. H. Norman, third. For three ditto, Mr. W. Smith led off.

For six dishes of dessert Apples, F. W. Buxton, Esq. (gardener, Mr. W. H. Gooden), was placed first; and Mr. F. H. Norman, second. E. H. Watts, Esq. (gardener, Mr. W. Bentley), was first for three dishes of the same.

MAIDENHEAD.—*November 15th and 16th.*

The third annual exhibition of Chrysanthemums, fruit and vegetables was held in the Town Hall on the above dates, the arrangements being ably carried out by Mr. J. W. Stone, hon. sec.

In the open class for thirty-six Japanese, not less than twenty-four varieties, Mr. Perkins, gardener to the Hon. W. F. D. Smith, Greenlands, Henley-on-Thames, was first with a grand stand of blooms. This stand also took the N.C.S. Certificate. Mr. J. Fulford, gardener to F. D. Lambert, Esq., Moor Hall, was a good second; Mr. G. Lane, third.

For twenty-four incurved, not less than eighteen varieties, Mr. G. Lane, gardener to Miss Ridge, Highfield, was first with an even stand of blooms, closely followed by Mr. J. Fulford.

For the eighteen Japanese distinct, arranged with foliage plants or foliage, Mr. Minty, gardener to C. Saxton, Esq., Riverdene, was well to the fore; second, Mr. C. Young, gardener to G. P. Field, Esq., Bray Court; third, Mr. Mount, gardener to A. Gold, Esq.

The chief feature in the cut bloom classes was eight vases of Japanese, three blooms of one variety in each. For this, Mr. J. Fulford showed superb blooms, the best being J. R. Upton, Miss N. Pockett, Australie and Le Grand Dragon (the N.C.S. Certificate was awarded to the exhibit); Mr. Perkins being a good second.

In the twelve Japanese distinct, Mr. Minty, first; Mr. Perkins, second; and Mr. Monnt, third. For twelve incurved, Mr. C. Young, first; and Mr. J. Fulford, second. In the half-dozen Japanese, distinct, Mr. Gibson, gardener to R. W. Hudson, Esq., Danesfield, was first; Mr. J. Tuck and Mr. Pearce, second and third. Six Japanese, one variety, Mr. Perkins was placed first, with grand blooms of Australie; Mr. Gibson, second. The class for six incurved, one variety, fell to Mr. J. Fulford, with Duchess of Fife; followed by Mr. G. Lane. For a basket of twelve Japanese, Mr. Young was first.

For a group of Chrysanthemums, with foliage plants, Mr. Perkins proved the winner, with a pretty arrangement, closely followed by Mr. J. Fulford, with Mr. Howard, third.

For a group of miscellaneous plants arranged on a table for effect, Mr. J. Fulford was first, with a light group; Mr. Gibson, second; Mr. J. Richardson, third. For a group of Zonal Pelargoniums, Mr. Fulford again led, Mr. W. Hutt being second. The same exhibitors were placed in the order named for six table plants. In the class for six foliage and six flowering plants for table, Mr. J. Fulford again proved the winner; Mr. Gibson, second. Mr. J. Fulford also won the first for six pots of Begonia Gloire de Lorraine. Mrs. Wood, Hedsor Cottage, was first for table decoration; Miss Fowler, second.

In the vegetable classes, Mr. Gibson, Danesfield, showed grand examples of well grown vegetables. The chief prize-winners in the fruit were Messrs. Hutt, Paxton, Bunn, Fulford and Lane.

Mr. E. Such, nurseryman, showed splendid wreaths, bouquets and sprays; also Mr. Broughton, of Norfolk Road Nursery; whilst Mr. Owen, Castle Hill, showed several stands of seedling Chrysanthemums. Messrs. J. House & Son put up a grand collection of Violets, which were greatly admired.—*J. B.*

HUDDERSFIELD.—*November 16th and 17th.*

The ninth annual show of the Huddersfield Chrysanthemum Society, was held in the Town Hall of the town, on Friday and Saturday, the 16th and 17th inst. The show was well up to the highest standard of preceding years. The groups were more numerous than hitherto, competition being very close all round. Music was provided by the Lindley Brass Band. The society owes its thanks to the working officials, especially to their secretary.

In the competitive classes the first prize for twenty-four cut Japanese blooms, distinct, was secured by Mr. E. Ellis, Heswall, Cheshire. Mr. T. J. Hirst, Meltham Hall, Yorks., was second; and Mr. J. H. Goodacre, Elvaston, Derby, third.

Mr. Ellis again led for the twenty-four incurved varieties, being followed by Col. Gee, Liverpool; and Mr. J. H. Goodacre, again third. For eighteen Japs. distinct, Mr. C. J. Ormerod, Rastrick, beat Mr. T. J. Hirst. The latter, however, led for the eighteen incurved varieties; Capt. Brook coming second. For six ditto. in four varieties, Mr. F. Eastwood was first; Mr. Hirst, second, and Capt. Brook third. Messrs. S. Ormerod, C. J. Ormerod, T. Blackburn, D. Haigh, H. Broadbent, H. F. Clayton, and R. Pearson were amongst other of the prize-winners in the cut flower classes.

For a group of Chrysanthemums arranged for effect in half circles, containing 45 sq. ft. space, Mr. H. F. Clayton, Greenhead Road, Huddersfield, received first prize; Mr. T. H. Ramsden of Golcar, was second; and Mr. R. Pearson of Longwood, third. For a miscellaneous group of plants with Chrysanthemums arranged for effect in a space of 64 sq. ft., Mr. D. Haigh, of Longwood, was here placed first. Mr. F. Eastwood came second; and Mr. T. H. Ramsden, third.

For six table plants, Mr. F. Eastwood beat Mr. H. Broadbent, second; and Mr. D. Haigh. For three exotic Ferns, Mr. J. S. Sharp was first, Mr. Haigh second. Mr. H. F. Clayton beat Mr. J. S. Sharp for a single specimen Palm.

CRESINGTON.—*November 17th.*

This Liverpool suburban district continues to flourish and improve, the exhibits filling every

possible portion of the room, and the quality in some classes shows a pleasing improvement.

Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., succeeded in securing the place of honour for twelve incurves and twelve Japanese distinct, the first prize being given by S. Lloyd, Esq. The winning box contained some heavy blooms. For a basket of plants, Mr. F. Keighley, gardener to Mrs. Duncan, gained first honours, in which spikes of Orchids were effective. This exhibitor was also first for the single Orchid.

In the Grape classes, Mr. J. Young, gardener to P. G. Williamson, Esq, won for black, and Mr. R. Dickinson, gardener to A. H. Sanderson, Esq., for white. The other fruit classes and soft-wooded plants were well contested. Mr. T. Johnson is the energetic secretary.

WOOLTON.—*November 21st.*

For the second show this society is to be congratulated upon an excellent exhibition. The stagers had to deal with double the work, or 248 entries against 118 of last year. To meet this large increase another room was utilised for the cottagers and vegetables, and in grouping them in one room they made an imposing and effective show. Another important point scored by the committee was the presence of the Lord and Lady Mayoress of Liverpool, who, after inspecting the exhibits, formally declared the show open. At this juncture, Miss Brunner, daughter of Sir John Brunner, Bart., vice-president of the society, presented a lovely bouquet of Cattleyas and Pancratiums, made by Miss Manson, to the Lady Mayoress on behalf of the committee.

The only exhibits outside of competition were those of Mr. W. Tunnington, a collection of Grapes; and Mr. R. Todd, gardener to Holbrook Gaskell, Esq., for a group of Orchids and Amasonia punicea, to which Certificates of Merit were granted.

For cut blooms a fresh exhibitor secured the premier position for twenty-four distinct Japanese, in the person of Mr. J. Wynn, gardener to Stewart H. Brown, Esq., with a fresh stand of fine blooms. Mr. T. Carling, gardener to Mrs. Cope, was a good second.

For eighteen and twelve Japanese and twelve incurved varieties, Mr. G. Haigh, gardener to Sir W. H. Tate, Bart., was first in each case. For eighteen and six incurves, distinct, Mr. J. Vaughan, gardener to T. Brocklebank, Esq., had the chief honours. For six incurves, six Japanese, and six Anemones, or reflexed, Mr. T. Carling, gardener to Mrs. Cope, took the chief special prize of Mr. T. Driver. For Chrysanthemums in pots, Mr. W. Wilson, gardener to H. Cunningham, Esq., was first in each of the five classes with splendidly grown, trained plants that showed to great advantage on the front of the platform.

For nine small pots with large blooms, Mr. J. Stoney, gardener to F. H. Gossage, Esq., had the leading lot. For the single Fern and one Cypripedium, Mr. G. Haigh scored. For the single foliage plant, a well coloured Croton, and six decorative plants, Mr. J. Stoney gained the chief positions; and for the single Orchid, Mr. T. Carling won with Cattleya labiata.

Mr. W. Wilson and Mr. J. Stoney shared the honours in the Grape classes; and for other fruits, for which upwards of 250 dishes were entered, Lady Forwood and Messrs. J. Hammond, gardener to Col. Ireland Blackburne, S. Sanday, J. McColl, gardener to J. W. Hughes, Esq., were the leaders. Mr. J. Rothwell, gardener to S. S. Bacon, Esq., won for six varieties of vegetables; and in addition to names already mentioned Mr. T. Lunt and Mr. J. Glover proved first prizemen.

BIRKENHEAD.—*November 21st and 22nd.*

The fourteenth annual exhibition was held in the Association Hall, and proved, in point of quality, equal to anything yet produced by the society. A new introduction was for a table of fruit and vegetables, which produced satisfactory results, the winner, Mr. W. Mason, staging a very pleasing combination with good cultural specimens.

In the open class for twenty-four cut blooms, Japanese, distinct, Mr. Jakeman, gardener to Mrs. Heap, West Derby, the donor of the Cup, secured the premier honour, with a fine lot of fresh blooms. For twelve large blooms of Japanese, arranged in vases on long stems, Mr. C. J. Procter proved the only exhibitor, but staging good blooms. For twelve incurves, distinct, Mr. E. Ellis was to the fore with well-finished blooms.

For the single Palm, Mr. W. A. Vernon was successful in gaining the first prize. For four stove or greenhouse plants, Mr. E. K. Laird won with fresh plants.

Two bunches of Barbarossa Grapes, Mr. T. Ferguson, gardener to Mrs. Paterson, led with well-coloured specimens. Mr. E. Evans won for two bunches of any other black, and Mrs. D. Wilson for two of any white. For eight dishes of culinary Apples, Mr. J. Davies, gardener to W. King King, Esq., Hereford, won with a fine lot. For four dishes, culinary, Mr. C. J. Procter had the best. Four dishes dessert, Mr. John Lee won with highly coloured fruits. Mr. C. J. Procter staged a good collection of vegetables, which secured first honours. Mr. W. H. Leo carried out his secretarial duties in an efficient manner.

DUNDEE CHRYSANTHEMUM.—*November 22nd, 23rd, and 24th.*

The Dundee Chrysanthemum show passed off successfully on Thursday, Friday, and Saturday of last week. The entries showed a slight increase on the total of last year's number. As usual, the quality all round was of a high standard of merit. The display of cut blooms perhaps excels that of the groups and specimen plants, though when the numerous nurserymen's exhibits are considered the groups certainly form a very special feature. The small collections of fruits and vegetables also furnished interesting adjuncts. Music was supplied by a crack military band, viz., that of the Grenadier Guards, whose performances in the Drill Hall drew forth large numbers.

The Challenge Vase, which was presented by the Town Council for twelve vases of Chrysanthemums, distinct, was the chief competitive award. Mr. D. Nicoll, gardener to J. W. Bell, Esq., Rossie Priory, Forgandenny, who did so well at Edinburgh, was first on this occasion. His blooms of Miss Nellie Pockett, Mdme. Carnot, Mrs. Mease, Mdme. Cadbury, Mrs. H. Weeks, Australie, and Mutual Friend were grand indeed. Mr. James Beisant, gardener to Mrs. George Armitstead, Castle Huntly, Longforgan, made a very close second on this occasion, he having good blooms of Mrs. Barkley and the new Scottish Chief, &c. Mr. Beisant was the only exhibitor for the cup presented by J. Martin-White, Esq., of Balruddery. He, however, had a magnificent collection, including J. R. Upton, Royal Standard, Mrs. James Beisant, and Mrs. J. Bryan. Mrs. Armitstead's Challenge Cup was also secured by Mr. D. Nicolls, whose specimens of Mdme. Von André, G. Pitcher, Florence Molyneux, and Mrs. H. Weeks were equal to the best seen anywhere else.

The class for twenty-four Japanese blooms in not less than twelve varieties brought out a spirited competition. Here Mr. J. H. Cummings, gardener to Lady Stewart, Grantully Castle, Perthshire, was winner of the Challenge Cup awarded by J. J. Watson, Esq., of Ballinard, Broughty Ferry. Mr. John Bell, gardener to Sheriff Robertson, Burnside, Forfar, was second; and Mr. Beisant, third.

In the class for eighteen blooms (six each of white, pink, and yellow varieties), Mr. Beisant here was first, having remarkably fine flowers. For twelve Japanese incurved blooms, Mr. J. Bell, Burnside, Forfar, stood first with a creditable display. Mr. Thos. Brown, gardener to W. Rettie, Esq., Balcairn, had first for twelve Japs., in six varieties; while for the six blooms, distinct, Mr. R. Walker, Edradynate, led off. He also was awarded first place for six yellows; Mr. D. Nicolls being winner for the half dozen whites. A medal and prize of 20s. for six vases of Chrysanthemums, with three blooms each, was secured by Mr. Geo. Scott, gardener to J. Whytock, Esq., Seathwood, Dundee. Mr. James Beats, gardener to Col. Coupar, Duncraig, Dundee, took first place for a large vase arranged for effect. Mr. Fairweather led for the bouquet exhibit, and Mr. Geo. Scott for the sprays. The classes for these bouquets and sprays brought out a number of attractive entries.

Plants.—The leading plant class for six Chrysanthemums in 6-in. pots, disbudded, was won by Mr. Geo. Scott. For six pots, but not disbudded, in this case, Mr. W. Kennedy, gardener to ex-Provost Ballingal, Ardarroch, Dundee, was placed first. The Cup and money prizes offered by Mrs. R. Mudie, Corona, Broughty Ferry, for four disbudded plants only brought two competitors. Mr. John Mathers, gardener to William Low, Esq., was first with, excellent plants. The chief prize winners in the other plant classes were Messrs. L. Reid, gardener at Douglas Terrace, Broughty Ferry; D. Saunders, Taypark, West Ferry; J. Beats; D. Meston, The Lodge, Broughty Ferry; Alex. Hutcheon; and J. Beocher, Lochee.

For fruit, Mr. John Leslie, gardener to A. Coates, Esq, Pitcullen House, Perth; Mr. A. Johnstone, Inchmartine; and Mr. W. Benvie, Murie Gardens, Errol, were the principal exhibitors.

Miscellaneous Exhibits.—Messrs. Laird and Sinclair, High Street, Dundee, exhibited cut blooms of Chrysanthemums with autumn foliage. They also had a number of exceedingly fine floral designs.

Messrs. Storrie and Storrie, 22, Seagate, Dundee, had a miscellaneous exhibit of fruit trees, and plants in pots, such as Primulas, winter-flowering Carnations, &c.

Mr. H. Deverill, Onion grower, &c., Banbury, showed samples of the Ailsa Craig Onion, weighing 3 lb.

Messrs. W. Wells & Co, Ltd., Earlswood Nurseries, Redhill, Surrey, had a choice collection of new varieties of Chrysanthemums. Amongst these were W. R. Church, deep lake-crimson, gold tips; Mabel Morgan, yellow; Guy Hamilton, and Edinburgh.

ABERDEEN.—*November 23rd and 24th.*

The show held in the Trades Hall, Belmont Street, Aberdeen, on Friday and Saturday of last week, was acknowledged to be one of the finest the Aberdeen Chrysanthemum Society has held. The number of entries reached upwards of 600, which will give an idea of the size of the show. The Very Rev. Principal Lang performed the opening ceremony, in the doing of which he delivered an eloquent and elegant speech. Mrs. Jeffray's quadrille band performed the musical part of the programme.

Coming to the exhibitors and their doings, we found Mr. W. M. Moir, gardener to J. D. Fletcher, Esq., Rosehaugh, Avoch, Ross-shire, as leading prize winner for twelve incurved blooms, in at least six varieties. Mr. John Grigor, Maryhill, Elgin, was second; and Mr. John Pirie, gardener to G. Baird, Esq., Strichen House, Aberdeenshire, third.

For twenty-four Japanese blooms in a dozen varieties, Mr. J. Pirie led first from among nine other competitors. Mr. W. M. Moir came second; and Mr. Alex. Park, superintendent Leckmelm House, Garve, Ross-shire, third. There were seven entries for the twelve Japs., in at least six varieties, Mr. J. Grigor, Maryhill, Elgin, here beating Mr. Wm. Morrice, Mount St. Ternan House, Banchory; and Mr. A. King, Danestane, third. For six Japs, three varieties, Mr. E. Noonan, gardener to F. Pirie, Esq., Stonywood House, stood first; and Mr. William Milne, gardener to Mrs. Stirrett Duff, Corsindae House, Midmar, second. For six incurved blooms in three varieties, Mr. A. King led off; Mr. A. Murray, Seaton Cottage, second; and Mr. E. Noonan, third.

For three vases of distinct varieties, there were six entries, Mr. J. Pirie, Strichen House, being first; Mr. W. M. Moir, second; and Mr. E. Noonan, third. For twelve varieties of any kind, there were three entries, Mr. James M'Donald, gardener to Mrs. Crombie, Balgownie Lodge, being first; Mr. James Elder, Banchory House, second.

Mr. James M'Donald led for six bunches of single Chrysanthemums.

Plants.—For a group of Chrysanthemums and foliage plants arranged for effect, the first award fell to Mr. J. Proctor, gardener to Sir William Henderson, Devanha House, Aberdeen; and second, Mr. Wm. Masson, Albyn Place.

For six Chrysanthemums in 6-in. pots, at least four varieties, Mr. A. Grigor, gardener to A. O. Gill, Esq., Fairfield, Aberdeen, had the finest entry, gaining a handsome set of fish carvers, presented by the secretary; Mr. Alex. Park, Leckmelm House, came second; and Mr. G. A. Pirie, third. Mr. J. M'Donald led for three Chinese Primulas. For two Orchids, distinct, Mr. A. Grigor, gardener to A. O. Gill, Esq., Fairfield, secured the first prize of £2 offered by Messrs. Sander & Co., with very fine plants of Cattleya labiata and Cypripedium insigne Maulei. Mr. John Proctor came second.

The exhibitors whose names have been mentioned in the foregoing report, took the prizes in the other plant classes.

FRUIT.—For a collection of four varieties of Apples, Mr. J. Grigor, Maryhill, Elgin, secured the leading prize; Mr. W. Milne, Corsindae House, Midmar, second; and Mr. J. Ferguson, Linton House, Cluny, third. There were a dozen entries for six baking Apples, Mr. J. Fraser, Crathes Castle, beat Mr. A. Reid, Durris House; and third, Mr. A. Paterson, gardener to F. H. Gardener, Esq., Troup House, Banff. Mr. W. M. Moir, Rosehaugh, Ross-shire, led for the six dessert Apples; Mr. J. Pirie, second; and Mr. J. Ferguson, third. Mr. Moir again led for six baking Pears; being followed by Mr. A. Park and Mr. A. Reid. For six dessert Pears, Mr. A. Paterson was first. For one bunch of Grapes, Mr. James Elder stood first.

VEGETABLES.—Mr. Geo. Milne, gardener to Lady Gordon Cathcart, Cluny Castle, was first for the collection of six kinds of vegetables; Mr. Wm. Lawson, Oakbank School, was second; and Mr. Frank Fraser, gardener to Lieut.-Col. Hunter, Tillery House, Culter-Cullen, third. Other winners in the vegetable classes were Messrs. A. Paterson, Ruthrieston; A. Douglas, Middlemuir, Belhelvie; A. Park, A. King, E. Noonan, T. B. Middleton, Monymusk; A. Reid, Geo. Milne, J. Ferguson, G. Maitland, Woodside; and J. Smith, Denhead, Cloghill.

On the second day of the show a special Silver Medal was awarded to Mr. A. Park, superintendent, Leckmelm, Ross-shire, for the best bloom in the show, introduced by Messrs. W. Wells & Co., Ltd., Redhill, Surrey, the variety being Nellie Pockett. Mr. W. M. Moir, Rosehaugh, received a Bronze Medal for the variety Mrs. Barks. For the best Japanese bloom in the show the prize went to Mrs. J. Lewis, shown by Mr. Frank Fraser, Tillery House, The largest bloom in the show was Rivers' H. Langton, shown by Mr. John Pirie, The Gardens, Strichen House.

Messrs. W. Wells & Co., Ltd., exhibited a collection of Chrysanthemums, several of which received Certificates. Messrs. Isaac House & Son, Westbury-on-Trym, exhibited Violets. Pedigree Onions were shown by Mr. H. Deverill, Banbury.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not late than *Monday* night.

The prize last week was awarded to "Grower," for his article on "Seakale and Rhubarb," p. 199.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Lifting Lilium candidum.—*A. L*: We should not advise the lifting of this Lily at the present period; because the bulbs are now well advanced in growth. The operation should be performed about the beginning of September or as soon as the flowering stems are sufficiently faded or dried up, so as to be of no further service to the bulbs. The autumn and winter formed leaves should be encouraged, as they are of great service in preparing the bulbs to flower strongly. Next year remember to lift the bulbs before the autumn rains start the bulbs into growth. Plant them in good loamy soil, well drained naturally.

Pruning Deutzias in Pots.—*T. Hardy*: Properly speaking it is thinning rather than pruning that they require. Your aim should always be to encourage the growth of young wood after the flowering period is over. With this object in view you should from time to time remove old branches, especially where the plants are getting crowded. Some of this should be done when the plants have just done flowering. You will then see which branches flower best. Old ones becoming less floriferous are those that you should take out. Do not remove a great number of them at one time with the object of encouraging rampant growth, as moderately strong stems and branches are best for maintaining the symmetry of the bushes, and giving an abundance of flowering spray. Give weak liquid manure twice a week when the plants are making growth; and when this is well advanced the plants may be stood in the open to finish and ripen their wood. The weather must be favourable before they are put out.

The More Ornamental of Two Polygonums.—*R. M.*: It all depends upon whether you appreciate the flowers or the foliage alone. If the former, then by all means give preference to Polygonum cuspidatum as it flowers most profusely when well established and not under the shade of trees. P. sachalinensis is the taller growing and bolder plant, with larger leaves, being therefore more conspicuous in that respect though less floriferous.

Making a bed for Heaths.—*T. H.*: There is no reason why you should not make the bed at once. In fact, we think it would be all the better for the plants in spring by having time to consolidate. Take out the soil to the depth of 2 ft., which we think would be ample, even in your light soil. Some growers might advise more, some less, but with the depth we mention it would be easy to keep the peat cool and moist by giving it a good soaking at intervals during the hottest and driest of the summer weather. If peat is not easily procurable you can use a large quantity of decayed leaf mould, placing some of the rougher material in the bottom, and mixing the rest with the peat. This will increase its bulk, and prove acceptable to the Heaths.

Growing Potatos in Pots.—*A. B.*: Early crops of Potatos have been grown in pots before now; and there is no reason why you should not be successful in raising an early dish or two in this way. Place the sets on end in a box and stand the latter in a warm pit or other house with a moist atmosphere. As soon as the sets have made sprouts about half an inch to an inch in length you may put them singly into 8-in. or 10-in. pots. Drain the latter and put a layer of some light soil over it, on which you can place the sets of Potatos, covering the latter slightly. As the stems grow you can add more soil till the pots are full enough to hold the necessary water as the soil gets dry. Mix the light but fairly rich sandy soil with a liberal quantity of wood ashes which are of material service to Potatos. As the stems grow you should keep the plants near the glass to prevent their getting drawn. The pots are handy in enabling you to shift them from warm to cooler and more airy quarters as this becomes necessary.

Male and Female Aucubas.—*W. Parker*: We are afraid it would be difficult to distinguish male and female plants at the present time. Those bushes bearing berries can of course be determined almost at any season. Those without berries may or may not be males. When the flower buds expand in spring you should have no difficulty. It would be well to mark the bushes when in bloom, and at the planting season you could make two separate beds, plantations or rows. You would then know what you were doing, whether planting them out permanently or using them in tubs or pots.

Names of Plants.—*A. Loydell*: 1, Bromus arvensis (a starved specimen); 2, Juncus compressus; 3, Serratula tinctoria; 4, Chrysanthemum frutescens, from South Africa; 5, Setaria viridis (a starved plant).—*J. B.*: 1, Euonymus japonicus; 2, Skimmia japonica; 3, Azara microphylla; 4, Jasminum nudiflorum; 5, Gleditschia triacanthos.—*W. M.*: 1, Odontoglossum Pescatorei; 2, Cattleya labiata var.; 3, Oncidium Forbesi; 4, Maxillaria picta.—*A.D., W.*: 1, Adiantum trapeziforme; 2, Nephrodium molle; 3, Pteris straminea; 4, Pteris Wimsettii; 5, Pteris cretica Mayi; 6, Adiantum Capillus-Veneris var.; 7, Selaginella Martensi robusta variegata.—*H. J.*: 1, Phyllanthus glaucescens; 2, Codiaeum undulatum; 3, Codiaeum Veitchi; 4, Aralia elegantissima; 5, Curculigo recurvata.—*R. M.*: 1, Asplenium lucidum; 2, Chimonanthus fragrans grandiflora; 3, Berberis wallichiana; 4, Berberis stenophylla, 5, Peristrophe speciosa; 6, Ophiopogon japonicum.—*D. C.*: 1, Cypripedium longifolium; 2, Phalaenopsis Aphrodite; 3, Dendrobium Phalaenopsis schroderianum.

Names of Fruits.—*Aros*: Pear Bellissime d'Hiver, a good stewing variety.—*W. M.*: 1, Blenheim Orange; 2, Bismarck; 3, King of the Pippins; 4, Pear Easter Beurré.

Communications Received.—C. P. Cretchley.—A. V. Main.—Wm. Johnstone.—J. Mayne.—A. M. D.—J. H.—R. M.—J. Alexander.—Geo. Brook.—W. Wells.—T. M.—A. C.—W. McIver.

TRADE CATALOGUE RECEIVED.

VILMORIN ANDRIEUX ET CIE., 4, Quai de la Mégisserie, Paris.—Catalogue of Seeds of Hardy Trees and Shrubs, and of Seeds of Orangery and Greenhouse Plants.

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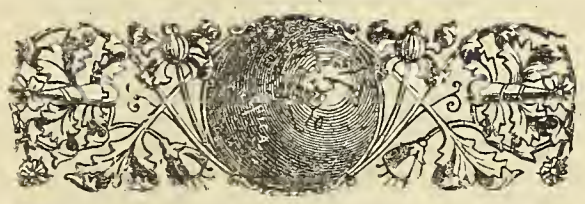

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, DECEMBER 8th, 1900.

HINTS ON PLANTING ROSES*—The third edition of the pamphlet on the planting of Roses published under the auspices of the National Rose Society appears just a little too late for the planting of Roses at the most appropriate period of the year, even on its own showing; but as the planting season for Roses really lasts from the beginning of November to the end of March, the would-be planter has yet some months during which he can carry out his intentions, with fair hope of success. The Rose planting season commences late compared with that of fruit trees for instance, but the explanation is, no doubt, that Roses continue growing vigorously to a much later period than fruit trees, and flowering as well, we might add. Nevertheless, the intending planter is advised to make preparations in September by ascertaining or determining what ground he has available for Roses, what number and which varieties he should plant. Timely preparations are usually very far from the amateur's thought in many gardening matters, and in some cases it does not seem to occur to them to get seeds till it is high time to sow the same, nor to get plants until the warmth of advancing spring is urging them into fresh growth. To all such amateurs this pamphlet will prove a timely remembrancer, and it is chiefly directed to their enlightment. The information vouchsafed is about as concise as it may well be, while at the same time thoroughly reliable, so that little time need be spent, even by the busiest, in acquiring by heart all the principles and precepts involved. Planting, be it remembered, is considered to be the first and most important operation in the cultivation of Roses, which, if properly carried out, goes a long way towards ensuring the after success or future life of the plants. This of course involves the whole treatment necessary from the time the plants are received from the nurseryman, till they are finally planted in properly prepared soil.

No theory is advanced as to the selection of a suitable soil; while on the other hand it seems to be tacitly assumed that the would-be planter has no choice, but must perforce plant in the soil at his command. That is so in all small gardens at least, and the cultivator has to make the best of it. Even an amateur soon finds out that a sandy soil is unsuitable to the welfare of Roses; but to be forewarned is to be forearmed, and a few timely hints on the preparation of the existing soil, before planting is commenced, fruitless efforts entered upon and time wasted, make a golden opportunity that should not be missed by any novice or beginner. Even gardeners might be found napping by a change of locality from a garden on clay to another upon a sand formation, although the two places might not be a mile apart. Soil, if not everything, is the most important item in the successful cultivation of Roses. Light soils may be improved by the addition of heavier material, and heavy ones by the introduction of material of an opposite mechanical nature. For all Roses, at least upon the so called Brier or Dog-rose, a heavy soil is more easily and permanently improved by artificial means than a sandy one. A moist soil, if not actually waterlogged, is also better than a dry one. In the case of Sweet Briers a dry soil ought to be more conducive to their welfare than a wet one, if the cultivator is to take a pattern from plants in a wild state, as they mostly grow upon chalk which is dry enough on all hands, but usually covered with a thin cap of clay. Gardening, however, is an empirical art and the cultivator can often improve upon nature in the production of flowers, while the production of seed is quite another matter. Manures may be turned to good account whether upon light or heavy soils, as is here tersely expressed.

The treatment of Roses, when received from the nursery, is an important thing, and this cannot too forcibly be insisted upon, especially when delayed in transit as is often the case by unnecessary and irritating delay upon the railway. The drying up of the roots and the shrivelling of the stems are serious matters; but the skill of the professional and the experienced rosarian can even overcome these difficulties. The plants should be unpacked at once and the roots sprinkled with water before heeling them into a trench until they can be permanently planted. They should then be thoroughly soaked in the trench if at all dry previously. Furthermore, if the stems by any unfortunate delay should be shrivelled, it is not only expedient but even necessary to take out a wider and deeper trench so that the stems may be laid lengthwise in the bottom of it. The trench should then be filled with water or thoroughly and the soil thrown over the Roses so that they may be entirely buried for the space of three days or thereby. By this means they will recuperate and plump up wonderfully, after which they can safely be planted in their permanent positions, providing the soil and weather are favourable to the operation. Should they arrive during frost it is advised to retain the straw packing about the roots,

*HINTS ON PLANTING ROSES, by a Committee of the National Rose Society. Third Edition Revised. [Copyright.] 1900.

and place them in a cellar or similar place till the ground is thawed. In northern counties where the soil often remains frozen for weeks together, a better plan would be to unpack the Roses at once and cover up their roots in deep boxes of soil, or even lay them on the floor and cover them with soil or moist sand, and this again with straw if necessary to keep frost at bay.

The method of planting is dealt with even more fully, and rules and details given that one would think unnecessary, though no doubt success often depends upon such minutiae. In the case of wet and clayey soils it is of great advantage to use the clippings and parings of walks and similar gritty material for placing beneath and around the roots. This will allow the operator full freedom in treading the roots firmly without fear of puddling them with mud. Simple directions for the planting and staking of isolated plants, climbers or pillar Roses, Standard Roses, where the treatment differs from that accorded the bushes, are also placed at the reader's disposal. The same might be said of winter protection both for dwarf Teas and Noisettes as well as Standard Roses, and the first pruning after planting. The pamphlet finishes up with lists of choice Roses for beginning a collection, including fifty for exhibition purposes. Sixty Roses for garden decoration refer to species and varieties which flower only once during the summer months. Summer and autumn flowering varieties make the heading of another list; and needless to say all these lists give the best of the varieties, for each respective purpose, and are thoroughly up to date.

Christmas Trees (Picea excelsa) appeared in Covent Garden on November 28th.

Poinsettias have been forward in many of the London florists' shops for three weeks.

Cypripedium insigne Sanderae.—A small piece of this beautiful variety, consisting of two crowns of leaves and one flower, was bought at the sale rooms of Messrs. Protheroe & Morris, Cheapside, on the 30th ult, for 17 gs. We understand it passed into the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill.

Durham College of Science.—The Agricultural Department of this college provides courses of practical and theoretical instruction in agriculture for all classes of students at a moderate cost. The Durham College has a splendid record to show in examination successes, for at the last three held by the Royal Agricultural Society of England the first place and Gold Medal has been gained twice, and the second place once, by students from this college. There is an excellent teaching staff, the principal change in the teaching staff since last year being that Mr. T. H. Middleton, B.Sc., has taken the post vacated by Professor Somerville, as Professor of Agriculture.

Women as Gardeners.—It was my fortune not so very long since to make a call at the Lady Warwick Hostel, Reading; and also to be shown over the garden and such appliances as existed for the practical instruction of the young lady students in gardening. That there was the most earnest desire to instruct on the one hand, and a fair desire to learn on the other, I can have no doubt. But I saw the ladies' garden plots—some in process of being trenched, some dug, and so on, and my practical ideas as to how work should be done somewhat revolted. It was work such as I would not have tolerated at the hands of men for one moment. The packing shed and potting shed, as also the principal greenhouse, were in a state that caused me mentally to groan. I could not, seeing what was being attempted, exhibit myself as a harsh critic; but I could only realise how difficult, if not indeed hopeless, is it to endeavour to make practical, methodical, tidy gardeners out of irresponsible women.—*A.D., in the Journal of Horticulture.*

The Cider Vintage.—So plentiful have Apples been this year that the cider vintage is plentiful—the makers, indeed, have rather more than they can well dispose of. But the large and cheaper quantities put upon the market should work to his advantage by creating a taste and consequent demand for a wholesome wine.

Acorn Poisoning.—In the columns of *The North British Agriculturist* for November 14th, a reader writes to say he has "a beast" poisoned by eating Acorns, and asks for medical advice on the treatment of the animal. Whether "the beast" lives till the next issue of the paper reaches him is not very certain. But the moral of the note is, to keep cattle and horses away from where they might obtain too many Acorns.

Tomatos from Abroad.—The supply of Tomatos after our own have fallen short or run out for the season is maintained by imports from the Canary Islands and the south of France. During the first half of this year, that is, up till the time our home crops become abundant, the Canaries furnished to British markets 16,389 tons of these fruits. What an enormous consumption there now is. In Germany Tomatos are still chiefly used as flavourings.

The destruction of Charlock.—Referring to a note on this subject respecting spraying, which must be a costly proceeding besides the injury done to the growing corn by the operator walking amongst it, I think the most effectual way of destroying this troublesome weed is to let the land lay fallow for a season, or a sowing of Rape seed and Vetches may be made, and when the Charlock is well up commence to cut it and complete the work before the Charlock ripens its seed. When it has been allowed to seed year after year till there is as much or more Charlock than corn, it may be necessary to shallow plough the land and harrow it in order to encourage growth of any seed that might have been buried. This process may appear costly, but it has only to be done once, whilst in spraying some are sure to be missed, and they will yield a crop another year.—*W. P. R., Preston.*

Osier or Willow culture.—New interest in Willow culture for basket making, says the *Journal of the Department of Agriculture of Western Australia*, has lately been aroused in Australia and America. The United States Department of Agriculture have lately issued a pamphlet on the subject of the cultivation and use of Osiers. The treatment is of the simplest, involving little care or expense. A marshy soil by the side of streams or rivers, or round lagoons, such as are unfit for other crops, is the most suitable. No manuring is required, and a renewal of plants is seldom necessary. Propagation is usually effected by cuttings which should be about 15 in. long, and planted in lines 2 ft. apart. A crop may be expected in the second or third year. Planted on sloping, swampy land Willows should also serve the purpose of binding the soil and prevent it being washed away in heavy rains. Among the best Willows for basket making are:—Salix amygdalina, S. viminalis, S. purpurea, S. lucida, and S. Caprea.

Ealing and District Gardeners' Society.—On the 27th ult. a most instructive and exhaustive paper on "Autumnal-tinted Trees and Shrubs" was presented to the members by Mr. T. Humphreys, assistant superintendent of the Chiswick Gardens. Mr. Humphreys spoke of the universal love of trees, and of the charm and beauty begotten of their presence in parks and gardens. He gave a huge list of subjects suitable for the purpose of autumnal decoration. He dilated on their individual merits and colouration, mode of growth and general effectiveness, selecting some such as the Thorns, Sumachs, Acers, Dogwoods, Amelanchiers, Azaleas, Liquidambar Liriodendron, Vitis inconstans and many others for special emphasis. Mr. C. B. Green, who occupied the chair, concurred in the number and variety of "picture" trees and shrubs which were available for parks and large gardens, but suggested a rigid selection for those gardens which were possessed of roods rather than acres. Some little discussion of an affirmative character ensued, as it was held that no exception could be taken to the beauty of autumn tints, or the lecturer's views thereon. On the proposition of the chairman a hearty vote of thanks was accorded.

Violets in Boxes.—Mrs. Hanswirth, of Chicago, says that Violets best retain their odour in wooden boxes.

For Potatos, the following weights of artificial manures are recommended per acre:—3 cwt. superphosphate, 2 cwt. kainit, and 1 cwt. of sulphate ammonia mixed, and applied before planting.

Horticulture from an Educational Standpoint.—Prof. F. W. Card contributes an eloquent plea on behalf of horticultural study and as a force of value in the development of man's higher qualities. He says: "(1) It affords a means of livelihood among congenial and ennobling surroundings, with a liberal share of the best things of life. (2) It affords recreation and companionship, particularly to those whose brains grow weary in other lines of work (3) It trains the faculty of observation, an important educational function. (4) A wider knowledge of it would help in the solution of some of the sociological problems of the day. (5) It gives power to man in the development of new forms of life. (6) It contributes to culture and breadth of mental vision, the highest result of educational training."

Canadians Celebrate the Return of South African Volunteers.—*The American Florist* says:—"Never before in the annals of the city (Toronto) has more enthusiasm been shown than was accorded to soldiers who have just returned from South Africa, and never have such quantities of Hemlock and Pine wreathing been utilised as were required on this occasion. The florists made a special hit by tying bows of patriotic ribbon on Chrysanthemums. Hot cakes never sold so readily as these souvenirs. One florist had in his window a large Union Jack made of Cape flowers, a stack of rifles, drums, and other accoutrements of war. He used khaki as a background. All the florists made some attempt at decorating. The decorations on the lawn of the New City Hall, by Commissioner Chambers, were highly thought of"

Nurserymen's Catalogues.—"A sign of progress is seen in the great care that many nurserymen and florists are giving in the preparation of their catalogues. In a great measure the catalogue of a house is the travelling saleman; it is the silent drummer, and even as the value of a drummer is largely in his personality and appearance so in a still greater sense even does the catalogue influence the desired purchaser by its apperance and manner of get-up. It is indeed a reflection of the personality and mind of the head of the business which it represents. It is his creation, and it is he alone who makes it good or bad." The above is from an American journal. While much of what is said is true, one cannot forget the elaborate pains taken by very old nursery firms with their early catalogues. These were like text-books of systematic botany, and contained an amount of scientific instruction that few present-day catalogues possess.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting was held at St. John's Parish Room, Redland, on Thursday, November 29th. A large attendance was presided over by Mr. G. Brook. The paper on "Grape Culture" was provided by Mr. J. Kitley, of Alvaston, Derby, and was read in his absence by Mr. H. Kitley, of Clifton. It was full of useful information on the subject dealing with the culture from making the borders up to the ripening of fruit. Emphasis was laid on the necessity of careful preparation of Vine borders, which he said should be made narrow to commence with, adding soil as growth advanced. Many helpful hints were given as to watering, syringing, training, stopping and ventilation of houses, also the best method of dealing with many insect pests to which Vines are liable. Mr. Kitley claimed for Grapes that they were accommodating enough to be grown in almost any locality, he himself having succeeded in producing first-rate quality at the foot of the Scotch Grampians. The paper was much appreciated, and the thanks of the meeting were voted to Mr. Kitley by acclamation. Prizes were offered for two bunches of Grapes. The first, a R.H.S. Bronze Flora Medal, was awarded Mr. A. M. Ross, the other awards being accorded to Messrs. Andrew, Curtis, and Atwell. Certificates of Merit went to Mr. Ayliffe for a collection of vegetables, and Mr. Atwell for two Begonias (Gloire de Lorraine).

Lawn-Sprinklers are used in great numbers in the Chicago public parks during summer, some working for ten hours a day.

Weather in London.—Mildness with a considerable amount of rain and occasional breaks of sunshine have been the weather conditions of the past week.

The "Hurst & Son" Musical Society.—We have received notice of a smoking concert to be given in the Corn Exchange Restaurant, Mark Lane, E.C., on Tuesday, December 11th (Cattle Show week), by the above society. An attractive programme is being arranged, and judging from previous "Hurst & Son" concerts, we anticipate something good on this occasion. Tickets, price 6d. each, may be obtained of all the members, or from 152, Houndsditch, E. Mr. F. Washington is the hon. sec.

New crops suitable for Australia.—Among the plants which have been suggested for trial in suitable regions of Australia, by Mr. Despeissis, the expert in horticulture to the Department of Agriculture, two are specially mentioned. These are Agave mexicana for the sake of the fibres it yields; and the Pineapple, which is not grown yet which might be. These, according to the *Journal of the Department of Agriculture of Western Australia*, are what have been mentioned. The Agaves are grown among other places in Mauritius in the most arid place, and furnish "Sisal hemp" and "Mauritius hemp." In the case of the Pineapple several tons of delicious fruits can be obtained from an acre.

Fruits, and where Imported from.—It should be interesting to gardeners to know where the market fruits are at present imported from. Apples are sent from Canada, the United States, Belgium, France, and Holland; Pears from Belgium, France, and Holland; Oranges from France, the Canaries, Italy, Spain, Portugal, and the Madeiras; Lemons from Italy, Greece, Portugal, Spain, &c.; Tomatos from the Canaries, France, Madeiras, Spain, and Portugal. Nuts come from Persia, Ceylon, Morocco in northern Atrica, Spain, and France. Apricot pulp comes from France; Pineapples from the Azores; Bananas from the Canaries, and Pomegranates from Portugal. Grapes come from all the southern continental countries. Beans and other vegetables come from Germany, France, Holland, and Belgium.

Funny!—Says a writer in an American paper:—"I once read of an American florist who advertised in foreign papers, giving an elaborate description of 'the great American velvet plant.' All his orders were executed in Mullein plants. Another florist, a student of human nature, once sold to a rich customer, whose financial resources were greater than his floral information, a big order of plants. He called everything by their high-flown Latin names so that the purchaser did not know what he was buying. The customer came back, however, and reported that there must have been some mistakes, as the Helianthus that was sent to him was nothing but a devilish big Sunflower, the Celosia was nothing but a blamed little sawn-off Cockscomb, Salvia was only Sage, and the Amaranthus was nothing but Prince's Feather."

Trade Poisons Bill.—A third and final meeting of the Chemical Trade Section of the London Chamber of Commerce was held on Tuesday afternoon this week to consider the above Bill (which has been formulated by the Traders in Poisons and Poisonous Compounds for Technical and Trade Purposes Protection Society, of 5, Clements Inn, London, W.C.), which has for its objects the alteration and amendment of the law, relating to the sale of poisons and poisonous compounds for agricultural and other trade purposes in Great Britain and Ireland, and to decide what action, if any, should be taken by the Chemical Trade Section in the matter. There was a very full attendance of members and others interested, and after considerable discussion, the following resolution was proposed by Mr. Thomas Bennett (Messrs. Bennett Lawes & Co., Ltd.), and seconded by Mr. J. J. Bowley (Messrs. F. Bowley & Sons):—"The Chemical Trade Section recommended the Council of the Chamber of Commerce to actively support in Parliament the proposed Bill to alter and amend the law relating to the sale of poisons and poisonous compounds used for agricultural and other trade purposes." The resolution was carried

ROOT PRUNING

Is a subject that the writer meant to have penned quite a month ago, and such would have occurred, but owing to pressure of work, &c., it has been deferred till now; but it is none too late to carry out this work provided the weather keeps mild. Of course, these remarks refer to fruit trees in the open which have, during the past year or more, made too much strong growth instead of forming fruit buds or spurs, especially Apples, Pears, and Plums. Often it becomes necessary to lift and replant the tree entirely, but this cannot well be done with large trees, hence the cutting of the strongest roots which generally has a tendency to go downwards or quite in the opposite direction of the cultivator's wishes. Firstly, take out a trench from 2 ft. to 3 ft. deep right around the tree, keeping the same distance away from the bole of tree according to size. Then gradually and carefully with a five-tined fork reduce the ball of soil, preserving all fibrous roots and shortening back all those devoid of fibres, not omitting to work fairly well under the tree, for it is here often the mischief is done. Use the knife and not trust to the spade to do the work, as some think good enough. When the operator considers the mischief has been rectified replace the soil again, carefully laying out straight each root in its place and encourage upward those that have a tendency to go downwards. Make the soil quite firm as the work proceeds, in fact ram the soil under the tree if much has been removed (bearing in mind that a good firm soil is far more conducive to fruit bud forming than a loose one. Especially is this the case with all stone fruit. Peaches, Apricots, Cherries, and Plums on walls are dealt with in the same manner when necessary). Some advocate a little good soil to be worked in as the work proceeds, but I consider this is adding insult to injury, for it must be patent to the merest novice that if the tree has grown too strong and rampant in its old soil, by adding a better *larder*, you are aggravating instead of rectifying the evil. Nay, I would rather replace the former soil or part of it with one more hungry. Those trees that have been operated on would be better with a good mulch early in the spring, and a good watering now and again in summer, if any exhibit signs of distress, though this does not often happen unless the tree is old.

This article would not be complete without a word as to the pruning of the shoots on trees so dealt with. This must not be neglected, but deferred until late in the spring or just as growth is pushing. Writers disagree upon this point, or upon newly planted trees from the nursery, which amounts to about the same thing if severely dealt with. I can't see the good of postponing the pruning of shoots for one year on such trees. On the contrary, I can see the folly if left undone, I mean the properly balanced tree, especially if for walls.—*J. Mayne, Bicton.*

NOTES ON VINE GRAFTING.

Your veteran correspondent, Mr. Temple, has an able article on the above. May I supplement a few remarks which have come under my own experience. I have always found the Black Hamburgh the best stock unless with two cases. I put the Gros Maroc and Mrs. Pince on the Black Hamburgh. They grew very well but failed to fruit. The Gros Maroc is doing splendidly on Foster's Seedling; Muscat of Alexandria on the Duchess of Buccleuch is splendid; while on the other hand Muscat of Alexandria was no use on Chasselas Musqué. It grew well enough but failed to fruit. I have Gros Colman on Black Hamburgh, splendid; I have Mrs. Pearson on Lady Downes, doing splendidly for this last sixteen years; but the tinge of the Lady Downes is likely to produce rust in the white Grape. I have put on a graft of Colman upon Mrs. Pearson. It has made a good cane, but I will not know the result till another season.

I have not had a chance to try Mrs. Pince on any other. I grew Trebbiano on Black Hamburgh. It did very well in one case, producing a bunch, 5 lbs. in weight, which I exhibitted at our local show; but as it was robbing the Black Hamburgh I took it off. Trebbiano did equally well upon Foster's Seedling, but it was no better in flavour if as good. Gros Colman is reckoned very good in flavour, while Gros Maroc is not equal in flavour to the Colman. It is fairly good and keeps well till Christmas. Muscat of Alexandria was also a failure as regards fruiting upon Buckland Sweetwater.—*Wm. Johnstone, The Elms, Arbroath.*

[Some of the berries of Mrs. Pearson were a little rusty, but we must say we have seen the variety much worse. It gives good growers a little trouble, and more than likely the rusty colour of the skin may be due to other causes than to the Lady Downes stock upon which it is grown. Gros Colman was of better flavour than Gros Maroc, but it (the former) was not very well coloured. Mrs. Pince and Gros Colman require a long season and more heat to mature them properly than Black Hamburgh, Muscat of Alexandria and others. Gros Maroc is generally considered a much superior variety to Gros Colman in the matter of flavour, but time is required to mature them properly. The berries of both, but particularly of Gros Maroc, were of large and handsome size, the latter being also well coloured.—Ed.]

CHRYSANTHEMUM CUTTINGS.

If Chrysanthemums are required to carry from twelve to twenty good blooms, now is a good time to put the cuttings in, as it allows them time to get properly struck, and have a good start as the days begin to lengthen. The cutting are best inserted singly in thumb pots in a hand light, using a blunt dibber and seeing that the cutting is on the bottom of the hole, or if hung up in the pot they will never strike. Keep them in a cool structure, with a temperature ranging from 45° to 50°, being careful to wipe the glass of the lights dry every morning as it will help to keep the cuttings from damping off. In about a month they will be nicely struck, and by the beginning of January will be ready for their first shift. My choice of a dozen varieties for this purpose would be: W. H. Fowler, Souvenir d' une Petite Amie, Viviand Morel, Charles Davis, Lady Hanham, Matthew Hodgson, Mons. Chenon D. Leché, James Bidencope, Phoebus, Louise, Etoile D. Lyon, and President Nonin. These are on the whole dwarf and compact. The middle of December to my idea is soon enough to put cuttings in for large flowering plants, and the beginning of the year for the decorative varieties.—*H. Willis, 42, Alexander Road, Englefield Green, Egham.*

PENZANCE SWEET BRIERS.

This section of the Rose family is not nearly enough grown, owing, perhaps, to misunderstanding its simple requirements and sometimes from premature conclusions arrived at from written descriptions. The Penzance Sweet Briers are lovers of freedom, and will not bear pruning like hybrid perpetuals, therefore, they are unsuited to the garden bed or border. Some believing them very vigorous place them in the back portion of shrubbery borders where they soon die from want of air or poverty of soil. Planted in the open lawn, these charming Roses flourish and well repay the attentive cultivator with floods of delightful perfume from early spring to late in autumn. Their flowers are single and sweetly scented, they are pretty durable in a cut state if taken in the bud stage and produce a naturally serene effect when arranged lightly indoors. The flowers are replaced by bunches of "heps" or berries, which grow brighter amongst the scented foliage, or dangle on long arching shoots as the days grow shorter and shorter. These Sweet Briers were first obtained by Lord Penzance by crossing old garden Roses, Austrian Briers, &c., with the common Sweet Brier, the delightful fragrance of which is strong in the hybrids. Though they resent pruning it is necessary that dead and weak wood or an undesired shoot should be cut away.—*Henry H. Gibson, The Gardens, Glencairn, Belfast.*

SEAKALE.

Of all vegetables that undergo the process of forcing during the winter months none is more deservedly appreciated than Seakale. Its flavour is delicious and it is in use from the present time until June. For the earliest supplies, the roots are lifted, trimmed and placed closely together on the floor of a Mushroom house, or any underground cellar. If such houses are not about big pots can be used instead, placing the crowns close together with another pot inverted on it to exclude light and put under a greenhouse stage for, say, five days, when they can be put in a little more warmth of from 60° to 65°. Seakale produced from the cutting principle is the best. When lifting and preparing the crowns for forcing, select roots ¼ in. in diameter that are being cut off and make cuttings 5 in. long,

the end intended for the crown being straight and the other cut slantingly. Bury in sand until April, which is the best time for them being planted in their place in the garden. The ground having previously been well manured and dug, all that requires to be done now is to dibble the cuttings in about 15 in. apart in rows, and 2 ft. 6 in. asunder, placing them deeply enough to allow of 1 in. or more of sand or fine mould being put over each. Later on the plants should be disbudded, leaving only the strongest growth to each.—*T. S. Dick, Castlemilk, Lockerbie.*

SMALL KITCHEN GARDENS.

Many gardeners are often at their wit's end to know how to crop their small kitchen gardens. They are expected to grow all kinds of vegetables without much ground to grow them on. I should grow snatch crops, that is, in the early spring, sow between young Strawberries a row or two of Parsley; between Peas, Spinach; between Currant trees, Turnips or Turnip-rooted Beet, or single rows of Broad Beans, pinching their tops off early to prevent them growing tall. Lettuce may be grown between Raspberries; Radishes may be sown in a row on the Asparagus bed. Plant herbs in any odd corner. Good Horseradish may be grown by placing a few barrows of soil in a heap and planting young pieces in it rather deep. By sowing sprouting Broccoli, Scotch Kale, and Welsh Kale in May they can be planted out between fruit trees after the small fruit is picked. Being small they can be planted rather close together, and by the spring they will bring a nice lot of greens. But, of course, Brussels Sprouts, White Broccoli, and Savoys must be grown in the open; also Onions, Carrots, Parsnips, and all other vegetables. In sowing let the rows come to the edge of the walk. One often sees in gardens about 1 ft. left bare, what for I do not know. One thing I do know is it would grow many dishes of good vegetables.—*H. W. Lewis, The Village, Hayes, Kent.*

THE FADING YEAR.

We are fast hastening on to the close of another year, also of a century. One is reminded on every side by Nature herself of the closing scenes; 1900 will be remembered by young and old as one of the most memorable in history. To the gardener and farmer it has indeed been a plentiful one, as regards crops. To remind one of the going to rest of its occupants, trees and shrubs, both flowering and fruiting have flung off their summer garb. The knifesman is now busy pruning and cleaning the family entrusted to him. A walk through the glass department finds many of its occupants also going to rest, but where winter flowers are reared, the plant houses give to us a little more summer-like appearance. Chrysanthemums are going past their best now. Varieties such as Niveus, L. Canning, Golden Gem, Lincoln, and Mrs. Filkins for late work will now be useful in the conservatory. A few Callas may be introduced with a little warmth; also the sweet-scented Genista, Primulas, Araucarias and bulbs of sorts will help to make this department bright and gay. The warm stove house can have such plants as Poinsettia pulcherrima, also the Euphorbia jacquiniaeflora, very useful for cutting. I have no doubt this class of plant will be in great demand for the house and table decoration this Christmas, when many of our scarlet heroes return to home and friends from the war in South Africa.—*S. Jordan, Frithesden, Berkhamsted,* December 3rd, 1900.

BEAUTIFULLY COLOURED BARKS IN WINTER.

Perhaps the most attractive sight in the shrubberies and woodland, and on the banks of streams, lakes, &c., during winter, after the leaves have fallen, is the coloured barks of many of our deciduous trees and shrubs. They are seen to the best advantage when planted in beds of one thing only, most of which are easy to propagate, and simple to manage. The great secret, however, to produce the best effect is to cut them down close to the ground the first week in April. Semi-wild gardens, unsightly banks, &c., when clothed with these produce an effect in the landscape during winter which has to be seen to be realised. The more intense the cold the more highly coloured will be the wood. Irregular shaped beds and masses designed to suit the lie of the land are preferable to hard and stiff lines, especially so by the margins of lakes and streams. Before planting the ground should be thoroughly trenched, after which little labour need be expended on it, with the exception of making the beds clean and the annual pruning. All the following are quite hardy, and I know produce the most telling effect;—The red Dogwood, Cornus sanguinea, red and yellow Willow, Rubus canadensis rosea, Rosa alpina, Symphoricarpus racemosus, the white-washed Bramble, Rubus biflorus, Rubus phoenicolasius, Spiraea Douglasii, and Rhus typhina, the Stag's-horn Sumach.—*A. Thatcher, Elstree.*

ROSES.

Three excellent Roses to plant for covering walls, pillars, etc., are Crimson Rambler, Reve d'Or and L'Ideal. Taking Crimson Rambler first, this popular Rose should be planted by all lovers of Roses. Many of our formal walks and objectionable views could be easily rendered attractive, by planting a few trees of this beautiful Rose about. I think the prettiest sight I ever saw was Crimson Rambler growing over some old stems of Spruce trees, which had died and been cut down and only the fine twigs trimmed off. These were then placed about the grounds with Crimson Ramblers planted round them, and during the summer there is a sight never to be forgotten. Reve d'Or is another useful and free-flowering Rose. This variety I consider to be one of the best for covering old walls and pillars if left to ramble at will and never pruned, as this Rose is best not pruned at all. In this district it is one of the earliest and continues to flower late in October. L'Ideal is a very pretty Rose for planting to cover walls, and is a general favourite with the ladies for table decorations, on account of its lovely colour. Large clusters of full blown flowers and buds of this variety are very attractive, cut with a long stem.—*J. Botley, Blythewood Gardens, Maidenhead.*

THE CYCLAMEN—AS AN EARLY WINTER FLOWERING PLANT—

Is a lovely and also a modest plant with its "downcast eye." The quaint and beautifully marked leaves make it a fit and proper companion for the "Romans" on the front of the greenhouse stage, from the middle of November onwards. The Cyclamen may be said to be a non-forcing plant, as it does little good when subjected to a temperature of more than 60°. But I think winter plants are much finer when flowered in a temperature of 55°. Everyone who grows this plant knows, however modest it may look, it has a will of its own, if asked to hurry up. In the following simple way they can be got in by the middle of November. After flowering pick out the plants you want. Rest them for a time, but do not allow them to become too dry to lose their leaves, although they may become a little yellow. Start them into growth *without disturbing the roots* in any way. And as the young leaves begin to grow gradually remove the old ones. When the flower buds begin to appear a little weak manure water may be used. I find that made from superphosphate to act very well. It helps the growth of the flowers without exciting or softening the foliage to a noticeable extent. Remove the plants from frame to a greenhouse shelf early in autumn.—*A. Dickson, The Gardens, Glenormiston, Innerleithen, N.B.,* December 1st, 1900.

MALMAISON CARNATIONS.

After the plants have done flowering select all the short-jointed shoots and make them into cuttings, about 5 in. long, cutting them straight across below a joint with a sharp knife. Then split them up the centre, about 1 in., and insert a piece of oyster shell to keep them open. Insert the cuttings in 2-in. pots, in rather sandy soil, and place them in a cold frame so that the sun cannot reach them, when 90 per cent. will root. About September they will be ready for a shift into 4-in. pots, using good loam and leaf mould in equal proportions, with a little sand added. After well established, pot into 6-in. pots, using the soil a little heavier, adding a little bone meal. After this potting I pinch the centre out, which causes them to be dwarf and bushy. After they are well established in these pots, I give them their final shift into 8-in. pots, giving three parts loam, one leaf mould, with sand and a little bone meal. This final potting should be done about June. The pots should be well crocked, the plants firmly potted, and very carefully watered. Grow on as cool as possible, but allow no frost to reach them. Give them as much light as possible when no disease will bother you. You will be rewarded with a grand show of bloom. I prefer cuttings before layers as they are more sturdy and flower better.—*Inquirer.*

ORCHID NOTES & GLEANINGS.

By the Editor.

Orchids from Camphill Park.—About eighteen months ago, or thereby, Mr. James Whitton, superintendent of parks, Glasgow, purchased an importation of Odontoglossum crispum for the winter gardens, a fine range of glass at Camphill, Langside, Glasgow, to which the public has access. The plants are now established and coming into bloom. A boxful of blooms has been sent us by Mr. W. McIver, the foreman in charge of the range. Some of them are good varieties, and we think will make a fine display when the plants get strong and develop large spikes and flowers. The fine forms we refer to are those with broad, overlapping petals. The blooms of one are almost pure white with the exception of a large, dark chestnut-red blotch, deeply indented at both ends. Another has purple spots on all the segments. A third flower is tinted with rose on the back of all the sepals, and spotted with small, brownish-purple markings on the middle of all the segments. Some of the other flowers are larger, but the segments are long and narrow, giving the blooms a starry appearance. For ordinary decoration they do well enough, but connoisseurs object to all varieties of O. crispum possessing this character. When thoroughly established and in vigorous growth the flowers of all will improve in appearance, though the starry flowers will retain that character.

Accompanying the above was a large flower of Cymbidium tracyanum of good average quality. We have seen much inferior varieties in the matter of colour, but if the brown shading of the sepals and petals had been a little less pronounced, the variety would have taken first-class rank. The brownish-crimson lines and spotting are strongly and clearly defined, and the flowers are powerfully fragrant. Some sprays of Oncidium pubes were also sent. The flowers, though small as usual, are in this instance beautifully coloured. The sepals and petals are of a rich chestnut-red, with a clearly defined yellow base.

NOTICE OF BOOK.

Pictorial Practical Gardening, a Useful Manual for all Classes of Horticulturists, giving Concise Directions for the Culture and Selection of the Leading Flowers, Fruit, and Vegetables. By Walter P. Wright, Horticultural Superintendent under the Kent County Council. With upwards of 140 Illustrations. Cassell & Company, Ltd., London, Paris, New York, and Melbourne. 1900. Price 1s. in paper covers; 1s. 6d. in cloth.

The title of this book of some 157 pages would appear to derive its significance from the numerous drawings, diagrams, and photographs interspersed throughout with the text. The different operations in seed sowing and the raising of plants from seed are also illustrated, including a seed pan that has just had a pane of glass put over it as the completion of the process. The appearance of seedlings after they have been pricked off into pans, boxes, and frames, is also represented. The sketches are well calculated to give the novice a good idea at a glance of some of the rudimentary operations in gardening; but we must take exception to an "edging bridge" intended to save box edgings when wheeling manure, &c., on to vegetable quarters. The idea or design is correct enough, but the gradient is too steep for the gardening boy to mount at the first attempt.

Some hints upon the building of rockeries are also illustrated, showing some of the pitfalls to be avoided in the use of stones. The method of preparing and inserting various cuttings of common garden flowers will also prove an eye-opener to the inexperienced groping in the dark without the aid and ocular

demonstration that comes to those who commence their career under professional guidance. Amateurs who take to gardening without such aid experience many difficulties in overcoming the rudiments of the art, and, as a rule, take a good many years to acquire the necessary knowledge; but with such ocular demonstration in the form of simple illustrations it only needs an attentive eye and thinking head, coupled with enthusiasm, to make a deft hand in the course of a season or two. Flowers more than vegetables constitute the stumbling block of the beginner. The method of pruning the well abused standard Rose, to make it conform to garden usage, is well shown, but we hope that standard Roses will soon go out of fashion as an anomally. The large cottage garden bush would be preferable. We have seen La France Rose 8 ft. high and profusely flowered in the form of a bush. Exhibition ideals mostly rule the fate of Roses in gardens at present.

A large number of garden tools, necessaries and accessories are also illustrated without stint; and some of them show how an amateur may contrive to make new tools out of an old and worn-out one. We have no donbt some of such hints will be appreciated particnlarly by those who resort to various expedients to fnrnish their toolhouse cheaper and expedite the labour of weeding and stirring the ground amongst growing crops. The taking and the timing of buds of Chrysanthemums receives explanation and illustration. We think it is high time that professionals should amend their terminology with regard to this operation. The present system of explanation and theory is technical to a fault, but the phraseology is absurd.

The latter part of the book is taken up with select lists of vegetables, average time in matnring and weight of crops, time and depth of sowing and distance of planting, quantities of seeds for given areas, remedies for insect pests and fnngi, and a pictorial garden calendar. Even a method for outwitting the garden cat has not been overlooked.

FRUIT UNDER GLASS.

Figs in pots.—Those who have much Fig-forcing require suitable strnctures in order to continue the work with snccess. A lean-to or hip span honse is generally employed, and the lower and flatter the roof is, the more convenient will it be to the cultivator, and also better for the plants. The beds in which to plunge the pot Figs should now be prepared. Raise the beds so high that the pots when plunged will be within 1 ft. or 1½ ft. of the glass. Oak and Beech leaves are cleanest and best. The plants for forcing should be bushy and well established in 9-in. or 10-in. pots. When the heat of the leaves has decreased to 70° F., plunge the pots to their rims. Previous to this merely leave them on the top of the leaves. A top temperature of 50° is qnite enongh to maintain during the first fortnight that the plants are under process of forcing. This may be raised to 60° as a minimum after the first fortnight and so on up to 70°. A moist atmosphere is necessary. When the plants begin to swell their fruits feeding may commence.

Peaches and Nectarines.—The earliest house is started at the present period, and this should now be ready. The pruning and washing, top-dressing, and painting (if any was required) must have been finished previously. The trees need not yet be tied to the wires. Merely close the house without addiog fire heat. Keep the borders damped down and lightly dew the trees on bright days. In ten days apply sufficient heat to maintain a day temperature of 60° and 50° at night. Be attentive in damping down. Go over the trees in search of mealy bug or scales which may appear even after all the cleanings. A touch with methylated spirits is death to them.

Have the trees tied and arranged before growth starts. Fill the evaporating troughs with cow wash, and also sprinkle some about on the borders. If the ammonia smells sharply, open a mere seam in the ventilators on the lee side of the house. The Peach and Nectarine borders may be watered whenever a quantity of rain water can be obtained. Chill all the water before applying it to the roots.

Cherry House.—Cherries will soon be in preparation for an early start. If they have been pinched and attended to as they ought during the snmmer very little pruning will be necessary. Some of the leading shoots on well developed trees may need to be shortened, and some of the smaller lateral shoots may be spurred in. Old blank wood with dead eyes should certainly be cut out if good young wood can be got to fill in instead. The trees must be gone over in order to wash and clean them. Cherries started at the new year will yield fruits in four months.

Strawberries — The earliest batch of Royal Sovereign Strawberry in pots must be sought out within the next fortnight for a start in forcing. Worms are nearly always present in the pots. By making a solution of lime water, used nearly clear, to water the plants the worms are either killed or expelled from the pots. Dead leaves should be picked off and the pots should be washed. Keep the plants in cold frames in the meantime.—*J. H. D.*

Kitchen Garden Calendar.

Forced Vegetables.—These will now be in great demand, for though, so far, the autumn has been mild, and a plentiful supply of all kinds of green vegetables may be had, it is necessary to have a change. Where due care has been exercised in preparing material for hot-beds and where there is proper convenience for forcing there should be no difficulty in keeping up a supply. It is where makeshift appliances have to be resorted to that causes so much anxiety and worry to the grower, and where the demand so outweighs the means of production that causes so much trouble.

Asparagus.—The forcing of this vegetable has now become general, and where large quantities are in demand, roots must be grown specially for that purpose, as it is not advisable to disturb the permanent beds unless the roots are getting worn out, as they sometimes do on cold, heavy land. Having prepared a hot-bed suitable for the reception of the roots, taking care that there is no danger of overheating, spread over the surface about 4 in. of rich light soil, and on this lay the roots as close together as possible. They are best lifted and taken straight to the hot-bed, for if allowed to dry they do not so readily start into growth. When the frame has been filled with roots, cover them with 3 in. or 4 in. of light soil. Some prefer a greater depth. It is, however, not necessary, unless for blanching the growth. This done, give the whole a watering to settle the soil, then place on the lights and cover with a mat for a few days, till there are signs of growth pushing through the soil; then take advantage of all favourable weather to admit air and light. Examine the bed frequently to ascertain whether the temperature is of the requisite degree of warmth. If likely to decline too rapidly, add a lining of fresh material to generate fresh warmth. If too hot, give a liberal watering, and admit more air, allowing a little to remain on all night when the weather is mild.

Seakale.—So far, there has not been sufficient frost to cause the leaves of this to decay; therefore, until the growth is somewhat arrested, the roots cannot be lifted for forcing. As soon as the foliage has died down lift a portion and place in a gentle heat where light can be excluded. The most crisp and tender growth is that made where the temperature is not too violent, from 55° to 60° being ample. It is essential that every particle of light be excluded, otherwise the growth made will not be of that delicate flavour and colour so desirable. It is also advisable to cover a portion of the stock of roots with litter to exclude frost that they may be lifted at any time when required. Seakale may be blanched in the open ground, and for a late supply this is preferable to lifting. When such is contemplated, the sets should be planted in clumps so that they may be covered with Seakale pots, over which fermenting material can be placed to generate the necessary heat to induce the plants to start into growth.

Chicory.—When well blanched this makes a very delicate dish, and as a salad it is also much esteemed; therefore, a quantity should always be grown that the roots may be taken up for blanching. Like Seakale, it is essential that not a particle of light be admitted while it is making its growth, otherwise it will lose much of its delicate flavour. Only a small portion should be introduced into heat at a time as the leaves soon become tough. Fresh batches ought to be taken in for blanching at least once a week; by so doing there will always be a supply of fresh crisp leaves for use. That the roots may be lifted at any time when required, a portion should be covered with litter to exclude the frost.

Endive.—This is very much in request during the winter months, both as a salad and dressed vegetable. In order that it may be had in the finest condition blanching is necessary. This can be done in various ways, but the most simple is to lift the plants and place them in a house with the Seakale, Chicory, &c.

Rhubarb will need attention also, as this is usually in demand soon after Christmas. Stalks grown in the dark are preferred to those which are exposed, therefore the same structure in which the former are grown will be found suitable for this also. Roots that were lifted and exposed as previously advised may now be introduced into heat, when growth will soon commence.—*F. W. J.*

Gleanings from the World of Science.

Fitchia.—At the meeting of the Linnean Society of London, on November 15th, Mr. W. B. Hemsley, F.R.S., F.L.S., exhibited a number of specimens and drawings of *Fitchia* (Hook f. in Lond. Journ. Bot. iv. p. 640, pls. 23, 24), including a new species from the Island of Raratonga in the Cook Archipelago, discovered by Mr. T. F. Cheeseman, a Fellow of this society. The genus was described from specimens thought to have been procured on Elizabeth Island, a remote coral island in the Eastern Pacific; but Mr. Hemsley gave reasons for believing that the locality of the plant described by Sir Joseph Hooker was Tubnai Island in the same latitude, but 20° further to the west; an island of volcanic origin and mountainous, and therefore more likely than a coral island to be the habitat of such a plant, especially as it was originally discovered by Banks and Solander in Tahiti. Only three or four species are known: they are small resiniferous shrubs of tree-like habit, with rather thick branches, opposite simple leaves borne on slender stalks, and terminal, usually solitary flower heads. The systematic position of *Fitchia* is not very evident; although usually placed in the Cichorlaceae (Benth. & Hook. f. Gen. Plant.), Mr. Hemsley considered its affinities as a resiniferous plant to be with the Helianthoideae, and near to *Petrobium*, a monotypic genus of St. Helena (Hooker, Icon. Plant. t. 1053). After discussing the views of systematists on this point, he briefly described the new species from Raratonga (*Fitchia natans*), remarking that it secreted a resin which is exuded on the young branches and flower-heads, and is used to prepare an agreeably odoriferous oil.

Large Cluster of Spanish Chestnuts.—On the same occasion Mr. Hemsley exhibited an abnormal cluster of fruits of the edible Chestnut found by Mr. Charles Read of Sway in the New Forest, and forwarded to Kew by the Rev. J. E. Kelsall. Usually there are two or three, rarely four in a cluster; but in the specimen exhibited there were at least fifteen, the largest nuts measuring about an inch in their greatest diameter.

Statice lychnidifolia.—At the same meeting Mr. James Groves, F.L.S., on behalf of Mr. Cecil R. P. Andrews, exhibited specimens of a Sea Lavender new to the Channel Islands, Statice lychnidifolia, Girard, discovered by Mr. Andrews in August of the present year growing sparingly on low rocks by the sea in Alderney in company with S. occidentalis the most nearly allied British species. The distinguishing characteristics of S. lychnidifolia, as noted by Mr. Andrews, were the large, many-nerved leaves, the stout scapes with large scales, the broad dark bracts, and the triangular calyx-teeth. Mr. Groves pointed out that the interest of the record consisted not so much in the fact of the plant occurring in Alderney (being a native of the adjacent French coast, and the Channel Islands being geographically more French than British), as in the fact that a species should be added to the flora of one of our possessions so near home.

"Some Recent Fires."—Under this title one of our American contemporaries describes the damages, which amount in one instance to seven thousand dollars, accruing to six florists' firms in the past week or two. The fires originated more or less from faulty flues and boilers. But fires to such businesses are continually reported from America.

HINTS FOR AMATEURS.

TREES AND SHRUBS.

The Witch Hazel (Hamamelis arborea) is another yellow flowering shrub of interest, and is useful. It begins to bloom when the snow and frosts are prevalent in February. The flowers are very curious. Select for it a good garden soil.

Hippophae rhamnoides, or Sea Buckthorn, is beautiful under certain conditions. It is found naturally by the sea coast, and large quantities of it grow on the sea board of the Firth of Forth at Gosford. The salt waves send their spray over the bushes, and though they have not subdued the bushes their effect is noticed by the checked state of the growth. The young buds are effectually shortened each spring—and this natural system of pruning has resulted in a dense thicket of growth. The Buckthorns are dioecious, that is, there are individual male and female specimens, distinct and separate, so that when planting, a number of male and female plants should be mixed. Hippophae rhamnoides with its grayish-silvery leaves and orange berries, is a distinctly ornamental subject on marshy land or by the sides of lakes.

Gingko biloba or Maidenhair tree ought to be more frequently planted as a foliage subject. It does not grow fast, but forms a handsome tree in time. In exposed situations it requires the protection of a wall.

Fraxinus Ornus, commonly called the Manna Ash, flowers towards summer. A full-sized tree is a distinct object of attraction when in flower. Dry sandy soil tends to create floriferous specimens.

Halesia tetraptera with its beautiful appellation of "Snowdrop Tree," is one of the fine subjects that are only suited for warm quarters, and must have sunny south walls in northern districts. When such trees are grown on walls they are out of character, and their grace is certainly abolished. The drooping fascicles of flowers are pure white, and each little blossom included in the fascicle is likened to a small Snowdrop. Like a Deutzia, would be a more fitting comparison, however. A deep rich, light soil is most to their liking.

Hedysarum multijugum.—All who have seen this pretty dwarf shrub speak well of it. It has only been about sixteen years in this country, but during that period has gained a strong hold. It flowers from midsummer till October, bearing purplish racemes. The foliage is of bright green colour, and resembles that of a Swainsonia or Indigofera. It does well in a well prepared bed or border in a sunny and fairly open position. The height of it is limited to a few feet.

Then there are numerous Hydrangeas now-a-days that are quite hardy. It is time some more liberal use was made of H. japonica variegata, H. paniculata grandiflora, and H. Thomas Hogg, which certainly require some care, but are worthy of it.

Paulownia imperialis.—In the early part of the year, that is to say, about May, the leaves of cut-back plants of Paulownia imperialis are like those of a great Sunflower only that they are fleshier and stronger. The tree (for it developes to the proportions of a tree) is used in London parks and gardens, but is usually confined to a single stem. Each season the summer growth is cut hard back, leaving only about three good eyes or even only one. One of the shoots which start in spring is allowed to grow straight up, the others are removed. In some cases only one bud is left, with the result that if this is injured or killed the tree is spoilt. Paulownia enjoys a deep, light, rich soil. It is usual to mulch the roots in autumn or winter. The Foxglove-like flowers are purplish-violet and spotted; but the tree, unfortunately, requires a favoured place to succeed perfectly. It might more frequently be tried, however.

Kerria japonica is a vigorous and free-growing shrub, having bright yellow flowers and leaves like those of an Elm tree. The flowers endure for a considerable length of time, beginning their display about April. There are also a double flowered and a variegated variety.

The Ribes, or flowering Currants, as they are called, are well appreciated. R. aureum is both ornamental in foliage and attractive in flower, yet is the least frequently seen. R. sanguineum, R. atrorubens, R, speciosum, R. gordonianum, R. multiflorum and R. aureum may be chosen if a number of kinds are desired. A half shaded position on well-drained loam presents itself as the best place for them.

Spiraeas.—This genus is an exceedingly comprehensive one and includes a list of very fine ornamental and flowering shrubs. But though there are many beautiful species and varieties there are others only valuable in the botanical collection, either to add completeness or for the sake of some special feature of theirs. For the attractiveness of their flowers I would recommend S. Anthony Waterer whose pretty pink and creamy shoots and foliage are also pretty; S. bella, S. Thunbergii and S. confusa. The foliage of S. sorbifolia is its chief feature of value in my eyes. When kept pruned this species throws up strong shoots 6 ft. high.

The latter should be planted in a moderately heavy soil. The shrubby Spiraeas, as a rule, are found doing well in a variety of soils and situations. Their needs or desires are best met by planting them where they will enjoy abundance of light, air and rain. They, in common with the other subjects named, can now be planted.

Weigelas.—The name now recognised for this genus is Diervilla, but so few care to change from the name so universally known, that it may still be maintained. These are somewhat like the shrubby Spiraeas in their adaptability to many different circumstances. They are certainly among the hardiest and loveliest of ornamental shrubs. They can be formed into hedges or beds, or merely planted here and there in the shrubbery. I have also seen them trained like Raspberries to a sort of rustic impromptu fence to act as a screen, and to furnish the appearance of cosiness. They enjoy the heavier qualities of soils, though any other sort comes not amiss. The prevailing system of planting in large gardens is that of spacious beds, filled with one species or variety only. Weigela (Diervilla) amabilis and rosea are two of the oldest and most popular. W. Eva Rathke is a vigorous sort, having large trusses of crimson flowers which last a long time. W. carminea and W. candida, pink and white respectively, may suffice in the matter of variety. The soil should be well prepared for the plants, and moderately firm planting is advisable. In the matter of pruning (and all shrubs should be attended to in this respect) it is only needful to do very light pruning in the case of Weigelas. When they have finished flowering in May, the flowering shoots should be shortened and thinned out. The summer's wood, and the wood of the previous seasons will furnish that from which the next year's flowers will appear. Any pruning that is necessary with Prunus triloba, Chimonanthus fragrans, Spiraea bella, and other things should also be done immediately after flowering, but not in winter or spring. Still, in pruning a great deal depends on circumstances.

The Greenhouse.—Soon the earliest of the forced bulbs will be in season. The Roman Hyacinths indeed have been in bloom for some time. On no account allow the plunged bulbs to become etiolated else their value as flowering plants will be impaired. The plants of Primulas floribunda in large 4-inch pots can now be had in flower. Be careful when watering these plants, for they are liable to damp at the neck. Violets in pots may now be brought into the greenhouse and they will require lots of care. Do not feed them but place them where the fullest light can be had. Chinese Primulas, and Cinerarias will be in full bloom presently. In the meantime do not starve the latter, especially if they are in small pots, say 5 in., as they ought to be. I always have found the sturdiest, surest, and most lasting plants among those grown in the smaller sized pots. Calceolarias should be confined to the shelves. Freesias, though outside the greenhouse, at present will soon be included among its occupants. At present the plants should be in a warm house (65°) and should be fed twice a week, using the liquid weak and tepid. The flower spikes of the earliest and selected batch should now be showing. These will come in just before Christmas. Chrysanthemums as they pass out of bloom should be cut down, and may be carried to a cool fruit house there to remain till the cuttings are taken. The earliest batches of cuttings, which will include those of early autumn flowering varieties, may be put into shallow boxes filled with sand. Place these on the stages of span roofed houses having a temperature ranging from 50° to 60°. Dew these very lightly over twice a day. —*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

What is "rested (Chrysanthemum) Stock?" —*A. O'Neill*: The true term "rested stock" applies to plants that have been grown in the open air, and which are therefore under natural conditions of growth, as opposed to plants or stock that have been fed up and protected for the sake of producing heavy blooms. Rested stock also applies to plants whose flowers may have been cut fairly early in the season —say anytime during October—and which were immediately afterwards planted or placed either out of doors or in absolutely cool houses. The term is used rather loosely, but to sum up, it may be applied to those plants that are allowed to produce their cuttings under natural conditions, and not in any way forced.

Treatment of Chrysanthemums after flowering. *A. O'Neill*: Keep them in a cool house, or even out of doors. Water them when they require water. The idea should be to treat the plants so that they will produce sturdy cuttings.

Can Carnations be planted now?—*L. F.*: They may, for the season is open; but for your own benefit and their safety we would recommend you to pot them and place them under the protection of a frame during winter.

Marechal Niel Rose in a cool greenhouse.—*R. S. T.*: When this Rose is planted out it generally thrives rather better than it does in pots. Opinions differ greatly about whether it should be allowed to grow on its own roots or upon those of the Manetti stock. When budded it sometimes succumbs to canker. On its own roots this liability is not present. Provide for your plant a good border, such as we have frequently recommended, and plant very carefully, setting it down to the level of the previous ground mark which is indicated on the stem. The ordinary temperature at which a greenhouse is maintained will suit this Rose. A moderate supply of water in the early period of its occupation of the border, will suffice. Do not prune it during the first season, and only just enough in after seasons, to permit strong new wood to develop and ripen. It is hardy in a great many parts of the country.

Soot over Gooseberry Bushes.—*R. D.*: Soot can always be employed advantageously. There would be no gain, however, in casting the soot over the bushes at this time of year. Apply it over the surface of the ground. Soot mixed with quicklime and dusted over the Gooseberry bushes on dewy mornings from March till June helps to prevent the Saw-flies from laying their eggs. If you have been badly attacked this year, remove some of the surface soil, and apply a light dressing of gas-lime. This must be employed with extreme caution.

Top protection for wall Fruit Trees.—*R. S. T.*: The erecting of a substantial framework into which glass panes could be fixed would have to be entrusted to a horticultural builder. When such frames are put up to project from the coping outwards, grooves are left for a certain size of pane, and these are placed into the grooved framework before the time of spring blossoming. When the fruits have been gathered, or even before then, the glass is taken out to let the trees have all the rain and weathering possible. Then there are the permanent glass ridges, whose default is that they do not expose the trees at the wood ripening period. Should you only wish to have some means of hanging a net or canvas over the trees during the critical period when they are in flower, you could secure your aim by fixing stout spars of wood (about half a yard long) close against the wall and vertical with it. You might have to knock in wooden pegs first of all, for the sake of giving the nails something to grip. At the top of the vertical spar fasten another piece, but this should slope downward at an angle of 45°. From its base a cross piece should unite it with the vertical spar, so that this contrivance looked at sideways has the shape of the figure 4. A few of these placed along the wall with

a light rod fastened between each of them ought to furnish you with the necessary frame you seek for.

Orchids for an Amateur.—*Aspirant*: Start with a limited collection, and let the first lot be only the cool house species. Cypripedium insigne, Odontoglossum crispum, O. Pescatorei, O. grande, are sufficient to form the nucleus of a collection, to which you can add to from time to time, after having satisfied yourself about the needs of those we recommend. The above should be grown in pots or pans. Half fill the pans with clean crocks, having them so placed as to allow the free escape of the surplus water. Over these place a layer of peat, and use as a compost for the plants, lumpy, fibrous peat, cut sphagnum moss, some charcoal, and pot sherds, and a very small addition of fibrous loam, for the Cypripediums. Should good loam be difficult to obtain it had better be left out of count. The foregoing compost may then be worked firmly and carefully about the roots with the fingers. Keep the plants well up, even mounding the surface up to their lower leaves, else the chances are that everything will become too damp and sour. Finish off smoothly, and place your plants on an ash bottom. The atmosphere should be maintained moist, and at a temperature of 55° night, to over 60° during the day, in the winter, though ten degrees or more may be allowed in summer. They like semi-shade, which also will only be required during summer.

Cortaderia jubata.—*Andrews*: The Pampas Grass whose botanical name we give, can be planted at the present time. Deep, warm soils, and fairly rich are to the liking of this handsome grass plant.

Fruit tree Insecticide.—*H.*, Use Calvert's 10 per cent. Carbolic Soap as an insecticide, to be had from nurserymen.

Forcing Young Pot Vines (next week).

CHRYSANTHEMUM LORD LUDLOW.

During the past season this Japanese variety has frequently made its appearance on the exhibition boards in good form. There is further evidence in its popularity from the fact that it has received five First-class Certificates from different societies. The blooms are of large size, yet when well grown are deeper than wide, as in the case of several others, which made their appearance during the past season. The florets are of good width and neatly disposed, with an inclination to become curled at the tips. They are of a golden amber, with red lines on the margins The habit of the plant is also all that could be desired, and it usually grows to a height of 5 ft when grown for exhibition. It should be stopped early in April, and the second crown secured for the production of the finest blooms. The accompanying illustration was prepared from a photograph taken in the collection of Messrs. W. Wells & Co., Ltd., Earlswood, Redhill, Surrey.

Chrysanthemum Lord Ludlow

TRIAL OF CHINA ASTERS.

THE multiplicity of forms into which the China Aster (Aster chinensis or the Callistephus hortensis of the botanist) has developed, under the careful attention and selection of the cultivator, is no less marvellous than the fact that so many types can be raised true to character from seed. This bespeaks an eternal vigilance on the part of those who are responsible for the maintenance of the acquired characters not only of the sections, but even of the colours grouped under each. The careful roguing of the China Aster in the seed fields has been conscientiously carried out for many years past; and until the recent re-introduction of the single, wild type from China, with blue-purple rays, all the varieties grown were double.

About the end of September last we made a hurried inspection of some 756 trials of China Asters in the Trial Grounds of Messrs. Sutton & Sons, Reading. The single wild one well deserves the name of Callistephus, or "beautiful crown," for the blue-purple flowers are very handsome; and the plant being of bushy, branching habit the leaves quite cover the ground. We also noted a pale rose variety of it. Sutton's Giant Single is a new strain with white, very dark purple, rose, light blue and dark blue flowers, the three last named being, in our opinion, the most handsome.

The form of the German Globe Quilled Asters is indicated by the name, but they have been developed into several beautiful colours, such as white, blue, purple, crimson and white with rose centre. They are of branching habit and well suited for mixed borders and garden decoration generally. Sutton's Exhibition Globe is the best type of quilled Aster, and grows about 18 in. high in dry seasons, such as the past. Light blue, deep blue, violet, rose, white, and blue with white centre are some of the colours into which the strain has developed. Quilled Yellow is strikingly distinct in colour, varying from yellow to primrose with age, and is very floriferous.

Sutton's Pompon Asters are branching and floriferous plants, 12 in. to 15 in. high, and bearing small heads of various colours. They are useful as cut flowers in bouquets. Sutton's Cockade or Crown-flowered is a handsome race of bicolors, for each variety is white in the centre with a broad surrounding border of some other colour. For cut flower purposes they are certainly charming.

Quite of another type is Truffaut's French Paeony-flowered Asters, which bear large heads in a great variety of colours. The defining characteristic of the strain is that the florets are incurved after the manner of a double Paeony. Sutton's Giant French Paeony-flowered Asters are noted for the immense size of the flower heads. Their value or importance was indicated by the large quantity of them on trial. They vary in colour from white to violet-black or blackish-blue. Sutton's Victoria Asters constitute one of the finest of the large types. The florets curve outwards, and the bushy, branching plants grow about 18 in. high. They existed in a great variety of brilliant and attractive colours, in massive heads, with long petals like silk ribbons. The trial of them was extensive.

Several fine strains of dwarf Asters were conspicuous by their remarkably dwarf habit. Sutton's Dwarf Bouquet Asters commence blooming very early and that, coupled with their dwarf habit, make them highly suitable for lifting and potting just as they come into bloom for greenhouse or conservatory decoration. By keeping them well watered and shaded for a day or two they show no ill effects in lifting, but go on blooming as if nothing had happened. They are also admirably adapted for edgings and small beds on the lawn. The Dwarf German section is also an early flowering race, useful for ribbon borders and small beds. There are many colours, as in the previous case, and last season were only 3 in. to 5 in. high. The plants of the Dwarf Pyramidal section are taller, varying from 6 in. to 12 in. The blooms are moderate in size and very freely produced in various bright colours. Sutton's Little Gem represents another dwarf and compact strain, growing 9 in. to 12 in. high and forming one of the best types for cottage and town gardens. Owing to the profusion of bloom they produce, they are not to be beaten for pot work.

Quite different is Sutton's Superb Bedding Asters, which consist of a selection of colours adapted for bedding purposes. They grow about 8 in. high carrying massive heads of recurved florets in many showy and bright colours. Dwarf Border Asters have reflexed florets something in the way of the Victoria type, but very dwarf, and the large heads make the branches curve downwards. The plants were 4 in. to 6 in. high last season. Dwarf Victoria Asters (6 in. to 8 in. high) are excellent for bedding, producing massive heads of smoothly reflexed florets of bright colours and in all the leading tints found in the genus. Dwarf Paeony Perfection Asters (8 in. to 12 in. high) have regularly incurved florets in a great variety of colours.

Sutton's Salmon Queen is a novel shade of colour, the blooms being of a distinct and attractive salmon-pink hue. The plants are branching in habit, 18 in. high and very suitable for cut flower work. The flowers of Sutton's Bountiful are of the Victoria type, but the heads are smaller and produced in the greatest profusion in a great variety of colours. The Comet Asters are always very showy and attractive, being highly appreciated for their long drooping florets like a Japanese Chrysanthemum. There are now many handsome colours in the strain, and the plants being 18 in. high, the blooms may be cut with long stems for vases. The Jewel, on the contrary, may very aptly be compared to an incurved Chrysanthemum. It is offered in four distinct colours—dark blue, light blue, purple and white. The stems are 18 in. to 2 ft. high, the branches being very long and, like the previous type, suitable for vases in the cut state.

A remarkably pretty type of Aster is the Reading Beauty strain, for the small heads are quilled, flattened and greatly resemble the old-fashioned quilled Daisies. They possess a great range of variation in colour, and, being profusely produced, are peculiarly handsome for garden decoration. Some are parti-coloured, while the tubular florets are compactly arranged. There is nothing like this strain in the whole range of types or strains above mentioned. The Victoria Quilled Asters are similar and make excellent companions or associates, but their blooms are much larger. There are many colours in this strain likewise, and all are floriferous and showy.

CHRYSANTHEMUM NOTES.

EARLSWOOD NURSERIES.

MESSRS. W. WELLS & Co., Ltd., of Earlswood Nurseries, Redhill, Surrey, are so well known to Chrysanthemum growers that an introduction seems almost unnecessary. During the last half-dozen years the firm (or shall we write of it as Mr. Wells' nursery?) has been very greatly in evidence from its connection with many colonial novelties that are now favourite varieties in the Chrysanthemum collections of this country. Mr. Wells made a contract or agreement some years ago with Mr. Pockett, curator of a botanic garden in Victoria, Australia, by which the latter was to send here all the seedlings which he raised, and which he had reason to believe were meritorious. Since this agreement was arranged the novelties from the Antipodes have steadily been evolving. Mr. Brunning, an Australian nurseryman, also sends novelties to this country, but Mr. Wells has not the monopoly of them. The varieties from Mr. Pockett are sent out as belonging to the "Wells-Pockett set." The *elite* of the season's continental new sorts, such as those raised by M. A. Nonin, of Paris, M. Calvat, of Grenoble, and others, are also selected, tried, and if successful are included in the Earlswood collection. Nothing but Chrysanthemums are grown, yet Mr. Wells and his helpers are busy throughout all the year.

The earliest batches of cuttings are being inserted fast and constantly at the present time, so that in a fortnight's time many a house will be filled. The care of these and the work of executing orders, carries the season on till about April or May. Then growing, pure and simple, is the business of the summer, till about September again, when the earliest varieties are cut to open the exhibiting period. The wind up of the shows is just at this time, that is, December.

Among the varieties which we noticed in a visit on the 24th November, we were particularly delighted with a number of Japs, including the variety Lady Roberts. This is the variety that secured Mr. Wells' gold medal as the best new seedling raised during the season in Australia. It is one of Brunning's, and takes after the Edwin Molyneux type. The incurving petals are brightened on the reverse side by gold tint, and above they are rich glowing crimson. The blooms are large and strong, and by all accounts it would seem to be a sterling novelty Lord Roberts furnishes a flower with much the same colour, but perhaps lacks in points of finish.

W. R. Church is a prime favourite with Mr. Wells, who declares it to be one of the finest varieties he has ever handled. Either as a decorative plant to be grown in the open border, or for the best exhibition purposes it is held to be highly satisfactory. The colour is peculiar—a sort of bluish-tinged purple, or deep crimson with bright, incurving gold tipped petals. The gold tips enliven the blooms and add a feature of pronounced attractiveness. It received the Scottish Horticultural Association's Silver Medal awarded for the best novelty of the season; and it has had an Award of Merit from the R.H.S. (London).

Mabel Morgan obtained the Bronze Medal at Edinburgh as being the second best of the new varieties that were shown there. The colour is canary-yellow, and the habit closely resembles that of the Carnot type. Another good yellow variety is G. Borneman which it is said "will knock out Edith Tabor as an exhibition bloom." Sir R. Buller, crimson, forms a very strong flower, and can be had late. Mdme. Delaire has a pale mauve base and creamy-pink centre. It furnishes a pleasantly coloured and well-balanced flower, and is described as an incurved Jap. Le Grand Dragon still holds good. It is a variety with which one may make a hit or may not. This year it has been splendid.

Robert Laird is a variety which we ourselves think will take well. It is very distinctive, having long, curling, downward-hanging petals of medium breadth, and is white as snow. It seems to be massive and has good substance.

It is necessary here to draw attention to the two forms of the variety Sir H. Kitchener. One form was sent out by Brunning and is a dull, bronzy-buff variety of little value. The other is "Owen's form," of a bright, lively orange-yellow colour. The difference is important. R. Hooper Pearson which we praised so heartily last year has almost universally failed as an exhibition flower, but there is consolation in the fact that as a bush sort it stands exceedingly high. In a different season it may even come out well as a large bloomed specimen.

C. J. Salter, makes a good exhibition flower. Late Molyneux is the prototype of Edwin Molyneux. It is good as a bush. By the way, why has E. Molyneux been almost rescinded? It is difficult to do, but there is nothing finer.

Rayonnant is distinct and promises well. It takes after the Lilian Bird style, the colour being lovely flesh pink. Miss Ada Barwood, an incurving Jap., is almost pure white. It received a Wellsian Silver Medal as being the best bloom at one of the northern shows this year. Mrs. J. Bryant has a good name; it is mauve coloured. Silver Queen is a beautiful heliotrope lilac variety, strongly to be commended. Mdme. Von André is known as a first-rate primrose coloured Jap. In Miss Smith Ryland we have a buff terra-cotta Jap. that is also good.

Jane Molyneux (true), is a charming white Jap. Khaki is a fine reddish terra-cotta variety, likely to make headway.

Canning Buckland is said to be "an easy doer" and furnishes a sweet blush-pink bloom. Sydney Brunning we have elsewhere admired. It is a lively coloured Chrysanthemum, with a mixture of gold and crimson. Souv. de la Paris Exposition is, according to Mr. Wells, "one of the best." It certainly forms a massive bloom of a bright heliotrope shade, and has long petals which twist and intermingle. Mdme. A. Cordonnier-Wibaux (Calvat) is a magnificent incurved Jap. of a rich old gold below, and crimson above. Edinburgh is a true incurved variety, white, suffused with lilac. It was certificated at Edinburgh. Then comes Emily Towers an outstanding favourite and certainly one of best. With this we have Miss Lucy Chiesman which also is a favourite, and has beaten Oceana on account of size and its "dependability," to coin a word.

Golden Mdme. Ferlat is a bright incurved addition. Good Japanese varieties are M. Louis Remy, bright canary yellow; Mrs. Coombes, rosy-lilac, large and massive; Miss Alice Byron, a noble white; Mrs. Barkley, with ponderous blooms of a mauve tint; and Frank Hamford, golden bronze in colour, and

peculiar in the fact that the incnrving petals from regular tiers from the centre to the base. General Symons is a bronzy-brown incurved. Marquis Viscount Venosta (Calvat) is a reddish-purple Jap. of very high merit; and to conclude in the meantime, we have the new Millicent Richardson, a variety which produces grand blooms of a rich mauve-magenta colour and having a silvery lilac reverse.

MORNINGFIELD NURSERY, ABERDEEN.

ROSES.

IT is customary to speak of Roses in the sunny south as if they could only be grown there to any degree of satisfaction. Wild Roses certainly bloom and fruit very handsomely to the most northern county in Britain; while garden Roses, which may be regarded as a little more tender in certain cases, can be grown in gardens where they receive a certain degree of protection from the wind which often blows very forcibly there. At Aberdeen, however, they not only grow satisfactorily but bloom profusely, including hybrid perpetuals, Teas and hybrid Teas. All of the above were flowering handsomely in September last in the Morningfield Nursery of Messrs. James Cocker & Sons, Aberdeen. The Teas and hybrid Teas kept on flowering into October; and the visitor to the shop in Union Street wonld be astonished at the quantity and freshness of the flowers as well as their rich colours. He would not be disappointed during that period by taking a journey out to the Morningfield Nursery, on rising ground in the west, where he can get one of the finest views of the rapidly extending Granite City. Arrived at the nnrsery, doubts will soon be dispelled as to the source of the flowers on view in Union Street.

HYBRID TEAS.—The value of these for autumn flowering is well recognised here, judging from the quantity grown and the profusion of their blossoming even on qnite small plants. Other kinds do equally well, and the Messrs. Cocker dispose of many thousands annually, for about 100,000 are progagated annually, chiefly by budding. One of the loveliest and most conspicuous was Caroline Testout, owing to the size and freshness of the flowers. The heavy rains dnring August had started a vigorous growth which accounted for the rich harvest of buds and flowers. Other first-class hybrid Teas in full bloom were La France, Marquise Litta, carmine rose; Marquis of Salisbury, bright velvety-scarlet, with long and beautiful bnds; Viscountess Folkestone, creamy-pink, tinted with salmon in the centre; Kaiserin Augusta Victoria, creamy, deepening to lemon in the centre, and handsome in bud; and Grace Darling, a pleasing pink-peach flower, of very distinct appearance. Very choice also are the creamy-white cup-shaped flowers of White Lady. The new Gold Medal Rose Bessie Brown is also creamy-white, but develops flowers of great size and substance, and adds to its other qualities that of being deliciously scented. Mrs. W. J. Grant could scarcely be omitted from a representative collection, for its rich rose-pink flowers are beautiful in bud, and when fully developed being also of large size. It is the Belle Siebrecht of the United States of America. The collection is also rich in many other hybrid Tea-scented varieties.

TEA ROSES were notably dwarf, and included all the leading varieties, in the full flush of their second flowering, this being continued until checked by frost. The exposure they get here should ripen the wood well, and render them hardy. Gloire de Dijon was particularly fine, buds and flowers being abundant. The new varieties already include Mrs. Edward Mawley, Meta, Sunrise, Queen Olga of Greece, and Beryl.

HYBRID PERPETUALS.—The collection of this section is as thoroughly representative as any, for they have long been well establised in the northern counties. The pure white flowers of Baronne de Maynard were freely produced the whole season. The flowering period of Baroness Rothschild was also very prolonged. The blackish-purple flowers of Sir Rowland Hill were very noticeable on account of their dark colour. The fine pink flowers of Mrs. G. Sharman Crawford are always telling and popular in the cut state. No less popular is the bright crimson-red Marie Baumann, and the light carmine-red flowers of Etienne Levet were notable for their large size. Captain Hayward is also a grand colour, being of a lively carmine-crimson, and pleasantly scented, a quality to which many of the hybrid perpetuals cannot lay claim. The glowing carmine-red of Alfred Colomb was also very telling in an extensive plantation of last year's Roses cut back. Indeed, all of the above to which the notes refer had been treated in the same way. Younger stuff was plentiful elsewhere. The new Rose, Mrs. Cocker, has taken on strongly with rosarians as an exhibition Rose, for it is frequently to be seen on winning stands in various parts of the country. It was raised as a cross between Mrs. John Laing and Mabel Morrison, the lovely soft pink flowers being distinct from either parent.

CHINA ROSES also do well at Aberdeen, where many varieties are grown. The salmon-red flowers of Madame E. Resal fade to pink with age, and are very freely produced. Here also Old Blush, Mrs. Bosanquet, pale flesh and borne in clusters; Cramoise Superieure, velvety-crimson and very double; Laurette Messimy, rosy-pink, shaded with yellow, and lovely for buttonholes; and Queen Mab, with salmon-apricot buds and flowers, also a decorative variety like the previous one, were all giving an excellent account of themselves. Rosa indica viridiflora or the Green Rose has also to be kept in stock to please the fancy of cultivators.

GARDEN ROSES.—As now understood, a great variety of Roses are classed under the terms garden or decorative Roses, and certainly no garden is well furnished that does not include a good few of them. Here may be placed the Polyantha Roses, of which all the best of the popular varieties are well cared for. The Old White Moss and the Crested Moss Rose were flowering freely in September, a very unusual circumstance, but they had been planted late, and making good growths came into bloom late. The large, single Rosa macrantha is usually white, but the soil and climate here has given rise to a pink tint. Other old favourites are Rosa alba, Prince Charles Rose or Jacobite White, and Old White, all finding their admirers, and the latter being one of the most popular for planting in cemeteries, cottage gardens, &c. Rosa rugosa was flowering and fruiting contemporaneously, the copious rainfall and vigorous second growth accounting for this behaviour no doubt. The Penzance Sweet Briers are also utilised to good purpose.

The new Wichuriana Roses, also termed new American Roses, succeed wonderfully here. They vary somewhat in foliage, some inclining towards Rosa wichnriana, and having the rich dark glossy green foliage of that species, while others show the influence of the Polyantha race or R. multiflora. May Queen has very large leaves and coral-pink flowers of handsome appearance. Royal Cluster is of climbing habit and strong growth, with huge clusters of double white flowers. The low trailing habit of growth and long stems of South Orange Perfection show the influence of R. wichuriana. The white and pink-tipped flowers last well. Manda's Triumph (white) and Universal Favourite (double pink) have the recommendation of being sweet-scented.

The raising of new varieties is still in operation here, a Rose house being devoted to the purpose. Teas and hybrid Teas are planted out on the benches after the American fashion of culture, and flower well.

SUNNY PARK NURSERY.

This branch of the business of Messrs. James Cocker & Sons is really the oldest, for here the late Mr. James Cocker first commenced business. It is situated on the west side of the southern portion of Old Aberdeen. The available area is now considerably curtailed by buildings. Here, however, herbaceous plants, for which the firm is noted, are extensively propagated from seeds. A collection of Daffodils were being lifted for transference to the new nursery. Something like 1,000,000 seedling Briers are here. One and two year old Crab Apple stocks are grown in quantity. Sweet Briers, two years old in the seedling beds and one year transplanted, also constitute an important item. One and two year old Birches, Scotch Fir and Larch are grown chiefly to meet the convenience of customers. They used to be grown more extensively when Sunny Park Nursery was larger.

The most of the glass is still situated here, and is largely used for the cut flower trade and for decorative work. Lilies are one of the strongest features here during their season, and a long succession is kept up. They are grown in pots. One house entered contained a fine lot of Lilium auratum, L. a. macranthum with very large flowers and yellow rays, and L. a. rubro-vittatum, with broad red rays. L. speciosum was also in strong force, and represented by such varieties as L. s. roseum, L. s. Melpomene, the richest and most handsome variety; and L. s. Kraetzeri, with white flowers and a green midrib. The latter is considered the best white form. L. longiflorum and L. Brownii add to the variety considerably, the former being white, and the latter tinted with claret-brown externally, and handsome. In the same house Swainsonia galegifolia alba does well.

Next came a houseful of Tea Roses in pots, making vigorous growth. They were, of conrse, grown as nursery stock for customers, and suitable for forcing. Another house was filled with Tea Roses grown as climbers, including fine stock of Gloire de Dijon, Marechal Niel, &c. A propagating bed in this house was occupied with cuttings of Jasmines, Escallonias and similar things. A fernery was chiefly occupied with Maidenhair Ferns for cutting and use in floral decorations. Wooden ledges or continuous pockets along the back wall were planted with Adiantum cuneatum chiefly.

Pot Roses, 6 ft. to 8 ft. high, occupied the central stages of another house and made very good stock indeed. Lilies were here also. Orchids for cutting were represented by Masdevallia Chelsoni and others, Cypripediums, &c. Lilies were the leading feature of still another house. L. longiflorum Harrisii from South Africa was particularly fine, five flowers on a stem being quite common. L. l. giganteum from Bermuda carried one or two flowers only on a stem, but wonderful flowers they were. Many pots of L. l. Harrisii had six to eight stems each, although only three bulbs were put in a pot. L. auratum and L. a. macranthum had also done well.

CLEANING VINERIES.

WHERE there are three or more vineries it will now be time that the early one is cleaned and put in action again. In the first place remove all plants to one of the adjoining houses, whichever is most convenient.

Stagings and pathways may also be put ontside for a time. The operator may now apply the hose or engine pump without fear of doing damage. Afterwards all the glass and woodwork must be thoroughly washed down with soft soap well dissolved in hot water, repeating the engine operation again when a portion of it is washed, to remove any loose dirt, working it well into all crevices, where insects are likely to be. If the vinery be infested with bug, it is a good idea when the house is washed to give it a syringing with a wineglass of paraffin, and a little soft soap, to four gallons of water. Eighty degrees is not too warm for the mixture. Close up the vinery for an hour or so, the steaming of the house acting as a fumigator. That portion of the work being done, the Vines may be loosened from the trellis, and all loose bark rubbed off with the hand, using the knife, but sparingly. The Vines thus cleaned, give them a wash over with an insecticide, Gishurst's Compound, or whatever is thought best. In some places painting the Vines with diffierent mixtures is done to a great extent. Sulphur and clay worked up to the consistency of paint, is quite sufficient, if the Vines have been rather severely scraped. It is not an unsightly colour either when it is applied. The rods may now be affixed to the wires, either tied down in a half moon shape or up all their length at once. Some gardeners persist in saying that the Vines turned down for a few weeks checks the sap from running to the top, therefore causing the buds to break in unison as it were. Attention must now be given to the border. Scrape it all over to the depth of 3 in. or 4 in. That will ensure all bugs and other insects being carried out. This soil wheeled out will be very suitable for top-dressing—Lily of the Valley beds or such like. Replace the new turf, which should be very rough, over the border. Apply a good dressing of ½-in. bones and Thomson's Vine manure. Half a bushel of each will suffice for a vinery, 10 yds. by 5 yds. Fork all this over, making it level as you proceed, working the new material well into the border, so that the manure is thoroughly balanced. Pathways and stagings can now be brought in, having been well scrubbed with warm water and paraffin beforehand. The walls had better be whitewashed with lime shells before the plants are introduced. The border will in all probability require a good watering with a rough rose and can

about this time. It is wise to bring the house on slowly, with a temperature of 45° at night, before the buds break, when it can be 5° warmer. Such is the system of cleaning vineries in the majority of private places in Scotland. Cleanliness is our motto.—*A. V. Main, Coltness Gardens, Wishaw, Lanarkshire.*

MOOR HALL, COOKHAM.

This is the pretty country residence of F. W. Lambert, Esq., and is situated about three miles from Maidenhead. It is a very compact estate, the gardens are well planned, the plant houses are well built and have lantern ventilators and other modern improvements. When going past the mansion to the conservatory, I noted some very striking clumps of Euonymus japonicus aureus and Ligustrum angustifolium variegatum, planted in sheltered corners and contrasted splendidly with the Ivy-clad walls. The conservatory is a fine structure with a dome, and, like the plant houses, evidently recently built. It was filled with some hundreds of exhibition Chrysanthemums, of which about one thousand plants are grown annually by Mr. J. Fulford, the head gardener, who is a very successful exhibitor at the flower shows at Maidenhead.

The Chrysanthemums were arranged in a group in the centre of the conservatory, and also on the side stages, with very fine effect. The plants were grown on the exhibition system and carried one flower to a plant. Florence Molyneux, Lady Philips, Henry Weeks, Fair Maid, J. R. Upton, H. J. Jones, Lord Ludlow, Mrs. Barkley, Mdme. Carnot—and its two sports, Mrs. W. Mease and G. J. Warren—Mdme. D. Debrie, Lady Hannah, Mrs. Coombes, Mrs. J. Lewis (excellent flowers), Mr. F. Brewer, Australie and Le Grand Dragon had developed enormous flowers. Good incurved varieties were C. H. Curtis, Nellie S. Threlfall, Mrs. N. Molyneux, Mdme. Ferlat, Pearl Palace, Lady Isabel, &c., but to exhaust the varieties that should be mentioned would only mean to enumerate them all, for each plant was a specimen of skilful culture.

To pass on to the plant houses, three lean-to's contained :—Azaleas in the first, decorative Ferns, with Plumbago rosea as a dot plant, in the second, and a collection of Orchids that is being formed, consisting of Cattleyas, Dendrobiums, Oncidiums, &c., with some decorative plants of Cocos plumosus, in the third. The ranges of span-roofed plant houses were filled with excellent plants. The first contained Poinsettias, Euphorbias, some dwarf well-berried Solanums and Rivinias, while suspended from the roof were some fine specimen Gloire de Lorraine. This pretty free-flowering Begonia is largely grown at Moor Hall, and is used to brighten many of the houses. The next house was filled with a collection of well-flowered Zonal Pelargoniums. King of Crimsons, Sirdar, Mikado and Snowstorm were noticeable.

The next range is the stove, and arranged at one end of the centre bed was a grand collection of Crotons. The plants were from 3 ft. to 5 ft. in height, with clean, well-coloured foliage, hanging over the pots. These are beautiful plants when grown to such perfection, and their decorative value cannot be over-estimated, considering that they retain their beauty all the year round. The collection included the following varieties:—Johannis, Baron de Rothschild, Aneitumense, Mrs. Dorman, Countess, Mortefontainense, Lady Zetland, Mortii, Chelsonii, Queen Victoria, Aigburth Gem, &c. Beside these large specimen Crotons, numerous plants suitable for table decoration were arranged on the side stages, with small Palms, Aralia Veitchii, Strobilanthes, Dracaenas, including the varieties D. Guilfoylei, D. norwoodiensis, D. distinction, D. Lord Wolseley and D. Superba; also a fine healthy plant of Adiantum tenerum var. farleyense, while another batch of specimen Begonia Gloire de Lorraine was suspended from the roof.

The next house contained a very healthy batch of Cyclamen, Messrs. Sutton & Son's improved varieties, White Butterfly, Vulcan and Salmon Queen; and in the next house was a nice batch of single and double Primulas. The Peach house had been cleared of its crop, and the trees will soon receive attention, to prepare them for another season. The vineries were chiefly planted with Muscats, of which some good bunches were still on the Vines. Everywhere, healthy and vigorous plants denote patient and successful cultivation which must be a source of great satisfaction to Mr. Fulford, and his able assistant, Mr. F. Overill. At the Maidenhead summer show, Mr. Fulford secured eight leading places with nine exhibits, including first for two groups, first for one dozen specimen foliage plants, first for Grapes, Melons and Peaches, and first for one specimen plant.—*C. P. C.*

NATIONAL CHRYSANTHEMUM SOCIETY.

Annual Dinner.

The annual dinner of the National Chrysanthemum Society was held in the Venetian Room of the Holborn Restaurant, on Wednesday evening, the 27th November, when about seventy attended. T. W. Sanders, Esq., most fittingly occupied the chair, and was supported by Messrs. Thos. Bevan, C. Harman Payne, T. C. Berridge, H. J. Jones, J. H. Witty, B. Wynne, A. E. Stubbs, N. Davis, W. H. Cutbush, J. T. Simpson, R. Dean, C. E. Wilkins, J. W. Wilkinson, Joseph Lake, D. B. Crane, T. G. Swales, W. G. Bunn, R. P. Glendinning, Sergt. Bourne, H. J. Wright, A. S. Galt, C. H. Curtis, H. Thomas, W. Howe, R. H. Pearson, H. G. Cove, S. J. Davis, F. S. Vallis, W. Higgs, and others.

Having enjoyed dinner, the usual loyal toasts were given on the proposition of the chairman, the National Anthem being sung in this connection. The chairman's toast to the society immediately followed. Mr. Sanders congratulatorily referred to the recent excursion to the French N.C.S.'s show held at Paris, bestowing special encomiums on the efforts of Messrs. Bevan and Witty. This was a progressive step, and he was pleased to think that the year's doings had been altogether satisfactory. There is still plenty of love and enthusiasm for the Autumn Queen, though a word was needed in order to arouse greater interest and activity amongst lapsed members and ex-officials of the society. There are now 837 members on the books, 742 ordinary and 92 Fellows. The number of affiliated societies is 143; one is in Germany, one in Denmark and fourteen in the British colonies; many others in the colonies being on the way to affiliation.

In the working of the society he thought the innovation that had been adopted by the Floral Committee this year of judging new varieties by points, was important, and besides giving the blooms full justice, it should tend to give outsiders a better appreciation of the merits of Chrysanthemums in their various sections. Seventeen First-class Certificates, eight Awards of Merit and several Commendations had been awarded to new varieties. Though the incurved section was increasing by leaps and bounds, yet the great balance of favour lay with the "Japs." "But," said the chairman, "the N.C.S. wants to take up classes of Chrysanthemums," which remark concluded amidst emphatic applause. Speaking of the finances, the chairman was glad to announce the formation of a £100 "Reserve Fund." This was laid by for the proverbial rainy day, "though you can never have 'rainy days' under cover of the Royal Aquarium!" (Laughter.) He urged members to uphold the society by bringing in new members, and by choosing the best men as officers. The absence of many from the meeting betrayed their half-hearted interest, and the chairman earnestly hoped that they might arouse themselves from apathy.

Mr. Dean then read the letters of apology from various absent members who were detained either by illness or pressing business, after which Mr. C. E. Wilkins proposed a toast to "The Donors of Special Prizes." He suggested that donors of prizes might allow the committee a free hand in allocating what they offered.

Songs were sandwiched between each of the toasts. The presentation of the National Challenge Trophy to the Portsmouth and District Horticultural Society; the Holmes Memorial Cups, the Medals of the French National Chrysanthemum Society, Mr. Jones', and the society's own Gold Medals were here distributed. Mr. F. S. Vallis secured Mr. Jones' Gold Medal and £20 and the Gold Medal of the French N.C.S. Mr. Norman Davis received the French Silver Gilt Medal awarded for the group he showed at the November show. Mr. W. Higgs, Fetcham Park, Leatherhead, Surrey, was presented for the third time with the Holmes Memorial Cup. Mr. A. G. Gentle, Berkhamstead, obtained Mr. Sydenham's Silver Bowl, as the winner of the greatest number of points in the vegetable classes. Mr. Jones and Mr. W. H. Cutbush received Gold Medals.

The toast of "The President, Vice-Presidents, Officers, Auditors, and Committees of the Society" was next proposed by Mr. Jos. Lake, who spoke of the good and necessary work which each official did. The replies were in the charge of Mr. T. Bevan and Mr. H. J. Jones. Mr. Bevan, in a passing tribute to Sir Edwin Saunders, said that though he (Sir Edwin) could not be with them in person, yet in spirit he was. He deplored the circumstances which prevented the executive chairman (Mr. Percy Waterer) from attending that evening. Mr. Bevan also mentioned how constantly the committee were at work, as they often had three and four meetings a week. He reiterated the chairman's desire, that the members and ex-officials would rally round the old society, and so add to its power. Mr. Jones promised his continued support.

In a brilliant little speech, in which he proposed the toast of "The Ladies," Mr. D. B. Crane instanced the part ladies shared in the dressing of incurved blooms, and from his own knowledge he knew that the wives had very frequently been the instigators in the first attempts at exhibiting. He concluded with a quotation from an unknown author to the effect that—

"Many a man kisses his wife, and kisses his wife alone,
Many a man kisses another man's wife when he ought to be kissing his own."

The chrysanthemist, however, who loves his wife as his flowers was above suspicion in the matter referred to by these lines. Mr. T. G. Swales replied for the ladies. Mr. H. Payne spoke about things seen by the delegates at the Paris show. The toast of "The Visitors," by Mr. J. H. Witty, and of "The Press," by Mr. A. E. Stubbs, were suitably replied to. The accompanist was Mr. Eustace Wallace, while the musical directions were under Mr. Gurney Russell's charge. The gathering broke up at 11 o'clock after singing the National Anthem.

CHRYSANTHEMUM SHOWS.

CORBRIDGE GARDENERS' ASSOCIATION.

November 24th.

The above association held their annual Chrysanthemum show and floral fête in the Town Hall, Corbridge-on-Tyne, on Saturday, Nov. 24th. Part of the drawings were to be handed over to the District Nurses' Association.

The show was formally opened by Lady Aline Beaumont, who was assisted by her husband, Mr. W. C. B. Beaumont, M.P. Lady Beaumont spoke of the history of the Chrysanthemum, and briefly traced its evolutionary steps from the time it came from China up to the present day. The Corbridge show on this occasion was exceedingly fine, and in most of the classes there was fair competition.

The awards were made as follows:—

For a group of plants, Mr. John Cameron, of Byethorn, was first; Mr. J. Winder, Howden Dene, second; and Mr. J. Hall, Ravenstone, third. The class for six vases of Japanese Chrysanthemums again brought first award to Mr. J. Cameron and Mr. W. C. Fraser, Dilston, second. For twelve Japs. Mr. J. Lee of Stagshaw came first; Mr. T. Thompson, Hindley Hall, second; and Mr. W. Hay, Farnley Grange, third. For six ditto, Mr. W. Herdman, of Hindley House, led off, followed by Mr. W. Plant, Sandhoe. For six incurved Chrysanthemums Mr. Winder beat Mr. Fraser. For three incurved Messrs. Winder, Hay and Mathieson stood in this order. For two vases of single blooms, Messrs. Lee and Winder were first and second respectively. For one lady's spray, two buttonholes, Mr. Herdman was first, and Mr. Fraser second. Messrs. Fraser, Thompson and Herdman stood thus in the competition for a basket of Chrysanthemums.

In the vegetable classes Mr. Waugh, Wheelbirks, came off well, securing, among other prizes, the first place for a collection. Other principal winners were Messrs. Hay, E. Robson, T. Buraip, A. Urwin, J. Cameron, J. Routledge and Prudhoe.

NATIONAL CHRYSANTHEMUM SOCIETY.—*December 4th, 5th, and 6th.*

THE early winter exhibition of the N C.S. was held in the Royal Aquarium on Tuesday, the 4th inst., and the two following days. The nurserymen's groups were the mainstay of the show, and the group set up by Mr. J. Fleming, gardener to Lady Pigott, was also the centre of much admiration. The classes for vases were fairly well entered, and furnished certainly another prominent feature of the show. Mr. R. Dean had, as usual, arranged everything for smoothness.

OPEN CLASSES (PLANTS).—In Class I, for six specimen plants, trained or untrained, Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham Hill, had the only entry, and was awarded the second prize.

CUT BLOOMS.—The class for twenty-four Japanese blooms, not less than eighteen varieties, brought out three entries, the first award in this case falling to A. F. Hills, Esq, (gardener, Mr. R. Kenyon), Monkhams, Woodford Green. His blooms were of average merit and fresh for the time of year. He showed R. Laird, M. Chenon de Leché, R. H. Langton, Mrs. Barkley, Mr. L. Remy, Geo. Towers, J. R. Upton, Mutual Friend, Etoile de Lyon, Khama, Mdme. G. Debrie, Mdme. Von André, and Oceana. Major Frank Shuttleworth (gardener, Mr. W. C. Modral), Old Warden Park, Biggleswade, made a very good second, and showed fine blooms of Silver King, Oceana, and Mary Molyneux. The third award fell to G. W. Wright-Ingle, Esq. (gardener, Mr. J. Sandford), Wood House, North Finchley.

For twenty-four bunches of Chrysanthemums, any vars., A. F. Hills, Esq., here again led with large and fresh blooms; Lady Tate was second, and W. Meath Baker, Esq., third.

Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich, stood first for twelve bunches of Japs., in not less than six varieties, showing in this case some very strong blooms. For twelve Japanese, distinct, A. F. Hills, Esq., was first; C. J. Whittington, Esq. (gardener, Mr. C. Payne), Elmburst, Bickley Park, Kent, was second; and third, G. W. Wright-Ingle, Esq.

For six Japanese blooms, distinct, W. Meath Baker, Esq. (gardener, Mr. John Aplin), Hasfield Court, Gloucester, beat R. Nivison, Esq. (gardener, Mr. S. Foster), Tenterden Hall, Kendon.

For twelve incurved blooms, not less than six varieties. J. B. Hankey, Esq. (gardener, Mr. W. Higgs), Fetcham Park, Fetcham, led with a splendid set. Mdme. Lucie Faure, Ialine, Miss L. D. Black, Ma Perfection, Mrs. J. Eadie, Chas. Curtis, Miss Dorothy Foster, and Bonnie Dundee, were included. C. J. Whittington, Esq., came second with good but smaller blooms; and third, Mdme. Nicols (gardener, Mr. G. W. Forbes), Regent House, Surbiton. For six bunches of Japs., distinct, Miss Smith-Dorrien (gardener, Mr. W. Tipler), Hartwell Cottage, Aylesbury, was first with creditable blooms; no second; R. Nivison, Esq., being awarded the third prize. For six bunches of large flowered single varieties, Mdme. Nicols beat J. Courtenay, Esq. (gardener, Mr. W. G. Pagram), The Whim, Weybridge. The best of the varieties here were Yellow Giant, Mrs. Roberts, K. Williams, Rudbeckia, Lady Tennyson, Regent Gem, and Miss Brown.

Mdme. Nicols was first for six bunches of the small flowered singles; Mr. A. C. Notcutt, Broughton Road Nursery, Ipswich, coming second; and C. W. Baynes, Ryedale, Weybridge, third. The class for "decorative varieties," *e.g.*, spidery, thread-petalled, plumed, &c., made a special feature of the show. Mrs. Barklay (gardener, Mr. J. French), Ambleside, Wimbledon Park, was here first; A. L. Reynolds, Esq. (gardener, Mr. A. Page), Ravenscourt, Moss Hall Grove, N. Finchley, second; and J. Courtenay, Esq., third. The finer varieties here were Alice Carter, King of Plumes, Mrs. J. Carter, Golden Thread, and Mrs. Filkins.

J. Courtenay, Esq., led for six bunches of small flowered Pompons, showing Perfection, Primrose League, Snowdrift, Miss G. Waterer, and Lilac Gem.

For a collection of flowering berried and foliage plants, Mr. A. Newell, gardener to Sir Edwin Saunders, Fairlawn, Wimbledon Common, was equal first with a rich table, comprising Begonias, Primulas, Poinsettias, Roman Hyacinths, Bouvardias, Cyclamen, Ferns, and stove foliage plants. Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham Common, was equal first, having a table similar in all respects to that of Sir Edwin Saunders.

AMATEURS' CLASSES—CUT BLOOMS.—For six Japs. distinct, D. Fink, Esq. (gardener, Mr. W. Trowell), Fairlight, Beckenham, Kent, beat W. Beech, Esq. (gardener, Mr. M. Rayment), North Ockenden, Romford.

J. Courtenay, Esq., had the best vase of Chrysanthemums, showing a delightful mixed arrangement of flowers, foliage and grasses. F. S. Wigram, Esq. (gardener, Mr. H. Pestall), Elstow, Bedford, came second; and third, A. L. Reynolds, Esq. There were five entries.

C. W. Richardson, Esq. (gardener, Mr. W. Perrin), Sawbridgeworth, Herts, led for the twelve Japanese blooms. Mr. D. B. Crane, 4, Woodview Terrace, Archway Road, Highgate, was an easy first for the vase of Chrysanthemums, arranged with any kind of foliage. He confined himself to rich yellow varieties and coloured Croton foliage. Mr. G. C. Farmer, Leeds Abbey, Maidstone, was second.

MISCELLANEOUS EXHIBITS.

Mr. Norman Davis, Framfield Nursery, Uckfield, Sussex, had a neighbouring position and devised his arrangement so that the blooms were well beneath the viewers' eyes. The grouping was admirable, but the *piece du resistance* centred in about a dozen huge blooms of G. J. Warren and some Mdme. Carnot specimens. Everything paled before them. They were immense and grand, calling forth the sincerest encomiums of all who saw them. The largest of the G. J. Warren blooms measured 9 in. deep by 10 in. wide, and the blooms were elegant, well-coloured and refined. Such blooms must give Chrysanthemum growing a great impetus. (Large Gold Medal)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., occupied his usual place at the west end of the hall, arranging a group of cut blooms on this occasion. He employed tall glass vases, which each contained from twenty to thirty large blooms of such varieties as Mrs. Bryant, Mme. C. Terrier, Vicar of Leatherhead, Nellie Perkins, W. H. Whitehouse, Miss Jessie Cottee, Mrs. Tait and Sir R. Buller. Below these, there was a ground work of other specimen blooms, relieved with Maidenhair Ferns, and foliage plants, the finished effect being both imposing and beautiful. (Large Gold Medal)

Messrs. Isaac House & Son, Coombe Nurseries, Westbury-on-Trym, near Bristol, were again forward with a collection of Violets in glasses. La France, which is considered the best as an all round Violet; Princess of Wales, Luxonne, Victoria, Marie Louise, and Mrs. J. J. Astor, one of the sweetest scented double Violets, of a mauvy-heliotrope, and the white Compte. de Brazza, which is the best in this colour; were all included. The table was a special centre of attraction and was certainly a splendid exhibit of this popular little flower. (Large Silver Medal.)

Mr. A. Edwards, Arnold, Notts., showed his richly executed table decoration receptacles that are so useful for flowers of plants. These were made in various forms and are gilt for greater attractiveness.

Mr. R. C. Pulling, Monkham's Nursery, Woodford, Essex, made a more extensive exhibit on this occasion than he has previously done. The group was remarkably fresh and highly creditable, containing a number of the newer and more attractive varieties in the decorative, Japanese and Jap. incurved blooms. (Gold Medal.)

Messrs. A. W. Young & Co., The Nurseries, Stevenage, Herts., are doing well with the Cactaceous plants which they are specialising. On this occasion they showed a table fully 20 ft. long filled with Agaves, Mamillarias, Haworthias, Opuntias, &c, &c., from large specimens down to those in little thimble pots. They were admirably staged and were individually good. (Large Silver Medal.)

Mr. K. Drost, Kew Nursery, Richmond, Surrey, staged a bowl of English grown Lilac. (Silver Medal.)

Mr. Charles Craper, 8, Nightingale Lane, Bromley, showed a dozen of a new form of tube specially adapted for holding flowers such as Zonals in bunches. They are certainly well suited for the purpose.

Mr. James Williams, 4A, Oxford Road, Ealing, showed his improved "Table Decorations" that are so graceful, elegant and altogether useful for floral work. (Silver Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, had a magnificent exhibit of Zonals, Cannas, Begonias, and Chrysanthemums in the cut state, filling both sides of a long table. Of the Zonals, Mrs. Charles Pearson, salmon-rose; The Sirdar, bright crimson-scarlet; Lord Aberdeen, crimson-scarlet; Mrs. Brown-Potter, rose; Lilicina Improved, lilac-mauve; King of Crimsons; Dorothy Burroughs, pale blush-pink, and others were exceedingly fine. The best of the Chrysanthemums were:—(Spidery varieties), Cannell's Favourite, white; Sam Caswell, rose-lilac; Arachnoideum; Mrs. Filkins; Mrs. C. G. Hoysted, mauve with orange disc; Gold Faden; Baron de Soutellinbo, lilac-mauve, and a very fine single golden seedling named Edith Sybil with radiating petals. The Jap. blooms were also meritorious, especially Gen. Pole-Carew, gold with reddish base; and Robt. Laird, pure white with long drooping petals. (Large Gold Medal.)

Lady Pigott's gardener, Mr. John Fleming, Wexham Park, Slough, excelled himself on this occasion by his efforts in arranging one of the finest flower and foliage groups it has been our pleasure to see. The group was extensive and so arranged as to be all beneath the eye, and finished perfectly. Standard Crotons were employed throughout, being mounded around with forced Narcissus, Lily of the Valley, retarded Spiraeas, Lilium longiflorum, &c. Poinsettias, Roman Hyacinths, Chinese Primulas, Begonias, Solanums, &c., were otherwise arranged to form a rich groundwork. Cattleyas, Cypripediums, Calanthes, Pancratiums, and other choice subjects were included. Phoenix and Phyllostachys formed the background. (Large Gold Medal.)

Messrs. W. Clibran & Son, Oakfield Nurseries, Altrincham, came forward with an exhibit of single Chrysanthemums, cut and shown in vases. Among the more distinct of these were Amy Fletcher, white; Golden Faden: Gertie Fletcher, purplish-mauve; Sir R. Buller, golden and bronzy-red; Doris Shires, pale mauve-heliotrope and white; Lady Windsor, white centre, purplish edge, very strong; Mrs. P. Weathers, pure white: Souv. de May Stevenson, bronzy-yellow; and Miss Emily Hall, mauve-pink: All these are excellent sorts. (Silver Gilt Medal.)

Messrs. Hodgkins & Co., 5, Beaufort Avenue, West Didsbury, Manchester, were again forward with their dried and skeleton leaves, mounted in frames. They are a perennial source of ornament and interest.

Messrs. Lawes Chemical Manure Co., 59, Mark Lane, London, showed samples of their various specialities.

Mr. C. E. Haydon, Avenue Road, Southgate, London, N., exhibited his patent broom holder, of which we have before written.

Mr. A. E. Newman, Florist, 8 & 10, Temple Street, Aylesbury, set up some choice floral designs. (Silver Medal.)

Mr. N. Molyneux, Rookesbury Park Gardens, Fareham, Hants., showed nine incurved blooms of the variety Frank Hammond, which were, indeed, superb. (Vote of Thanks.)

SOCIETIES.

ROYAL HORTICULTURAL.—*December 4th.*

WINTER-FLOWERING Begonias were again in strong force at the meeting on Tuesday last. Chrysanthemums were shown in considerably reduced numbers; but Orchids were better represented than usual.

A fine group of Cypripediums was exhibited by Baron Schroder (gardener, Mr. H. Ballantyne), The Dell, Egham. Very conspicuous were the ten plants of Cypripedium insigne Sanderae, all produced by division from the original piece which caused such a sensation some years ago. The most valuable plant, perhaps, was a piece of C. insigne Harefield Hall, notable for the heavy blotches on the large and handsome upper sepal. Very handsomely grown was C. arthurianum. (Silver Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a small group of Orchids, including such interesting things as Cyripedium insigne Harefield Hall, C. i. Laura Kimball, C. Tityus, C. insigne Sanderae, Cymbidium tracyanum, Oncidium Mantinii and C. Forbesii. (Silver Banksian Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, set up a showy and well-flowered group of Orchids, consisting largely of Cypripediums. Very fine was the little group of C. insigne Sanderae, surrounded by C. arthurianum pulchellum, C. vexillarium, C. Mor-

ganiae, C. leeanum superbum, C. T. B. Haywood and others. They also had cut flowers of Laellocattleya Semiramis, Lc. Decia, Lc. Pallas, Lc. Lady Rothschild, Lc. Hon. Mrs. Astor, Epidendrum Wallisio-ciliare and many others. (Silver Flora Medal.)

Mr. James Douglas, Edenside, Great Bookham, Surrey, exhibited Cypripedium Bryan superbum and C. Charlesworthii in fine form. Mr. John Weathers, Silverball Nursery, Isleworth, exhibited a species of Cynorchis, possibly C. purpurascens, or a new species for Mr. Warpur. Mrs. Langton (gardener, Mr. Pearce), Hillfield, Reigate, exhibited Cattleya aurea Hillfield var. Frank Crisp, Esq. (gardener, Mr. Knowles), Henley-on-Thames, staged Vanda sanderiana.

Sir James Miller, Bart. (gardener, Mr. Hamilton), Manderston, Duns, N.B., exhibited two Laeliocattleyas. T. Statter, Esq. (gardener, Mr. Johnson), Stand Hall, Whitefield, Manchester, exhibited Cypripedium insigne Luciani, C. Maudiae, Dendrobium bigibbum rubescens, &c. Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking, exhibited Laeliocattleya Sunray. Herr Otto Froebel, Zurich, exhibited Cypripedium chamberlainianum × insigne Chantini and C. Prince Hussein Kamil. Odontoglossum cordatum var. was shown by W. Thompson, Esq. (gardener, Mr. Stephens), Walton Grange, Stone, Staffs. He also had a well grown piece of O. Rolfeae Meleagris, for which he received a First-class Certificate and a Cultural Commendation. Mrs. Haywood (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, showed Cypripedium bingleyense superbum. G. W. Bird, Esq. (gardener, Mr. Redden), Manor House, West Wickham, Kent, staged Odontoglossum andersonianum Manor House var.

Floral Committee.

Messrs. J. Veitch & Sons, Ltd., exhibited a very extensive group of winter flowering Begonias, consisting largely of the semi-double variety named Ensign, with deep carmine-rose flowers. Winter Cheer is a similar or allied variety, with darker and more richly coloured flowers. The plants varied from 9 in. to 12 in. high, yet were all grown in small 60-size pots, the stems being clothed with foliage to the base. They received a Cultural Commendation for two baskets of Luculia gratissima, well flowered and sweetly scented. (Silver Flora Medal.)

Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, staged a group of Chrysanthemums on the floor. They consisted largely of a late white variety labelled Letrier No. 167, and grown for decorative purposes. Others were Gold Lock (decorative), Sir Redvers Buller, Alice Carter (decorative), Mrs. J. Bryant, and Robert Laird, a large, white Jap. Striking and curious were King of Plumes, What Ho, and Golden Faden, all decorative varieties. (Bronze Flora Medal.)

Messrs. H. Young & Sons, Windmill Lane, Cheshunt, exhibited a group of Pansies and Violas in bloom. All were grown in small pots, and were dwarf and compact. Bluebeard is considered a very early variety.

R. Holmes, Esq., Norwich, set up a small group of a Chrysanthemum named Tuckswood White, grown in bush form.

Messrs. Geo. Boyes & Co., Aylestone Nurseries, Leicester, showed a group of winter flowering Carnations, including Maud Dean, Purple King, Wm. Robinson, Harrison's White, &c.

Mr. C. J. Wakefield, 58, Hindon Street, London, S.W., exhibited a number of specimens of his patent "Floral-aid," a contrivance for supporting flowers in water in ornamental bowls and vessels of various shapes.

Messrs. Hugh Low & Co., staged a small group of a Croton named Mrs. Thos. Young, having large green and yellow leaves, veined with red.

Fruit and Vegetable Committee.

At a meeting of the Fruit and Vegetable Committee, Messrs. Dobbie & Co., Rothesay, N.B., had a stand each of Dobbie's Champion Leek and Dobbie's International Prize Leek, both in splendid exhibition form. They also showed a collection of garden Turnips, including Dobbie's Golden Ball, Dobbie's Model White, Early Red-topped Strap Leaf, Chirk Castle, Harrison's Marble, and various crosses.

Messrs. H. Cannell & Sons, Eynsford, Kent, tabled a large bundle of Parnsips measuring from 2½ ft. to 3 ft. each. They were well grown, clean, and handsome roots.

Mr. W. Crump, The Gardens, Madresfield Court, Malvern, exhibited a bunch of the Grape Black Morocco, having oval black berries similar to Madresfield Court, but shorter and thicker in proportion, and covered with a glaucous bloom.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. C. J. Gleed for his article on "The Eradication of Mealy Bug and Scale," p. 214.

QUESTIONS AND ANSWERS.

. *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Acetylene Gas and its Waste Products.—*J.R.,G.*: We agree with you that the water used in the making of acetylene gas would be injurious if not decidedly fatal to the fish in the pond. It would to some extent depend upon the size of the pond and the quantity of waste water passing into it. We think it would also be injurious to cultivated land or the plants growing upon it, which would amount to the same thing. For the same reason you might not be allowed to run the water into a running stream or river, particularly a trout and salmon river. Under the circumstances we think the best plan would be to build some large cesspools by digging out holes and building brick walls without mortar, or with sufficient only to hold the bricks together, leaving as many interstices as possible for the water to filter away into the soil. Sandy or gravelly subsoils of some considerable depth would be most suitable, as they would allow the water to filter away much more readily than soils of a more impermeable nature. The size of the cesspools or their number would depend on the quantity of water used in the process of making the gas. Calcium carbide would consist chiefly of calcium and carbon, but probably there would be other injurious ingredients with them, so that it would be undesirable to use them as a dressing to cultivated land.

Canker Spots and Woolly Insects on Apple Trees.—*J. R., G.*: The so-called canker spots, such as you describe on Peasgood's Nonsuch and Stirling Castle Apples, are not due to canker properly, which is the result of a fungus, but to the American Blight (Schizoneura lanigera), one of the aphis tribe, which is by far too prevalent in this country for the good of the trees. They pierce the bark with their beaks and suck the juices, thus causing the swollen condition and decayed appearance. The present is the best time to set about combating the evil on trees that are not too much damaged. Those trees that are too far destroyed should be uprooted and burnt to destroy the insects. Those that are not so bad should be properly thinned, if at all crowded. Clear away all lichens moss and decayed bark that would shelter the insects. Then get a half worn painter's brush and thoroughly scrub the seams and cracks of the swollen parts after the rough bark has been cleared away with a knife. Keep the brush just moist either with paraffin, methylated spirits, Gishurst compound in lather from the cake, or with a mixture of soft soap and sulphur. Either of these will be sufficient if you rub it thoroughly into the wounds and all parts of the tree affected. If some insects still make their appearance in summer, repeat the operation more carefully, so as not to touch the leaves with the insecticides.

Canker in Pear Trees.—*J. R., G.*: The woolly insects upon the Apple trees would hardly be present on the Pears. The cankered appearance of the trees must be due to something else. What that might be it would be difficult to say without specimens of the shoots showing the canker. No doubt it would be easier to discover the cause if cankered specimens are examined when they make their appearance in summer. We should like to see specimens then. We think it very likely your trees are suffering from drought and starvation on the gravelly soil of the steep slopes of the garden. To remedy this it would be necessary to introduce large quantities of good heavy loam inclined to clay. This could be done gradually year by year, commencing with the planting of the trees by taking out the soil 18 in. deep, and filling in chiefly with the new soil. The area of this fresh soil should be extended by a couple of feet annually as the roots develop to occupy it.

Getting up a Stock of Honesty.—*Scotch Gardener*: It is too late now to get up a stock of Honesty under the most favourable conditions, as the seed should have been sown in June or not later than July in your district. You may secure fair success, however, by sowing seeds now in a warm greenhouse, and pricking them off into boxes as soon as fit to handle, or at least when they show the first leaf. Do not coddle them; when growth is fairly moving you can transfer the plants into a cooler house, or even into frames if they are heated, the object being to encourage them to grow by heat in order to get them strong enough to flower next spring or early summer. The plant is quite hardy so that you must ventilate freely on all favourable occasions after one or two rough leaves have been made. Next year remember to sow seeds in beds outside in June and transplant them before they get crowded.

Potting up Lilium longiflorum.—*Scotch Gardener*: If you want the flowers early you cannot repot the bulbs too soon; and if they are showing any signs of fresh growth you must repot them in any case at once to avoid injury to the roots. Your other question next week.

Chemical Manures for Vines and Peaches.—*B.C.*: A good manure for these subjects consists of one part muriate of potash, three parts superphosphate and two parts of nitrate of soda. Mix these and apply the mixture at the rate of 2 ozs. to the square yard. Apply it as a dressing during the winter months when the Vines and Peaches have been put in order for starting. Point it into the border with any other top-dressing you may desire to use, such as fresh loam and well decayed cow manure, or even night soil mixed for some time with loam to get properly decayed. Another good dressing would consist of 3 lbs. of kainit and 3 lbs. of superphosphate, mixed and applied as a top-dressing during winter to each rod of the borders. When the young leaves are opening scatter 1 lb. over a rod of the border, and three weeks later 1 lb. of the same salt. A third application may be given after the berries or fruits are swelling, making 3 lbs. of nitrate of soda in all.

Chemical Manures for Strawberries.—*B.C.*: Mix 1 lb. of sulphate of potash and 2 lbs. of superphosphate and apply this to each rod of ground occupied by Strawberries, say during February. When the fruits are set dress each rod of ground with ¾ lb. to 1 lb. of nitrate of soda, applying it during showery weather if possible.

Names of Plants.—*R. M.*: 1, Lastrea decomposita glabella: 2, Asplenium Bellangeri; 3, Asplenium bulbiferum minus; 4, Eupatorium weinmannianum; 5, Euonymus radicans variegata.—*W. C.*: 1, Cattleya labiata var.; 2, Dendrobium formosum giganteum; 3, Cypripedium longifolium Hartwegi.—*A. C.*: 1, Ligustrum vulgare; 2, Cornus sibirica; 3, Cupressus nutkaensis (not Thujopsis borealis, which is merely a synonym and wrong); 4, Taxus adpressa; 5, Cupressus pisifera; 6, Pinus austriaca.—*D.C.*: 1, Eranthemum nervosum; 2, Oxalis Ortgiesii; 3, Echeveria retusa; 4, Echeveria secunda glauca; 5, Gasteria verrucosa; 6, Sempervivum Haworthii. *A. J. B.*: 1, Begonia knowsleyana; 2, Begonia angularis; 3, Phragmites communis; 4, Bromus brizaeformis; 5, Agrostis nebulosa.—*T. B.*: 1, Osmanthus Aquifolium illicifolius; 2, Prumnopitys elegans; 3, Coronilla glauca variegata; 4, Send when in flower; 5, Statice profusa; 6, Adiantum Ghiesbreghtii.

Communications Received.—W. B.—H. W.—A. Jones—T. M. W.—C. B. G. (next week).—W. McIver.—J. Mayne.—A. Loydell.—A. T.—H. J.—Western.—A. M.

TRADE CATALOGUES RECEIVED.

F. C. HEINEMANN, Erfurt, Germany.—Advantageous Trade Offer of Seeds and Bulbs of Begonias, Gloxinias, and other Gesneras of my own Cultivations.

C. PLATZ & SON, Erfurt, Germany.—Trade Seed List, containing a Choice Collection of Flower, Tree, and Vegetable Seeds.

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MESSRS. PROTHEROE & MORRIS will sell by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., as follows:—

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, DECEMBER 15th, 1900.

DISEASES OF THE GOOSEBERRY.—The rust of Gooseberry leaves and fruit has long been a familiar object to gardeners who cultivate this bush fruit, but the fungus, though wide spread and in some seasons more plentiful than in others, does not seem to be very virulent compared with some of its allies. Some of the leaves of the bushes get destroyed and those berries that get attacked are rendered useless. It now seems that this old favourite fruit is threatened by a new enemy termed the Gooseberry Mildew (Sphaerotheca mors-uvae). The generic name refers to the globular perithecium or spore case with its investing wall. The specific name means death of the berry. Ernest S. Salmon, Esq., F.L.S., deals with the subject in the newly issued number of the *Journal of the Royal Horticultural Society*, Vol. XXV. Parts 1 and 2. He had some diseased Gooseberries sent him from Whitehall, Ballymena, Co. Antrim, through the instrumentality of F. W. Moore, Esq., of the Royal Botanic Gardens, Glasnevin. The disease is so rampant in North America, particularly the warmer and drier parts of the United States, that the cultivation of nearly all the European varieties of the Gooseberry has to be abandoned. The disease is styled the American Gooseberry Mildew, but according to Mr. Salmon there "seems no reason to doubt that the fungus is indigenous." That being so we shall not be able to rail upon our American cousins for sending us the disease as we blamed them for the American Blight, the work of an aphis named Schizoneura lanigera. The Potato disease (Phytophthora infestans) is a fungus which we attributed to the same source; but William Carruthers, F.R.S., F.G.S., an ex-president of the Linnean Society, regarded the Potato disease as native to Europe although it did originally come from America, inasmuch as he regarded the spores as journeying across the Atlantic on the wings of the wind, and therefore in Nature's own way. If such was actually the case, then the spores of the American Gooseberry Mildew might have travelled from America in the same way and raided the Gooseberries in this Irish garden. If it is really indigenous to Ireland, as suggested by Mr. Salmon, the Potato disease might equally be so to Europe. It is to be hoped that the American Gooseberry Mildew will not be so virulent as the Potato blight, otherwise it will soon find its way to Great Britain in the same aerial way. The conditions for its wellbeing may not be wide spread in this country, as its ravages in America are most prevalent where the summer is driest and warmest.

As the Potato fungus attacks all parts of the plant indiscriminately, so the Gooseberry Mildew invests the stems, leaves and berries of its host with its deadly mycelium. It would seem to appear on the berries first, or more probably it is most readily observed there, forming dense brown patches which ultimately join till the whole fruit becomes completely invested. The brown felt-like covering consists of interlacing hyphae, amongst which, in due time, globular perithecia appear, enclosing a single ascus filled with eight ascospores. In the United States it commences on the young, unfolding leaves of the growing shoots, and has a cobwebby appearance, which soon gives place to a white and powdery aspect owing to the profusion of conidiospores which quickly arrive at maturity and spread the fungus, with great rapidity, from plant to plant. As the berries develop they in turn get attacked and rendered useless, while the growth of the bush gets checked in proportion to the development of the fungus upon the young foliage. This is Halsted's opinion, or the result of his observations. Another authority (Close) says that it is first noticed in the form of frost-like spots on the young fruits situated in the lower and more shaded parts of the bushes, and in the course of two or three weeks it extends to the tips of the young shoots.

Several remedies have been tried with greater or less success. In 1888, Goff sprayed the bushes with potassium sulphide at the rates of $\frac{1}{4}$ oz. and $\frac{1}{2}$ oz. to the gallon of water. The beneficial effects of this were shown in the greater quantity of fruit saved from the disease and in the better growth of the bushes. Close gives details of experiments on a much more extensive scale, in which potassium sulphide, Bordeaux Mixture, lysol, and formalin were used as insecticides, and the best results were afforded by the first named. The spraying was commenced when the young buds commenced to expand and was repeated at intervals of about ten days. Curiously enough it is stated that the fungus proves most intractable and destructive in wet seasons, probably because the rain washes the fungicide away.

In the same gardens (Ballymena) above mentioned an allied fungus attacked the same bushes as the American Gooseberry Mildew did. This was Microsphaera Grossulariae, the ravages of which were confined to the leaves, causing them to fall early. The Gooseberry Rust, or Leaf-spot, caused by Septoria Ribis, attacks the foliage of both Gooseberries and Currants, causing the leaves to fall prematurely after they

have become thoroughly permeated with the fungus. The bushes could not be otherwise than weakened under the circumstances. The remedies recommended in this case are ammoniacal carbonate of copper and the Bordeaux Mixture. The first named is to be used when the disease makes its appearance late in summer; but as soon as the crop is gathered, the Bordeaux mixture is to be applied till growth ceases, and recommenced in spring before the buds open. Now is the time to stamp out the fungus before it gets too widely spread in this country.

Tulips (Duc Van Thol) are now selling in Covent Garden.

Osiers are already being cut and quantities are changing hands in Covent Garden.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, December 18th, in the Drill Hall, James Street, Westminster, 1 to 4 p.m. The committees will meet as usual at 12 o'clock. An election of new fellows will take place at 3 p.m.

Freesias are now fairly plentiful. There has been a fine batch at Kew for some time. At Dover House, Roehampton, and at Wexham Park, Slough, early batches are now flowering. This may interest Mr. Mayne, who enquired about early Freesias through THE GARDENING WORLD last Christmas. —*D.*

Collecting Field Mushrooms.—In a case brought before the magistrates at Tottenham, London, N., it was decided that a man who collects Mushrooms from a field cannot be convicted of stealing them, as the law stands. He can be mulcted for having done wilful damage. The owner of such fields, however, could protect himself by doing something in the way of culture, something to encourage the growth of the Mushrooms. If the fungi were then collected by unauthorised persons a summons for theft could then be charged against them.

Beckenham Horticultural Society.—A very interesting subject was given at the Beckenham Horticultural Society by Mr. John Weathers on "Useful Gardening Books." The books most suitable for landscape gardening, soils, chemistry, fruit culture, stove and greenhouse plants, botany, &c., were discussed. Some very useful information was obtained, which will prove valuable to those members who wish to obtain books. The society's library is a very useful one, as it contains most of the valuable works, suggested by Mr. Weathers as being the best for knowledge. Mr. Weathers was accorded a vote of thanks for his address.

Syndical Chamber of Belgian Horticulturists.—At the meeting of this society on the 2nd inst., in conjunction with the Royal Agricultural and Botanical Society of Ghent, Certificates of Merit were awarded to White Celery Silvery var. (developed in the open ground without cover), presented by M. E Van Hoorebeke, de Ledeberg; to Begonia Gloire de Lorraine, shown by M. A. Dallière; to Cypripedium General de Wet (lawrenceanum × Chantini), shown by M. L. P. de Langhe-Vervaene, of St. Gilles, Brussels (with unanimity); Vriesia hieroglyphica variegata, shown by M. Louis Mullie, of Saffelaere (by acclamation); Begonia Princess of Denmark, presented by M. Jules de Cock; Cymbidium species, shown by MM. Versypt, freres et soeurs; Cattleya Mendelii, Dendrobium Phalaenopis albens (by acclamation), Seedling Cypripedium, and Cattleya dubia, all exhibited by M. G. Vincke-Dujardin, of Bruges; Cypripedium Maynardi, a hybrid, and C. insigne var., presented by the Horticultural Society La Lys, of Deynze; and Cattleya Trianae alba, exhibited by M. le Marquis de Wavrin (by acclamation and the congratulations of the jury). Certificates of Merit were also granted to cut flowers of Laeliocattleya (Laelia purpurata × Cattleya Warnerl), Laeliocattleya (Laelia elegans × Cattleya hardyana), and Oncidium varicosum Rogersii, all exhibited by M. G. Vincke-Dujardin. A certificate for flowering was granted to Cattleya Harrisoniae, shown by the last named exhibitor.

A British Vintage.—The season's Grape crop in the vineyards of the late Marquis of Bute at Castle Lock and Swanbridge we hear has proved highly satisfactory. The crops were heavy, and favoured with splendid weather during the early part of the autumn, the fruit ripened so well that a vintage of great excellence was gleaned.

Orchids at the Sale Rooms.—Orchids in bloom were plentiful at the Sale Rooms of Messrs. Protheroe & Morris, Cheapside, on the 7th inst. A piece of the handsome Cypripedium insigne dulcotense was sold for 10 gs. About two-thirds of the dorsal sepal of this variety are white, the basal area being green and richly marked with large light brown blotches. The lip and petals are shining and shaded with brown. A small piece of a richly spotted variety of Odontoglossum andersonianum fetched 7 gs. Eleven volumes of the *Orchid Album* reached 8½ gs. at the fall of the hammer.

A Fox in the Royal Gardens, Kew.—A fox-hunt in Kew Gardens is certainly an incident of uncommon occurrence; but on the 6th inst., a real and exciting affair tingled the veins of the sportive botanists. It seems that a pet fox had escaped from Richmond, and found a haven in the extensive gardens. Of course, it required food, and dined off a convenient black swan, and, we believe, other fowls which cluster round the lake. An exterminating party was mobilised on Tuesday, when some fine scouting and bad shooting (!) was witnessed. Too many cooks spoilt the broth; the fox is still alive, and, like De Wet, is still hovering about.

A handsome Iris.—Mr. Peter Barr, V.M.H., visited a flower show at Tatura, Victoria, Australia, where he saw the new Iris Painted Lady. He thought so much of this that he sent a special note to *The Shepparton News*, a local paper, where he describes the Iris as of "exceptional beauty, marked, and having a distinct character." It was the general topic of conversation in a show whose attendance was estimated to exceed 10,000. This Painted Beauty belongs to the I. germanica section, the defined beauty being such as is very rarely seen, for it is pure white, and has rich rosy red veins. Under the petaloid stigmas runs a primrose "beard," the stigmas themselves being white, with a rosy central beam, and terminate in a feathery club-like knob. Mr. Barr estimated the stock of this Iris at £50, and congratulates the exhibitor on having raised an Iris so worthy of world-wide fame.

Reading and District Gardeners' Mutual Improvement Association.—The last meeting of the above society proved to be one of the most interesting of the whole session. The committee had arranged quite a new departure from their ordinary proceedings. Six subjects were selected and a number given to six members in the room. The chairman then called out one of the subjects, and asked that the member holding a certain number should speak upon the subject mentioned. Although in some instances the speakers found a difficulty to fill up the time allowed, and caused a certain amount of amusement yet the animated discussion, which followed, brought out many practical and valuable hints on the culture of the following:—Mignonette in pots, Peas for early use, Strawberries, zonals for winter flowering, and Gooseberries. The speakers were Messrs. R. Chamberlain, F. Alexander, E. S. Pigg, W. Burfitt, and F. Lever respectively, while Messrs. Blake, Cretchley, Townsend, Neve, Fry, Hinton, Dore, Senr., Dore, Junr., Davidson, Cox, Smith, and the president took part in the discussion. The exhibits were of exceptional quality, Mr. R. Chamberlain, of the Cressingham Gardens, the well known fruit exhibitor, staged twelve dishes of dessert Apples, viz.:—Blenheim Orange, Duke of Devonshire, Nonsuch, Mannington's Pearmain, Fearn's Pippin, Sturmur Pippin, Cox's Orange, Rosemary Russet, Glory of England, Ribston Pippin, Court Pendu Plat, and King of the Pippins; Mr. F. Lever, of Hillside Gardens, a batch of Begonia Gloire de Lorraine; and Mr. C. P. Cretchley, The Honeys' Gardens, Twyford, a specimen plant of Gloire de Lorraine. The two former members had entered for the society's Certificate of Cultural Merit, and the judges had no difficulty whatever in awarding them the same. Four new members were elected.

"The Riviera and Italy for a £10 Note."—The Brighton Railway Co. have just issued an illustrated little handbook to "The Riviera for a £10 Note." The handbook contains information of interest on a series of inexpensive Riviera tours via Newhaven and Dieppe. For further information enquiries should be made to the Continental Traffic Manager, London, Brighton and South Coast Railway Co., London Bridge Terminus, S.E.

The Sweet Violet at Fullarton.—The other day I paid a visit to Mr. Henderson, gardener to Matthew Arthur, Esq., D.L., Fullarton House, Ayrshire. Mr. Henderson is a very successful grower of the sweet Violet, and I had a look through his collection, which is very select. He grows Marie Louise and Princess of Wales very extensively. What struck me, however, was a seedling he had raised. It resembles Marie Louise in flower, but is much larger and more compact; the foliage is beautiful and hardy, the whole plant being of a robust character and well suited for our variable climate. The perfume is quite equal to that of Marie Louise, and we have no doubt that this plant, which Mr. Henderson has named Mrs. Arthur, will prove a formidable rival to the above-named; and we are sure that when it finds its way into the collections of Violet growers, it will give every satisfaction and prove its superiority over its competitors.—*A. Bogie.*

Scotch Gardener as M.P.—It is said, and seemingly with a fair amount of truth, that "a Scotchman is never at home except when abroad." We have news of Mr. Frank C. Bruce, a native of Peebles-shire, Scotland, where he was borne in 1837 among the Heather-covered hills. His father was fruit foreman with Messrs. Dicksons & Co., Edinburgh, for upwards of twenty-five years. Young Bruce began life as an apprentice in the seed department of this firm, and there he remained till the year 1857. In that year he emigrated to Hamilton, Canada, and joined his brother, Mr. John A. Bruce, in the seed business, which they still conduct. During his long residence at Hamilton, Mr. Bruce has been identified with public affairs to a considerable extent, and has held some of the highest and most responsible positions in the city. His crowning position of honour has culminated in his being returned as one of the M.P.'s for Hamilton, in the Canadian Government, at the election in the early part of November last.

Woolton Mutual Improvement Society.—The usual meeting of the above was held at the Mechanic's Institute on the 4th inst., Mr. E. Bache, Secretary of the West Derby Society, presiding over a good attendance. The subject, "A Review of the Autumn Shows, 1900," proved a popular one. Over a dozen shows held in Lancashire and Cheshire were noticed in some form or another. Paiseworthy points were given to Chester for their admirable display of hardy fruit, and especially for the artistically arranged table by Mr. Barnes from the gardens of Eaton Hall, which included many excellent bunches of Grapes. The groups of Chrysanthemums at this show were given the position of honour throughout the district, being arranged so that the foliage could be seen between the blooms. Bolton was noted for its general excellence and finish; the groups of miscellaneous plants were distinctly in advance of those of most shows. The plants in many cases were re-staged by the stagers, adding greatly to the general effect. Liverpool, as usual, was to the fore with Grapes in quantity and well finished, and of trained Chrysanthemums. Orchids were also well shown. Whitehaven received credit for its well-grown plants. Manchester, although having the smallest number of classes, was far ahead in the quantity of exhibits, the "'Mum" plants showing cultural skill. The enormous group arranged by Mr. P. Weathers from the Botanic Gardens was spoken highly of. Woolton was quoted as one of the prettiest of shows, whilst the roots and vegetables were excellent. Cressington, although small, was highly creditable. The opinion as to quality of cut blooms was Manchester, Liverpool, Bolton, placed in the order named. The subject was opened by Mr. R. G. Waterman, the Secretary, followed by Messrs. G. Haigh, R. Todd, J. Stoney, W. W. Gamble, T. Carling, the Chairman, and others. A vote of thanks was tendered to the speakers and to Mr. Bache for presiding.

The Beurre Bachelier Pear is one of the sweetest and most luscious Pears now in season. It is of medium or even large size, broad at the top, otherwise ovid, and perfectly green.

Weather in London.—On the whole the weather of the past week has been an improvement upon that of the preceding week. There has been little or no rain, and the conditions were exceedingly mild. All the same a spell of cold, keen weather would be appreciated.

National Dahlia Society.—A committee meeting of this society will be held, by kind permission of the Horticultural Club, in the Club Room, at the Hotel Windsor, Victoria Street, Westminster, S.W., on Tuesday, December 18th, at 2 p.m., for the purpose of receiving the report for 1900, and the financial statement. Other agenda will be to make the necessary arrangements for 1901, and transact such matters as pertain to the business of the society generally.

Dinner of the National Rose Society. — As stated at the conclusion of our report of the annual general meeting of the N.R.S. the annual dinner followed that meeting. Mr. Geo. Gordon, V.M.H., as chairman, advised a progressive policy to be conducted so as to attain the highest ideals in Rose growing and exhibiting. He suggested what might be done in this respect. Among others who made short speeches or proposed toasts were Rev. H. H. D'Ombrain, V.M.H.; Mr. Ed. Mawley; Mr. Frank Cant; Mr. Lewis, who quoted figures to show how prosperous some affiliated societies had become since their connection with the National Society. Mr. Geo. Paul, V.M.H.; Mr. E. T. Cook; and Mr. A. Dickson, of Newtownards, also proposed toasts.

United Horticultural Benefit and Provident Society.—The monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last, Mr. E. Burge in the chair. Eleven new members were elected, making eighty-three for the year. Three pounds was granted to a member from the Convalescent Fund. A member who is over seventy years of age was granted eight shillings per week from the Benevolent Fund during sickness. The sum of £2 2s. 0d. was granted from the Benevolent Fund to a member, who had the misfortune to break his arm, towards paying his doctor's account. The treasurer reported that he had invested £400 in Cardiff Corporation Stock. A special meeting will be held on January 14th next at 8 p.m. for the purpose of increasing the secretary's salary.

Acton Scientific Society and Field Club.—On the 5th inst., at the Churchfield Hall Buildings, a paper was given by Mr. C. B. Green on "Scolopendrium vulgare and its Varieties," the president, W. D. Wickes, Esq., F.L.S., in the chair. Mr. Green dealt first with the early history and nomenclature of the British species, which, he said, was described by Ray and earlier botanists under the title of Phyllitis, *i.e.*, the leafy Fern. The term Scolopendrium, however, was the one now generally accepted, and was little altered in orthography from *scolopendra*, a genus of centipedes, with twenty-one or more pairs of legs, the feet of which were fancifully thought to resemble in position the lines of its fructification. This Fern was known to Linnaeus as Asplenium Scolopendrium. Mr. Green also dwelt on the animal origin of its common name of Hart's-tongue, and said it was sometimes called the Seaweed Fern, the Dock Fern, Burnt Weed, and Christ's-hair. The life history of the plant was illustrated by spores and prothalli under the microscope, and by a representative collection of dried fronds and cultivated specimens. The two distinct stages in the life-cycle of the Fern—the asexual and sexual modes of reproduction—were explained, and as these conditions were constant and regular, it was, therefore, an admirable illustration of the phenomenon known as "Alternation of Generations." Insect pests, spore sowing, cultivation, and the large number of abnormal forms were duly noted. As something like 500 varieties have been described it will be apparent that this Fern is not only unstable in character, but protean in appearance. Much interest was exhibited in the specimens, &c., and the usual votes of thanks were duly recorded.

Mushrooms to the value of £400,000 are annually harvested in France; and in Paris alone 68 wholesale dealers are exclusively engaged in the trade.

"The Mahdi."—A note of recognition of the new fruit to be sent out by Messrs. J. Veitch & Sons, and named the "Mahdi," appears in the October number of the *Journal of Department of Agriculture of Western Australia*. Coming from the Messrs. Veitch, *The Journal* says its parentage may be regarded as authentic; though the same cannot be said for the Loganberry "trailing" from the other side of the Atlantic. Plants of the "Madhi" will not, however, be placed on the market for probably another twelve months at least.

Edinburgh Seed Trade.—The assistants held their sixth annual dinner in F. & F.'s, 129, Princes Street, on the evening of Friday, 7th inst. An unusually large gathering (115) was present, and seemed to enjoy to the full the bill-of-fare provided. The menu, purveyed in the caterer's best style, was followed by a first-rate programme of song and sentiment. Several vocalists, assisted by prominent local professionals, rendered Scotch and other songs in a way seldom heard outside of a first-class concert hall. The humorous element was also well sustained. Several toasts were interspersed, and the speeches were brief and pithy. The menu card, which was, as usual, most artistic, was printed by Messrs. Blake and Mackenzie. Mr. Thomas Fortune presided with acceptance over a most successful and enthusiastic meeting.

Presentation to a Midlothian Gardener at Ratho.—On the occasion of Mr. Bennet leaving Hanley after a service of twenty-six years, four years as under-gardener, and for the last twenty-two years as head-gardener to the late James Walker, Esq., of Hanley. Many friends and neighbours in and around Ratho were anxious to show their esteem for Mr. Bennet on leaving the district; and on the evening of November 27th, Mr. Bennet was requested to meet a few friends in the village. The Rev. Mr. Bisset, minister of the parish, in a few well chosen remarks, made the presentation to Mr. Bennet of a handsome gold albert with appendages. Also at same meeting a valuable timepiece was presented to both Mr. and Mrs. Bennet with a suitable inscription on it. On both occasions Mr. Bennet made a suitable reply in accepting the gifts; afterwards a pleasant hour was spent. Mr. Bennet leaves this district with best wishes of Rathonians for his future success.—*Rathonian.*

Market Gardener's Compensation Case.—A case of interest to market gardeners has just been decided by Sheriff Rutherfurd in the Edinburgh Sheriff Court. The pursuer, Mr. J. T. Stewart, market gardener, Bangholm Cottage, Ferry Road, asked the Court to appoint a referee to determine the sum to be paid by the defenders, the trustees of the wife of Captain Gerald Andrew Agnew, of Chancelot, Warriston, Edinburgh, to him under the Agricultural Holdings (Scotland) Act, 1888 and 1889, and the Market Gardeners Compensation (Scotland) Act 1897. The defenders were the heritable proprietors of the lands of Chancelot, of part of which the pursuer was tenant down to the term of Martinmas 1900. The ground was let to the pursuer, and used exclusively by him as a market garden. In terms of the Agricultural Holdings Act and the Market Gardeners Compensation Act, pursuer intimated his intention to terminate his occupation then, and to make a claim for compensation in respect of (1) unexhausted manures, and (2) Rhubarb and other roots planted by him in the holding. The pursuer averred that, owing to the nature of the crop, it was impossible to furnish particulars regarding the extent or amount to be claimed. Afterwards, however, pursuer claimed £964 6s. 8d. for roots, but waived his claim for manure. The defenders disputed the claim, and the parties being unable to come to an arrangement, the appointment of an impartial referee was necessary. The Sheriff has now issued his interlocutor, and finds for the defenders. He holds that the notice of claim was invalid, as it did not comply with the provisions of the Agricultural Holdings Act (section 7) by stating "as far as reasonably may be the particulars and amount of the intended claim." He accordingly dismissed the petition, and finds the pursuer liable in modified expenses.—*North British Agriculturist.*

A Valuable Estate.—According to the *Irish Farming World* the estate of the late Mr. John Robert Jeffries, of St. Helen's Lodge, Ipswich, J.P., and of Ransomes, Sims, & Jeffries, Ltd., Engineers and Ironfounders, has been valued at £114,710 17s. 8d. gross, and at £109,993 12s. 8d. net.

Proof of Sap Circulation in Plant Life.—The art of grafting and inoculation, that is, "budding," has been practised for many hundreds of years. The matter of the circulation of the sap has not been so long understood, however. But at the time of John Lawrence, M.A., Rector of Yelverstoft, in Northamptonshire, who wrote on gardening subjects about the end of the seventeenth century, the bulk of thinking men were convinced that circulation did take place. The author just referred to takes note of "a certain noble demonstration" whereby "the yellow striped Jessamine has afforded certain proof of the circulation of the sap." "Suppose," writes he in "The Pleasure and Profit of Gardening Improved," "Suppose a plain Jessamine tree spreading itself into two or three branches from one common stem near the root. Into any one of these branches in August inoculate a bud taken from a yellow striped Jessamine where it should abide all winter; and in the summer when the tree begins to make its shoots you will find here and there some leaves tinged with yellow, even on the other branches not inoculated, till by degrees in succeeding years the whole tree, even the very wood of all the tender branches shall be most beautifully striped and dyed with yellow intermixed with green." John Lawrence described this (1714) as "a noble discovery"; which it certainly was at that time.

The "Hurst & Son" Musical Society.—On Tuesday evening, the 11th inst., the above society held its first smoking concert of the season. The Pillar Hall, Corn Exchange Restaurant, Mark Lane, E.C., was the scene of the evening's entertainment, and with N. N. Sherwood, Esq., in the chair, and a well chosen programme ably rendered, the concert passed off most satisfactorily. Among others present were Messrs. Wm. and Ed. Sherwood, J. Harrington, of Hertford, Hugh Aiton, R. David, N. Van Lessen, and others. The programme was opened by a pianoforte solo by the accompanist of the evening, Mr. J. Jefferson. This set the company in good mood for the exceedingly soft and sweet solo of Master C. Sheppard, entitled "Fiddle and I." Our old friend, Mr. D. Fairley, powerfully rendered "Will o' the Wisp." Two humorous songs by Mr. A. W. Cain followed. Then came the beautiful and slightly pathetic song, "The Fair Land of Poland," by Mr. Arthur Cox, which was much appreciated. Mr. Val. Cumming's solo of "The Lads in Navy Blue" was well rendered, and had a hearty and vigorous chorus. "To the Front," a banjo duet, by Messrs. Leonard Viney and J. C. Braund, was smartly and evenly played. The orchestra skilfully acquitted themselves in the very difficult selection, "Mon Rêve Valse," by Waldteufel, for which they received hearty applause. Mr. T. A. Baldwin was in his fittest form, and had a splendid piece in Goodwin's newest song, "When the Boys Come Home." In the way of variation the company were treated to a recitation of "The Dream of the Bilious Beadle," given by Mr. A. S. Hart. A second song by Mr. Fairley proved that the good old melodies are still popular. He gave "The Lass that Loves a Sailor." A flute solo, "Romance," was most ably given by Mr. Fred Wimble, and was met with continued loud applause. A short interval was allowed before Mr. Bentley-Green, as conjurer and ventriloquist, gave his varied performances. He was fertile in puns and parodies, in humorous song-snatches, in conjuring tricks, and in ventriloquistic display. The second selection by the orchestra, that of "William Tell," was splendidly performed, and numerous were the remarks as to the progress Mr. E. Sherwood's orchestra is making. During the second half of the programme most of the foregoing artistes again obliged, and other songs were given by Mr. Harry Briden and Mr. W. B. Steele. The cornet solo by Mr. Neal Terry, with orchestral accompaniment, received the ovation it deserved. After a final selection by the orchestra the gathering joined in the National Anthem before dispersing. There were about 250 gentlemen present, who found Mr. Washington's arrangements well planned and well executed.

MR. JOHN BAXTER.

THE veteran horticulturist who is just retiring from active service, after having faithfully served for the long period of forty-one years on the estate of Colonel McCall, Daldowie, Broomhouse, Glasgow, was born in Dunblane, Perthshire, in 1836. He was educated

MR. JOHN BAXTER.

at the parish school of his native town, and even in those days the education meted out to the rising generation of Scotchmen, was of no mean order—thanks to the initiative and foresight of John Knox.

When only thirteen years of age, Mr. John Baxter was set to gardening in the gardens of Keir, Dunblane, belonging to Sir William Maxwell, where he remained for a period of seven years. That seems a long period for a young man to remain in one place, but it was the custom in those days to serve as journeyman for a period after having completed an apprenticeship. His next move was to the Botanic Gardens, Edinburgh, where he stayed for two years, at the remuneration of 11s. a week, which apprentices now would expect while serving two or three years. When twenty-one years of age he went to the gardens at Keith Hall, the seat of the Earl of Kintore, in the capacity of foreman in the glass houses. Two years later he was appointed head gardener at Daldowie, where all his most important life work has been carried out.

Florists' flowers were his great favourites, and many of the more popular in their day were taken up in turn by Mr. Baxter. Verbenas, Dahlias, Hollyhocks, Antirrhinums, Roses, and Violas, claimed his attention most; and both by Mr. Baxter and other cultivators these subjects were brought to great perfection in Scotland. He was a raiser as well as a cultivator of Violas, for the advancement of which he laboured for the long period of twenty-five years. But to him it was a labour of love, and every fresh victory but fired his enthusiasm. Other particulars concerning him may be found on p. 212. The accompanying portrait will give an idea of Mr. Baxter a few years ago. We wish him health and strength to enjoy his well earned rest in retirement at Uddingston.

THE NARCISSUS.

AMONG the favoured spots where the Narcissus can be seen in its full beauty is that of Montreux, in Switzerland, where the bulbs grow on the side of the mountains towards the Lake of Geneva. All the meadows are covered with the flowers of Narcissus poëticus. Nothing equals the sight of these glittering fields when the sun touches the spring flowers in their freshness. The newspapers each year invite the proprietors of these meadows to furnish some of the flowers to the "committee" instituted for the Narcissus holiday or fête. Hundreds of thousands of flowers are then sent to Montreux and serve to decorate the carriages of the knights of the *cortege* who celebrate the glory of the Poet's Narcissus and the triumph of spring. The long-lived species, so abundant on all the hills of Avant, has given birth to numerous garden varieties. Mr. Baker, of Kew, admirably classified the Narcissi some years ago.

A GOOD WASH FOR SCALE.

FOR scale on large trees outside, the most applicable remedy is a wash. The following is a very good wash for scale on orchard trees. It is called "Resin Wash," and it must be applied before the buds break in the spring. It is composed of the following ingredients:—

Resin..	24 lbs.
Caustic soda	4—6 lbs.
Fish oil	3 pints or
(Soft soap	4½ lbs)

100 gallons of water.

Use 98 per cent. pure caustic soda. To prepare this wash, first crush the resin small ready for use, and put into the "mixer," "copper," or whatever it is, about two and half quarts of water for every pound of resin to be used. Add to the water the caustic soda, and then the fish oil or soft soap. Boil this well, and then add the resin and stir till it is all dissolved. Keep the mixture boiling until clear and dark brown in colour. Then add water to make it up to 100 gallons, and spray the trees while still about 100—120° Fahr. Should it be requisite to keep a stock solution add enough water to the concentrated liquid to make twenty-five gallons, and keep in a closed vessel, diluting it with three gallons of warm soft water to one gallon of the stock solution when required for use. This wash is not only effectual against scale, but on account of its caustic properties in killing American Blight, various lichens and mosses growing on the trees.—*C. J. G.*

ABUTILONS

MAKE excellent greenhouse plants if well grown and should be more cultivated than they are considering their easy management. Tops of old plants put in from now onwards quickly form roots if placed in a case and a little bottom heat afforded, potting off when fit into 3-in. and 4-in. pots, using as a compost, loam, peat and leaf soil, the former slightly predominating with some sharp river sand added. They can be had in bloom throughout the year by rooting cuttings at intervals, or by pinching and treating similar to the Bouvardia. They can also be raised from seed, and the hybrids we now have are far in advance of what they were some twenty years ago. The colours include white, orange, purple, red, rose, yellow and crimson. Abutilons also do well planted out and given wall or pillar treatment, spurring them in similarly to the Vine when pruning takes place. Boule de Neige (white) is a capital one for this. There are also several varieties having beautiful ornamental foliage, and which are often used for summer bedding, Thompsonii being one of the best for this. Two kinds are quite hardy in Devon, vexillarium with small mottled foliage and small flowers red and yellow, and vitifolium with porcelain-blue flowers and lightish coloured foliage of good size. The greenhouse varieties should be carefully watered during winter. A. Savitzii with white and green foliage is good for the greenhouse.—*J. Mayne, Bicton.*

JUDICIAL USE OF ARTIFICIAL MANURES.

THE old proverb, "a time to give and a time to withhold," is true here. We must all admit that plant life cannot exist without succour, and especially pot plants, whose roots are restricted to pots which serve as their reservoir of inorganic nourishment. But we must also be awake to the fact that plant life is not always in a state to respond to our bountiful hand, by adding lustre to their leaf or addition to their floral returns. I would specially point to the fact, at this dormant time in plant life, that what is most essential to their welfare is rest, when both heat and water should be given with discretion and manures withheld altogether, because their presence in the soil would only add to the discomfort of the dormant plant and cause the compost to become sour, making it more difficult for the occupant to survive. Of course, my remarks are confined to rooting plants. We have winter flowering stuff which needs a little aid, but they are in a state to absorb the same. Amongst some of them might be mentioned Gardenias, Begonia Gloire de Lorraine, B. Gloire de Sceaux, Bouvardias, Primulas, Cyclamen, Pelargoniums, and the varieties of the bulb family coming into bloom. Small doses are by far more effectual than large ones while buds are swelling, but when in bloom it should be withheld. In all cases it should be given when the soil is moist.—*J. Reid, The Gardens, Montrose, Donnybrook, Dublin.*

PAEONY GARDEN.

PAEONIES are now so numerous and so much improved, that in domains of any great extent a special garden should be made for them. There seems no reason why there should not be a Paeony as well as Rose gardens. The flowers are larger, far more showy, and not a few of them as sweetly fragrant as the Rose. It seems probable that the Paeony may prove a rival to the Queen of flowers. A Paeony garden furnished with a choice collection of specimens would indeed be a brilliant feature in the richest landscape, and those who cannot have such a garden might easily have a bed of Paeonies. The tree varieties may be planted in the centre of the bed with other species in gradation, finishing off with such elegant, cut-leaved sorts as P. tenuifolia, which would have a magnificent effect. Beginning to flower in April, they reach their climax in May, though a good few of the Chinese types linger on through June. They can also be used with excellent effect to beautify the banks of lakes and streams. Any ordinary garden soil suits them, and may be planted from October to March, from 2 to 3 ft. apart if in beds. I recommend every private gardener or market gardener to grow some. Very little work is connected with them once they are planted, as the longer they remain in the one place undisturbed they flower much better. They embrace all the delicacy of colouring.—*T. S. Dick, Castlemilk Gardens, Lockerbie, N.B.*

BEGONIA GLOIRE DE LORRAINE.

IT is but few places now that have not its few plants of this most popular winter flowering plant. In a number of private gardens it is grown extensively, generally where its culture is thoroughly understood. In some gardens it is a complete failure to get up a stock, for a reason I will leave to the experienced grower to explain. As a decorative subject it is second to none, either hanging in baskets or for the dinner table, with young pieces of Ficus repens or Smilax as a ground work. For a flowering plant in the house it will last for several weeks seldom requiring water. Its treatment essential after blooming is not a success with all. With some it is looked as a perpetual bloomer, and treated accordingly. I would surmise that after they have produced bloom incessantly for eight or ten weeks, it is natural to gradually withhold the water, but not to keep them too dry, prior to cutting them down to within a few joints of the old growth in the early spring. Repotting will then be the rule. Old plants can be cut down earlier to produce stem cuttings, which we see has been the best means of propagation by the late controversy in THE GARDENING WORLD. Some of the readers of this paper may assist us in the successful treatment of the plants after blooming in this unsettled Begonia campaign.—*Adam V. Main, Coltness Gardens, Wishaw.*

ROSE GROWING.

ON taking hold of nearly any Rose catalogue one finds they nearly all recommend one kind of soil for Roses, yellow loam or turfy loam with one-third well decayed manure. Of course this is the best, especially for exhibition purposes; but I think it should be more fully explained to amateur Rose growers that they will grow and flower well in nearly any soil with a little care. If turfy loam cannot be got plant in the best soil you have. Poultry or pig manure may be used but sparingly as they are both strong manures. Old mortar may also be used. The best time to plant is the end of October or beginning of November; they then begin to get root hold before the winter sets in, although they may be planted all through the winter if the weather is at all suitable. When a piece of ground is to be set apart for the cultivation of Roses the most suitable is one sheltered from

high winds, but open and not surrounded by trees of any kind. When planting do not cut only the long shoots back, but prune all broken roots. Put bracken between them or any long litter. At the end of March or beginning of April prune them back to five or six buds, which will cause them to make good growth the first year. In May give the beds a watering with manure water, or a dressing of any good chemical manure.—*H. W. Lewis, The Village, Hayes, Kent.*

THE CHRISTMAS ROSE.

THERE are many varieties of Helleborus niger, the true types of which differ from each other, though specimens are often to be found which are difficult of classification. The giant variety maximus is first to flower, the blooms commencing to open here on November 12th. It is a vigorous plant with tall flower scapes, having large blooms tinged with pink. Invernis or St. Brigid's is a charming variety having beautifully cupped flowers of the purest white. The Riverston variety flowers freely showing pink stigmas on white blooms. H. n. major is an improved variety and grown extensively for Yuletide markets. Other varieties are scoticus or angustifolius, rubber or Apple blossom, a clear, rosy shade, and Mdme. Fourcade. Christmas Roses like a deep rich soil, and do best in a partially shaded position, which should also be shaded from strong winds. The bed should be 3 ft. to 4 ft. deep having a heavy dressing of cow manure worked through the lower portion. This provides the cool moist bottom that is such an important factor in the well being of Hellebores. They should be mulched and attended in watering during summer. February is the best month in which to plant or transplant.—*Henry H. Gibson, The Gardens, Glencairn, Belfast.*

SUTTON'S "AMATEUR'S GUIDE IN HORTICULTURE"

Is one of the very few annuals that have been issued continuously since the dawn of the nineteenth century, and from the first number to the present time this periodical has steadily increased in interest and in usefulness. Almost every page of the edition for 1901 is illustrated with one or more admirable reproductions from photographs, showing the highest types of vegetables and the most beautiful examples of flowers. Many of these are modern types of old favourites; others are comparatively recent introductions which have secured a firm position in popular favour. The work is not merely a record of progress, but it contains a gallery of horticultural fine art, and some of the illustrations will be specially valued for their suggestions of decorative effect.

The authors, Messrs. Sutton & Sons, are evidently enthusiasts in their work, and they have succeeded in inspiring enthusiasm in the public mind. As a result, the period of almost all important vegetables has been considerably extended, and there is now greater variety than ever, combined with a marked advance in those qualities which ensure success on the exhibition stage.

In very modest terms the great Reading seedsmen refer to the honours awarded for their exhibits during the past year, including Gold Medals at Paris, Birmingham, Cardiff, Edinburgh, York, and other leading horticultural and agricultural shows.

As specialists in the distribution of high-class Potatos, Messrs. Sutton & Sons maintain their reputation, and the illustrations of these apparently unpromising subjects will arrest the attention of those who eat, although they may not grow the "noble tuber."

Those who have gardens will find "Sutton's Amateur's Guide" indispensable, and those who live in towns may spend more than a pleasant hour in scanning a work which is crowded with information conveyed in clear and lucid language, free from troublesome technicalities. The cover is a beautiful example of what can be achieved by simple means, and will grace the table of any drawing-room. For this edition of the "Guide" a special paper has been made, which has the advantage of doing justice to the numerous illustrations without the hard metallic surface of art paper. The details got into the pictures, and the apparent depth to which one can see by means of variations in the light and shade, are remarkable. The smooth, rolled surface of thick paper enables this to be accomplished; yet there is a lack of the glossy surface which offends the eye, especially when reading by artificial light, from printing on art paper.

RETIREMENT OF AN OLD AYRSHIRE GARDENER.

MANY will learn with regret that on the 28th ult. Mr. Robert Campbell severed his connection with Corwar Gardens after having had charge there for the long period of fifty-one years.

Early in the forties Mr. Campbell came from Cudham, in the upper part of Ayrshire, and began his career as head gardener with the late George K. Young, Esq., of Glendoune, Girvan, whom he served satisfactorily and well. The writer had the unique pleasure of showing this veteran gardener round the latter place the other day, and it was, indeed, a treat to see with what pride this old craftsman pointed out the handsome trees and shrubs which he had planted upwards of fifty years ago. On leaving Glendoune Mr. Campbell was appointed gardener to the late Rigby Wason, Esq., M.P., at Corwar, Barhill, who was then busy transforming a large track of veritable moorland into a beautiful residential estate. Mr. Wason had great ability as a beautifier of landscape, and he was ably assisted by his worthy gardener, who carried out the ideas of his talented employer in a highly creditable manner. Some years ago the estate was acquired by the Hon. H. Elliot, who wisely retained the services of the gardener who was so long identified with the place.

Mr. Campbell has thus attained a position that falls to the lot of very few—of having charge of the same garden for the long period of fifty-one years—and in that time had only two masters. Mr. Campbell is a quiet unobtrusive man, highly respected in the district where his lot has so long been cast; in short a typical old Scotch servant, now, unfortunately, very rare. Mr. Campbell was a good, all-round gardener, mixing little with the crowd at exhibitions, &c., finding the routine work of a gentleman's garden, well done, left little time for riding hobbies, as he called them. It must have been a great wrench to the old man leaving the familiar ground where he had toiled so long and faithfully, and I am sure his gardening and other friends sincerely wish he may long be spared to enjoy his well-earned leisure.—*Brightspade.*

THE PLANT HOUSES.

Conservatory.

Now that the principal flowering plant of autumn is all but over, the greenhouses and conservatories are not so bright as they were recently. But when one takes notice of what can and is done at such places as Kew it will be found that even although the Chrysanthemum is gone, there are numerous other very showy subjects that might be used in their stead. The Heath tribe, including dwarf Pernettyas together with Acacia platyptera and A. cyanophylla, flower now. Among the long list of Begonias suitable for the conservatory we would name B. coccinea, B. fuchsioides, B. semperflorens gigantea rosea and even B. Gloire de Lorraine when the plants are sturdily grown and are placed in the cosiest part of the house. Browallia speciosa major furnishes a fine blue flowered plant for this period of the year; while the purple blossoms of Peristrophe speciosa are also most welcome. Cyclamen and all the varied race of Primulas from the brilliant little P. floribunda up to the large Star Primulas of recent re-establishment are also in season. Reinwardtia trigyna is a plant of extraordinary excellence when properly grown, but alas! how seldom are perfect specimens met with. The paper-white Narcissus (which I do not in the least care for) is now to be had; N. pseudo-Narcissus and the Roman and Italian Hyacinths (both distinct) are in bloom. Freesias also, and soon many others will appear. It is gladdening to recall the fact that in a day or two the days will begin to stretch out, for the shortest day of the year passes on December 21st. After that the plants appear to appreciate the fact, and certainly by the second week in January considerable signs of increased vitality are evident among the stove occupants. The Cinerarias will now be coming into flower to last by succession, for some months. The Salvias need not yet be all over either, especially if some of the plants were retarded for late work. In a few years we shall have quite an array of plants in bloom at this season through being retarded, where heretofore they could never be had by any system of forcing. Spiraeas have been lately quite common at some of the best London exhibitions. The Lilium tribe are subjected to the retarding process, and they too, are now as fresh and fine as Liliums are at Easter, or even in the open borders in May, June and July. Not content with these comparatively easily handled and easily treated plants, the "retarders" have taken Azaleas in hand also.

The berried class of plants such as Solanum Capsicastrum; the whole series of Capsicums with their pretty seed pods, and the Citrus (Orange) tribe; as well as the smaller Pernettyas already noted, are much neglected in the average private garden. Considering the length of time they are in fruit and how attractive they are, it is a matter for wonder that they do not occupy greater attention. The conservatory at the present time should be maintained at from 50° to 60° Fahr., and as little moisture as possible should be disseminated. Change the air once a day, at least, and so long as the weather is mild 1 in. or 2 in. of top air may be given.

Stove.

This is the season when one can get the upper hand of the plant pests such as scales and mealy bug. The plants should all be gone over at this time. There will be no need for more than one damping-down per day and this should be done before ten in the morning; going all over the stages with a rosed can and damping between the pots.—*J. H. D.*

Gleanings from the World of Science.

Origin and relationship of Cycads.—Mr. W. C. Worsdell, F.L.S., at a meeting of the Linnean Society on November 15th, read a paper entitled "Further Observations on the Cycadaceae," intended to throw additional light on the problem as to the phylogenetic origin and relationships of this group of plants. By some authorities these have been considered as allied to the Conifers, while in appearance they resemble Palms and Ferns. They are now confined to the warmer regions of the globe, though they were formerly widely distributed. The group was at its maximum in Jurassic and Triassic times; and Cycad remains, especially in the Lias and the Oolite, are familiar to palaeontologists in this country. This paper, like the rest of the author's work on this group, had two main objects—to contribute to the clear and precise knowledge of the vegetative structure, and to point out, by means of that knowledge, the relationship of the Cycads to, and their descent from, Fern-like plants. The structure was made clear by a series of lantern-slides and diagrams.

AT a meeting of the Scientific Committee of the Royal Horticultural Society on the 4th inst., the subjects mentioned below were discussed:—

Seed-vessels.—Her Grace the Duchess of Cleveland sent fruits of the following plants:—Araujia albens, fruit consisting of two thick oblong follicles; Mandevilla suaveolens, fruit of two long, narrow, slender follicles; Stauntonia latifolia, fruit a long, thick, oblong obtuse berry; Cercis Siliquastrum, with legumes like those of a Pea, but compressed; Magnolia soulangeana, a long cluster of follicles, bursting, and revealing a seed covered with an orange-red investment.

Weeping Chrysanthemum "Pioneer."—This was one of eleven seedlings from a cross between Eva Knowles and Viscountess Hambleden, raised by Mr. Austen, Ditting Court, Maidstone. The peculiarity of all eleven plants consisted in the downward geotropic direction of the branches, which were bent downwards like those of the Weeping Ash, but upturned heliotropic at the ends, when flowers are produced. This peculiar habit would render the plant very useful for certain decorative purposes. No cause could be assigned for the drooping tendency.

Double Cyclamen.—Some remarkable flowers were sent by Mr. Ker, of Liverpool, on which Dr. Masters undertook to report at the next meeting.

Germination of Leucodendron.—Dr. Masters showed a drawing of seedlings raised by him, and presenting a curious outgrowth from the caulicle (hypocotyl), similar to that in the Pea, shown on the last occasion.

HINTS FOR AMATEURS.

TREES AND SHRUBS.

THOUGH much of the space of "Hints" has been occupied during the last two weeks with notes on trees and shrubs, I would like to enumerate just one or two others before leaving off. The present is the planting season, and though personally I like to have and to see goods ordered before the occasion of planting, yet when subjects are recommended too long beforehand the selected cohort is often forgotten before the season for practical operations advances.

A good many very fine trees and shrubs have been referred to, as I just now said, and one may pass over the Laburnums, the Lilacs, and other things, though even in such well-known genera the newer and improved kinds are not nearly enough known. Once in a while some of the novelties might be tried, and if one person in a neighbourhood can show something superior to what is seen around him, the spirit of emulation will ensure the inclusion of improved types in the surrounding gardens. As often as possible, of course, one ought to see the trees that are variously recommended to them. Failing this the only thing is to take them on trial.

Magnolias.—Magnolias have always occupied a high place in the appreciation of planters in the south, but they, like the great bulk of the other fine trees and shrubs grown in southern gardens, fail to flower freely beyond the midlands of England. One occasionally may see such species as M. acuminata and M. conspicua flowering along the Valley of the Forth, but such trees are generally on a south wall, and have their roots in sandy loam. Magnolias enjoy a light quality of soil, and in the northern districts they must have the most sheltered and agreeable quarters. As foliage shrubs or trees they have more than ordinary claims to notice. Those I would strongly advise to be planted by those with space include the beautiful, white flowered, dwarf species M. stellata. When grown in a bed, and treated with as much attention as a bed of Roses, this brilliant little thing will certainly be one of the most attractive of the garden features from March to May. It is equally well adapted for small and large gardens, and even away north a special effort should be made to succeed with it. M. conspicua, or common Yulan, is about the best known of them all. M. conspicua has one or two varieties, of which M. c. soulangeana appears to be most distinct. M. glauca, M. Fraseri, M. macrophylla, M. tripelata, a late flowering species, are all more or less interesting, but are generally only seen massed in such collections as at Kew. During summer the Magnolias on dry soil should be mulched, and may at times be well watered.

Mock Orange or Syringa.—For forming loose and elegant hedges or side lines along the length of vistas, which should be introduced into the make-up of all garden grounds, or for specimen bushes in the lesser garden of the working amateur gardener, the Mock Oranges equal the Lilacs, the Briers, the Wiegelas, and such-like other subjects. They thrive on a variety of soils, and seem to delight in a cool, damp, half-shaded position. This must not be taken too literally, however. Amongst them the best are certainly Philadelphus grandiflorus, with large, white flowers most sweetly perfumed; P. g. speciosissimus; P. gordonianus; P. coronarius, and some of its varieties; P. Lemoinei, and varieties. The older sorts are still very popular, and they ought to be.

The Bramble tribe are not all elegant nor showy, but one or two of them furnish lovely garden shrubs. Of these, Rubus deliciosus, I think, takes the lead. This special species flowers during May, bearing all along the length of its purplish shoots, large white blossoms. The dark green leaves, like those of all the Brambles (Rubus) are ornamental. R. laciniatus, R. canadensis rosea, R. phoenicolasius (Wineberry), for the sake of its fruits as well as flowers; and R. fruiticosus, the common Bramble, whose beauty and usefulness in the wilder parts of the garden has need to be enforced. The Rubus or Bramble tribe like a damp, heavy loam, or a peaty soil, which also suits them.

The Acacias (Robinia) also deserve a position in any garden. A good many of them are much alike, though among the best of the white flowering sorts may be named R. Pseudacacia inermis, which furnishes a fine feature as a standard tree. The Rose Acacia (R. hispida) is exceedingly sweet, with its rose-pink racemes, and its variety inermis is much larger, deeper-coloured and more attractive than itself. The wood of this Acacia is very brittle, so that a place on a wall should really be chosen. A rich, porous loam suits them very well.

Tamarix or Tamarisk, the latter being the commoner rendering, is undoubtedly one of the most graceful, and, when in flower, one of the prettiest of hardy shrubs. The branches are long and very slender, and in some respects resemble a spray or portion from a Chinese Juniper. T. gallica flowers in July; these, however, are very small, though, from their great profusion, they are effective. T. g. indica is not hardy enough for the shrubbery. T. gallica itself likes a sandy soil, a sheltered position and is very often used by the side of ornamental water, and by the seashore. T. tetrandra is a dwarfer and hardy shrub. T. germanica or Myricaria germanica is dwarf enough to be used beneath T. gallica.

Spartium junceum or Spanish Broom lasts a long time in flower and is one of the richest yellow flowered shrubs that can be had in the nobleman's or the amateur's garden. It succeeds in a variety of situations and soils.

Staphyleas.—More might be attempted with these glauceous-leaved shrubs. An open position on all soils, except heavy ones, is found to suit them. S. colchica, the common Bladder-Nut, provides a curiously interesting and somewhat beautiful feature when its bladder calyxes have grown to their full limits. S. Bumalda and S. pinnata are also interesting in this respect. The flowers are golden and orange tinted.

The Guelder Roses (Viburnum) or, at least, the Snowball Tree, V. Opulus sterilis, is a delight in all gardens and may wel be classed as one of the gems. On a lawn its fullest grace is demonstrated, for then the greensward below, throws the white flower trusses more effectively into relief. V. Lantana, the Wayfaring Tree, is rather too coarse for my choice, though it is valuable for less refined parts of the grounds. V. plicatum, however, is one of the dwarfest and most refined, having pure white trusses of very beautiful flowers.

Chimonanthus fragans.—The first flowers of the springtime are always the objects of much special admiration, even though they are exceedingly modest in the majority of cases. C. fragans furnishes a valuable wall shrub and produces fragrant yellow blossoms so early in the year as February.

Olearia stellulata.—Though perhaps not so universally planted in British gardens as the slightly more robust Olearia Haastii, yet the progress made by O. stellulata is satisfactory. It begins to flower, as a rule, slightly later than O. Haastii, that is, about September, though the latter is also then in flower. In the southern counties it does well planted against a wall, or even in the open. The accompanying illustration, on p. 249, furnishes a splendid idea of its free flowering and remarkably attractive qualities, the flowers being white. O. stellulata, D.C., is more generally grown as O. gunniana, and sometimes as Eurybia gunniana, both of which are only synonyms, while the name here used is that adopted by the *Index Kewensis*. The Olearias are natives of Australia, Tasmania, and New Zealand, and, as a rule, they enjoy a well prepared soil, rather light than heavy, and do best in sunny sheltered beds.

Present Work.—Besides the tree and shrub planting that has been referred to, the various kinds of fruit trees and bushes must also be planted. Strawberries and Raspberries, as well as Roses in beds and borders, may be mulched with good dung. Pruning of the fruit trees and bushes should be continued. Some of the wall trees, or even those in the open, if they have been troubled with American Blight, may require to be washed with an insecticide. Various insecticides have lately been recommended. Gishurst Compound is well known and reliable; Calvert's Carbolic Soft Soap might be more frequently tried; Bentley's Soluble Paraffin Insecticide or solutions of a like nature to this can be made by any one who has the conveniences. The crevices in which bugs are found lurking may be scrubbed first and plastered up with a mixture of soot, lime and clay. Roses and herbaceous plants should be planted, rockeries may now be made, lawns can be laid, and old lawns should be rolled and swept. Edges should be repaired or new ones made or laid. Bulbs for forcing must be brought on and all greenhouse stuff should be kept growing. —*Beacon*.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Forcing Young Pot Vines.—*J. S.*: Young Vines from eyes taken and rooted last February if thoroughly ripened may be cut back to within 1 ft. of the pot, and should be shaken out and repotted. Leave them till late in December, when they may be plunged to the rims in brisk fermenting matter. Only one shoot must be allowed to develop, and the laterals should be kept pinched. If you think it advisable to stop the leading shoot, this may be done at about 5 ft. to 6 ft. There is, however, nothing to be gained by stopping earlier. The cultural treatment after plunging the pots, we presume you to know. Those pot Vines which you may not want to force will supply you with canes for permanent planting or for inarching on older canes. Madresfield Court, Foster's Seedling, Royal Muscadine, Alicante, and Black Hamburgh all succeed in pots, but there are others which do not.

Rust on Chrysanthemum Cuttings. — *R. B.*: You have done wisely to have kept rusted stock separate and to have washed the cuttings. Be sure you stamp it out, and to this end we advise you to still keep the infested cuttings by themselves. The "Rust" is the spores of a fungus. There are summer spores and winter spores. The latter differ from the former in this, that they do not germinate during the whole of the winter, but lie dormant just within the tissues till the more genial weather in spring wakes them into activity. Therefore, though the outside of the leaves appear clean just now, do not conclude that you have suppressed the pest. Affected leaves on flowering plants should be at once picked off and burned. We have seen enough to know that some growers are extremely complacent in this matter. Such pests are not to be played or toyed with; and we fancy gardeners have quite enough worries of this kind already. In spring the young plants should be sprayed with a solution (½ oz. per gallon of water) of sulphide of potassium. Houses where infested stock has been growing should be cleared out and syringed with a solution of sulphate of iron. We shall make it our duty to advise you further, at another time.

Protection from Rain.—*Violet fancier*: Surely you do not find the soft rain, that Providence sends, doing any harm to your Violets in frames? However, if you wish a sort of protective awning, why not use waterproof paper? This can be had cheaply, and you will easily be able to fix it to a light and suitable frame. If this frame was raised on stout stakes of a foot or two in length it would ward off the rain while still allowing them full exposure to the air and nearly the maximum of light. We hope to see the waterproof paper used much more largely by amateur growers situated like yourself, who are often deterred from cultivating certain plants from want of protective means or suitable structures.

Elaeagnus edulis.—*J. Telfer*: On warm soils in the south of England, and even in favourable parts of the Midlands, this shrub is grown for its fruits which make a delicious jam. We should like you to try it, at least, for though it may bear sufficient to repay you it is still an ornamental subject.

Good King Henry.—*Experiment*: This common plant of our hedge rows is familiar to nearly all country folks and to gardeners. In past times it took the place of Spinach; for its leaves are fat and large. Spinach, however, is easily raised, and seems now to be universally preferred. The botanical name of Good King Henry is Chenopodium Bonus-Henricus. It can be raised from seeds sown in spring and treated as Spinach is. The plant, however, is perennial, a fact which may appeal to your-

self and others. It is easily grown and furnishes a wholesome vegetable.

Potting Liliums.—*Eastor*: Liliums may as well be potted now as in a month hence. So soon as they die down after the summer's growth expert growers ripen them and dry them. They then shake away the old soil and retain only the healthiest roots. According to size the bulbs are placed into 6-in., 7-in., up to 10-in. pots in a compost of three parts fibrous red or yellow loam, one part silver or coarse sea sand, and one part leaf mould. Some charcoal and a dash of bone meal may also be added. Crock well and place the bulb in about the centre of the pot. Leave space or top-dressing. When the potting is finished the top scales of the bulb or bulbs should just be visible. Place a layer of sand below the bulb and also over the surface soil when finished. Store the bulbs (without watering the soil) in a cool house, free from drip and with only a moderate supply of light. When wanted to start they may be watered to encourage root action, and by and bye may be placed either in frames or on a greenhouse shelf. Now is the time to top-dress the bulb, for roots are emitted from its stem quite independently of those which protrude from the base of the bulb. It is also necessary not to allow the surface to become dried or heated by too much exposure

SIX USEFUL APPLES.

One of the oldest and most popular Apples known to market men is the famous Ribston Pippin. It is of medium size, the skin is green, tinted red in southern counties, and when maturing it changes to a dull yellow hue. Though it will keep from October till March it loses its crisp juiciness after December. It makes capital eating in November. The tree is hardy, a very good cropper, and it delights in a well drained soil. According to the *Fruit Grower* it adapts itself to any locality. When properly thinned and well grown no variety pays better.

Cox's Orange Pippin was obtained from the Ribston, and is a medium-sized Apple of roundish shape, resembling in flavour that of the Ribston, but aromatic, and without its acidity. It also takes after the parent in colour. The eye, stamens, and flesh are similar in both, but in addition to the difference in shape the stalk of the Ribston is slender, whilst that of Cox's Orange is fleshy. The fleshy stalk is regarded as a defect, but on what grounds it is difficult to see. The variety is certainly a grand bearer as a bush Apple, and in all respects is vigorous.

For an early ripening Apple Worcester Pearmain may be selected. It possesses a beautifully smooth and red coloured skin, dotted with light dots, and is eagerly sought after as being one of the best coloured Apples of the time of year. It is a free cropper, and the flesh is tender and sweet. It is a fine dessert variety, also a good cooker, and one of the best early varieties ever seen on sale.

King of the Pippins is a well-known and largely grown variety. The skin of the ripened fruits is yellow, marked with a yellow shade of red. The flesh is whitish; it is very sweet, juicy, and of fine flavour. It is in season at the end of August and in September, being thus an early dessert variety. It keeps well till December, but is at its best about October. When well grown King of the Pippins is always sure of a quick and profitable sale. The variety does well on porous soils, and in the matter of pruning the centre should be kept open.

Warner's King is one of the best culinary Apples we have. It is roundly ovate in shape, and is distinctly broad at the base. The flesh is white, juicy, and crisp. It comes into use in October, and keeps till March. As an exhibition fruit it is often used.

Duchess of Oldenburg is a very early eating Apple of large size. It is a very saleable Apple. It comes into use early in September or before. The tree yields heavy crops.

Ducks Fattened on Celery are said to possess an exquisite flavour, similar to that of the famous sand back of the epicure.

Olearia stellulata (See p. 248).

SEA POINT HORTICULTURAL SOCIETY.

ANNUAL SPRING SHOW.

I EXPECT some of your readers will open their eyes a little as they read the heading of these notes sitting in England or Scotland in dark December as the Autumn Queen has scarcely finished her reign for another season, and when fogs, frost, snow, &c., hold sway, and the sun is mostly conspicnous by its absence. A breath from this charming suburb of Cape Town now arrayed in all the glory and fragrance of legions of spring flowers may prove acceptable to my fellow gardeners who are not so fortunate as to see it themselves. The afternoon of Friday, November 9th, found us in the Town Hall viewing, with great pleasure, the exhibition above-mentioned, held under the auspices of this flourishing society.

The society is confined exclusively to amateur gardeners, and no one employing professional gardeners is eligible to compete in any of the classes; Rule IV. saying, "The society shall consist of such persons other than professional gardeners, &c." As you will see by the list I enclose, a society embracing such a wide field for mutual improvement could not be otherwise than beneficial to the few professional gardeners round the district, especially those newly come to the Colony and, on the other hand, professional gardeners, men who have studied horticulture in its many branches as a means of livelihood could not fail to impart many little items of information that would prove advantageous to the enthusiastic amateurs around Sea Point.

I must say the quality of the exhibits showed very plainly a fair amount of intelligence in the cultivation of plants in general. On entering the hall one was at once struck by the delicious perfume, dispelling, at once, the illusion that flowers grown in the Cape are without smell.

Roses, of course, were the prominent feature; and such Roses! Mr. T. M. Duncan's collection consisted of 800 blooms in about 200 varieties, arranged on a slightly sloping table, and well shown off by a background of mixed plants including several Cattleyas, Cypripediums, Anthnriums, &c. The individual blooms were almost without exception perfect, though, perhaps, to British ideas a trifle far blown; and it seems to me hard to believe that those who have seen them other years declared them below the average.

The Queen of the Roses in this case was an exceedingly large and fine bloom of Her Majesty, sent by Mr. Arderne, The Hill, Claremont, who also sent, for exhibition only, a nice selection of his fine Rhododendrons and Water Lilies, both rarely seen around Cape Town. Carnations were another fine feature, Mr. Strange being most successful here with a pretty collection, which I took to be mostly seedlings. Sweet Peas here, as elsewhere, seem to be coming rapidly to the front; and here again Mr. Duncan scored a signal triumph all round, especially for Mr. Sydenham's (Birmingham) prizes, his stands including most of the latest and up-to-date varieties.

A little further round a stand of Salpiglossis got more than its share of attention; also a glass or two of the light and graceful Cosmos; while Poppies in various colours were very attractive. Pot plants are often the weakest points in amateur exhibitions, though it can hardly be said so about Sea Point. On the right hand of the door a beautiful large plant trained on a balloon of Rhyncospermum jasminoides was very noticeable. Ferns, too, were very fine. Some very large plants of Adiantums, Davallias and Pteris were shown; while special mention must be made of Mr. Donald Ross's Orchids, Cattleya Mossiae, C. Mendelii and C. bowringiana, all large plants in perfect health, and all carrying heavy spikes of flowers. Getting up to the platform we found ourselves in the ladies' section, viewing with admiration the decorative use of cut flowers and the skill and care displayed on this most fascinating art. Undoubtedly the table decorations were very fine, Mrs. C. H. Thomson carrying off the honours with pale yellow Marguerites and Adiantums; though Mrs. C. Mathew's Sweet Peas and some of our beautiful Cape grasses must have been a very close second; while Mrs. Maskew's pink Poppies were just a trifle heavy. Eclipsing them all was a beautiful heliotrope arrangement of Mrs. M. Versfield's, consisting of white and heliotrope Sweet Peas and grasses, resting on a groundwork of heliotrope and white silk, very effective. There was also a fine display of bridal and other bouquets, sprays, &c., which must have given a lot of work to the fair competitors.

Descending again on the other side we came to the fruit and vegetable section, though it did not take up so much space as one would have expected (probably from the earliness of the season), still some very nice exhibits were staged, including a fine dish of Strawberries from Mr. Ross; some magnificent Lemons from Mr. Le Suenr, and a good collection of white Onions from Mr. W. A. Anderson.

Beside Mr. Le Sueur's Lemons, and also belonging to him was a fine little glass of Iris Robinsoni (the New Zealand Bridal Flower), for exhibition only, which was very deservingly receiving a great deal of admiration. I do not know whether this Iris is much grown in England or not, but it was the first time I had the pleasure of seeing it, and I assure you it was well worthy of all the attention it was receiving. [It has been flowered at Kew. ED.]

I was fortunate enough to find Mr. Le Sueur beside it, and he was very proud to have succeeded in flowering it before they were able to do so in the Botanic Gardens here. He was also kind enough to give me a few hints regarding his method of cultivation, so I may yet be able to have it adorning some part of the Monnt Nelson grounds.

However, speaking generally, the Sea Point Society (committee and members) have every reason to congratulate themselves. To me the visit to my first South African flower show was a pleasure indeed. How nice to note the friendly rivalry thus engendered, the pride and pleasure each seemed to take in his or her own special pets, bringing back to happy memory days of long ago when the Scottish village show was the great occasion before we joined the ranks of professional gardeners, and thus debarred ourselves for ever from this special class of exhibition.

And last but not least, how grand to find, on reading over the prize list in this troubled land of ours, and in those troublous times throughout the world, names representing Dutch, French, Russians, Germans, and British, not in martial array, but in unity of heart and purpose, seeking, striving, and assisting one another in their endeavour to aclimatise old friends, to make the aquaintance of new ones, blending and harmonising the best of both to suit their new environments, making pleasant, happy, and prosperous homes in the land of our adoption, and drawing us all closer and closer together in the bonds of friendship, peace and good will, through the gentle influence of the "art that mends nature," and the "purest of human pleasures." May it be so is, at least, the wish and aim of your correspondent.—*Jim Good.*

WHITE HEATHER.

RECENTLY, when touring in Cornwall, I made several enquiries concerning the subject of this note; but the answers were invariably vague. White Heather had been seen somewhere—it was supposed to grow in the county, but the locality was always indicated as remote; so much so, that its existence seemed to be quite of a mythological character. If one preferred the query in the south or south-east, for instance, the north or north-west, would be considered "probable." If, *per contra*, distance would still lend its enchantment to the troubled querist, it seemed to be quite outside the range of practical possibility. Remembering, however, the liability of plants to vary, I decided to settle this matter for myself, if possible, and devote a day to the quest. I fixed on the Hensbarrow Downs as a "golden mean," a fine, open, breezy, Heather-clad height of about 600 ft. elevation, in the vicinity of St. Austell.

I took train to the nearest point—Victoria, an unpretentious village, with a grand appellation—received connsel of the station-master, who, I verily believe, regarded me as a visionary, and thence to the Downs. I had not been searching very long before I discovered the *white* variety of the Ling (Calluna vulgaris), which grows here in great profusion, and is, notwithstanding its commonness, an elegant plant in all its stages.

Linnaeus called it Erica vulgaris, but it is quite distinct from the true Heaths as the most casual examination will disclose. Its tiny bell-shaped corolla, however, is quite superseded by the rose or lilac-coloured leaves of the calyx, and this again is surrounded by four small green bracts, which appear to form a second calyx. Its leaves are small, fine, and closely imbricated and of a beautiful bright green. The Ling is, perhaps, the best known plant of our British Ericaceae. The white variety, of course, could not be allowed any longer to waste its whiteness on this upland moor. A fine rich rose variety was also "vasculumed."

Where the Ling grows the fine-leaved Heath (Erica cinerea) is almost a certainty. Here it strives with the former for the supremacy. And so we have Heath and Ling, and Ling and Heath without nnmber. E. cinerea is often called the "Scotch Heather," probably on account of its feature-giving character to the typical northern "land of the mountain and the flood." However, that may be, it is also a typical Cornish plant, and flaunts its beautiful drooping reddish-purple "bells" in as merry profusion as in the

"Land of brown Heath and shaggy wood."

It is a richly coloured flower of surpassing beauty; it purples the hills with delight; it lends a regal lustre to the landscape; it is beloved of all.

Its flowers are rather urceolate than campanulate in contour, and vary in colour from rich red to royal purple. The flowers are *sometimes* white. On a particular plant here they were so. Long and diligent search rewarded me! Doubts were now dispelled. White Heather was not a myth. I had encouragement to proceed. The only other species of Heath I could discover on this happy hunting gronnd was E. Tetralis, or the cross-leaved Heath. Now the flowers in this species are produced in terminal heads, are of a delicate wax-like consistency, and of a pale pink tint, which underneath shade off to creamy-white. It is a charming flower, scarcely less lovely than its Cape congeners. It grows here pretty freely, but is nothing like so "vulgar" as the other species. However, I applied myself to the quest with renewed energy—the sun had long passed the meridian—when lo, the *white* one came before me like an apparition! Scepticism was now out of the question, success had been recorded, joy prevailed, for the white Heather in *three* species was now a felicitous fact, I could, therefore, justify myself before my suspector, and I was glad. So, packing up my treasures carefully, I took a last general survey of the purple and the gold—for the dwarf Furze (Ulex nanus) was also in full glory—descended the rugged slopes, and bade arewell to Hensbarrow. There was one small regret, however. I could not "spot" the Cornish Heath (E. vagans) on these Heather uplands. Still, I think I am fairly entitled, under the circumcumstances, to consider Cornwall as the

"Land of the White Heather."

—*C. B. G., Acton, W.*

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 4th inst.:—

Orchid Committee.

ODONTOGLOSSUM ROLFEAE MELEAGRIS.—The supposed parents of this natural hybrid were O. Pescatorei and O. harryanum, between which it is intermediate. Several varieties of this hybrid have already made their appearance, but that under notice is considered the best by connoisseurs. The sepals and well spread out petals are white, finely marbled and spotted with light purple-brown. The lip is white and closely spotted with violet on the lower half. The varietal name, Meleagris (guineahen) refers to the spotting. (First-class Certificate.) W. Thompson, Esq. (gardener, Mr. Stephens), Walton Grange, Stone, Staffs.

CYPRIPEDIUM LEEANUM PROSPERO MAJUS.—The parentage of this hybrid was C. spicerianum × insigne Sanderae, the latter being the pollen parent. The dorsal sepal is of great size and white with a green base, both the green and the lower portion of the white being spotted with purple. The petals are greenish-yellow with a brown rib. The lip is shaded with brown, and glossy. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

Floral Committee.

CHRYSANTHEMUM GOLDEN GEM.—In this we have a beautiful single, clear yellow Chrysanthemum of medium size. The florets are of moderate width, in three rows, and gracefully recurved towards the tips. (Award of Merit.) G. W. Bird, Esq. (gardener, Mr. Redden), Manor House, West Wickham.

Fruit and Vegetable Committee.

PEAR NOUVELLE FULVIE.—The fruit of this variety is pyriform, with a yellow skin and finely spotted with russet. The flesh is yellowish white, juicy and sweet. The variety is not new, nor have its merits only just been recognised, for a fine, pyramidal tree of it fruited well and heavily in the R.H.S. Gardens at Chiswick many years ago and enjoyed a very favourable opinion of all who knew it. It has now received public recognition with a First-class Certificate when placed before the Fruit and Vegetable Committee by Roger Leigh, Esq. (gardener, Mr. G. Woodward), Barham Court, Teston, Maidstone.

PEAR CHARLES ERNEST.—The fruits of this handsome looking Pear are large, shortly pyriform, bright yellow and marked with faint brown spots. The flesh is white, sweet and aromatic even yet so that it must rank high amongst late keeping varieties. The flavour has been compared to that of Williams' Bon Chrêtien. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

The undermentioned awards were made by the Floral Committee of the National Chrysanthemum Society on Tuesday, December 4th.

CHRYSANTHEMUM MAY BELL.—Here we have a beautiful and promising true incurved pink variety. The flowers are large and well built, pale pink with silvery reverse; and the petals are broad. (F.C.C.) Mr. H. Weeks, Thrumpton Hall Gardens, Derby.

C. LADY WINDSOR.—A beautiful and attractive single variety having mauve-tipped ray petals with a white base, which form a halo round the orange disc. (A.M.) Messrs. W. Clibran & Son, Altrincham.

C. MISS JESSIE PILKINGTON.—A large single variety of a rose-pink colour and prominent orange disc. (A.M.) Messrs. W. Clibran & Son.

C. CLIBRAN'S TERRA-COTTA.—A handsome single terra-cotta variety. (Commendation.) Messrs. W. Clibran & Son.

C. ROBERT MORGAN.—A large, single variety of a rich and vivid crimson colour. (A.M.) Mr. G. W. Forbes, Regent House Gardens, Surbiton.

REDBRAES NURSERY, EDINBURGH.

IN September last, during a short interval between work of another kind, we made a hurried inspection of the stock grown by Messrs. James Greive & Sons, Redbraes Nursery, Broughton Road, Edinburgh. Various subjects are grown suitable for town as well as country gardens, including trees and shrubs for town planting, popular flowers for cottage and villa gardens, house decoration, &c.

Interesting was the stock of Veronica salicornoides recommended for edging purposes. There was a quantity of it in fine healthy condition. Olearia Haastii was flowering for the second time. Genista tinctoria elata was also in full bloom, and appeared in its prime even at this late period. An excellent shrub for the seaside is Skimmia japonica, here grown in quantity for cuttings. A stock of Ivies has also been got together. Mahonias are found to be useful for winter work on account of the bright colouring of the evergreen foliage. The common Lime is grown for ornamental planting. Both it and the Black Italian Poplar are pinched during June and July for the purpose of getting bushy and well balanced trees during the shortest possible time. Young specimens of both grow rapidly, and by timely pinching of the shoots form well balanced specimens in one year. Rhododendrons in various sizes and other shrubs in variety are grown. Special attention is given to the oval-leaved Privet which is in great demand for hedges and ornamental planting.

The shoots of the Babyloniata Willow become crimson in autumn in this northern latitude. The golden Black Italian Poplar retains the colour of its foliage till autumn. Small plants of Retinospora plumosa are largely grown for window boxes, for winter bedding, and for cemeteries for which it is very popular. The value of Rosa rugosa for garden decoration is well recognised here and large quantities of it grown.

Special attention is given to Carnations, all the best and most popular varieties being grown; while several fine seedlings have also been raised at Redbraes. China Asters in variety also receive attention, and are found useful for a variety of purposes. A large collection of Sweet Peas was in bloom, about fifty varieties altogether, including new ones. About 200 varieties of the best Violas are grown. They are in great request, and something between 100,000 and 200,000 are annually raised from cuttings, many frames being already filled with the same early in September. About 4,000 seedling Violas made another feature, Mr. James Greive being an old hand at this work. Large quantities of East Lothian Stocks were being planted out for spring flowering, both these and Wallflowers being in great demand for spring bedding in cottage and villa gardens, about 60,000 of the latter being acquired. The love of old-fashioned flowers still remains amongst the people everywhere.

Seedling single Dahlias and Cactus Dahlias also come in for a share of space and attention. Early flowering Chrysanthemums are indispensable, wherever cut flowers are required. Large quantities are grown in the open ground and lifted in the autumn so that they can be flowered under glass, should the weather be unpropitious at that time in the open.

Most of the plants were bristly with flower buds unless, indeed, they were in bloom, and all were of bushy, branching habit. Chrysanthemum Etolle de Feu is a brilliant crimson; Youngi (a seedling raised here), violet-purple; Pilrig, dwarf, bushy and bright yellow; Mytchett White, a very popular market sort; Lady Fitzwygram, white; and Crimson Gem, bright crimson. M. Gustave Grunnerwald, a useful variety for parks, had been flowering since July, proving itself one of the earliest. Madame Marie Masse would come next in order and was bushy and very floriferous. Madame C. Desgranges and its several sports are very popular for early use, and Ryecroft Glory is much esteemed for the quantity of golden yellow flowers it produces. All the leading varieties of the large flowering Chrysanthemums, suitable for cut flower purposes are grown in the open ground and transferred to the houses when the latter have been cleared of their summer crops. A collection of new single Chrysanthemums has also been got together for the sake of cutting. Here we came upon a plantation of Cactus Dahlias grown for the sake of ground roots from which to propagate.

Several florists' flowers are grown for the sake of seed, Marigolds being a speciality, and Violas another. Some varieties of the French Marigold are carefully selected annually, including a striped strain, of which there was a large plantation. Rain is an enemy to the ripening of the seeds, particularly of the large-headed African Marigold, and to obviate this difficulty the plants had been planted round the foot of the high walls of the nursery in order to keep this sun-loving Mexican plant dry. Musselburgh Leeks make another speciality for seed raising.

Border Auriculas and quantities of Polyanthuses grown in frames without light serve to keep alive the interest in these old fashioned plants. Blue Polyanthuses in variety were growing in the open, the autumn rains pushing them into bloom. Pinks, show Pinks and Mule Pinks are favourites as well as border Carnations. Herbaceous plants of various kinds do well. Very fine was a healthy clump, 6 ft. to 8 ft. in diameter, of Helianthus Miss Mellish. Autumn flowering Phloxes are grown in great variety.

The kitchen and fruit gardens are also provided for with various subjects, including Raspberry Superlative, and Strawberry Mr. Gladstone, which is much earlier than Elton Pine, and has constituted the main crop variety in Scotland for many years. It has good flavour, a fine appearance, being highly coloured, and carries well. Many varieties of Potatos are grown for seed purposes. Several of the favourite varieties of Rhubarb are kept in stock to meet the demand. Young trees of Apple James Greive, grown in pots, were in fruit-bearing condition. Its merits are now being recognised in many gardens. Elsewhere was a plantation of Crab Apple Stocks for working with popular varieties presently.

A hurried run through the houses was also made. One large structure was filled with Tomatos, which are the summer occupants, to be followed by Chrysanthemums in autumn and winter; while bedding plants are the feature of the same in spring. Indeed, the shelves and other available spaces were already occupied with zonal Pelargoniums and general bedding plants.

Another range of low, span-roofed houses is better adapted for plant growing and the modern requirements of a nursery. The first entered was filled with bedding Pelargoniums in great variety. Mrs. Thomas W. Lawson, the famous American Carnation, has found its way here, but Mr. Greive is not very much impressed by it. The next house contained Campanula Mayi, useful for market work; the Strawberry-Raspberry, zonal and tricolor Pelargoniums, Fuchsias, and other useful subjects for bedding. Seedling Apple trees from James Greive are calculated to reach the fruiting stage in the course of two or three years.

Elsewhere was market stuff, including India Rubber Plants, and Araucaria excelsa, of which about 500 are raised every year. Asparagus Sprengeri, A. plumosus nanus, Begonia President Carnot, Sibthorpia europaea variegata (a choice and dwarf trailer), and seedling Amaryllis, of which quantities are raised every year, will give some general idea of the contents. Other houses were devoted to the cultivation of popular and useful market Ferns, such as Pteris Wimsettii, P. tremula, P. cretica, and its varieties, Adiantum Bausei, and A. Capillus-Veneris imbricatum. The latter is one of if not the most handsome of all the varieties of the British Maidenhair. Some quantity of it was in healthy and fine condition.

NOTICE OF BOOK.

PUBLIC PARKS AT BOSTON.

CITY OF BOSTON. Department of Parks. Twenty-fifth Annual Report of the Board of Commissioners for the year ending January 31st, 1900. Printed for the Department, 1900.

The annual report of the public parks of Boston, U.S.A., is ample in character, and makes a book of 100 pages, so that those interested cannot complain of being kept in the dark as to what is being done and what becomes of the money. The Commissioners' Report is a short one, the bulk of the reporting or the account of the parks being given by the indefatigable Superintendent Department of Parks, Mr. John A. Pettigrew. In their report to the Mayor of the City of Boston, the Commission "believes that the greatest enjoyment by the greatest number of persons will be obtained by retaining, as far as it is practicable to do so, a natural and rural character to the parks, especially in the larger parks like Leverett, Jamaica, and Franklin."

In order to hide the parks from their immediate surroundings of houses, streets, and daily traffic, the aim is to protect the boundaries with continuous masses of foliage, such as are produced by belts of trees and shrubs. They also believe in the suppression of unnecessary walks, drives, and buildings, thereby increasing the natural appearance of the parks, and reducing the annual expenditure of maintaining the same in a passable condition. There is an object also in planting only those trees, shrubs, and herbaceous plants, which prove thoroughly hardy and otherwise suitable for the particular district under notice; and these consist of plants which grow naturally in New England. The Commissioners have been active in securing spaces of a few acres in extent for the purpose of recreation in the more crowded of the suburban districts of the city, and recommend the spending of another million dollars for still further multiplying these areas during the next two, three, or four years.

During the past year the superintendent has been busy completing the belting of Franklin Park with trees and shrubs, in which work he is very thorough. For instance, the ground is previously well prepared for planting by ploughing and subsoiling. Should the natural soil be of a poor character it is ameliorated by the addition of loam brought from some other place, till the soil is at least 2 ft. deep. The expense of adding 1 ft. of soil, at the present price of loam, is 1,100 dollars per acre. Substantial walls of Quincy Granite, 3½ ft. high and 2 ft. thick, have been built round the street boundaries to keep the rougher elements of the population from indiscriminate tramping over the borders and through the plantations. Last spring Grape Vines, Bitter-sweets and Virginia creepers were planted inside the walls for the purpose of covering them and hanging over to the street side, so as to make the walls less formal and more pleasing to those passing along the streets. Part of the park had been used as a nursery for the purpose of rearing trees and shrubs, but this is to be cleared and planted like the rest.

There are several very beautifully executed, full page photographic reproductions interleaved with

the text of the report. They represent scenes of wood and water, some in winter, others in summer, in several of the Boston parks. The deciduous trees more particularly show fine timber. The more recently planted trees and bushes are also productive of fine effect. Altogether the parks and the several playgrounds which have to be kept in order are very numerous, and must entail a great deal of work and attention on the part of the superintendent.

A CHOICE OF CHRYSANTHEMUMS.

As a conclusion to the summary list of Chrysanthemums which we made choice of from the Ryecroft collection of Mr. H. J. Jones in the beginning of the season, we append a list of the later varieties. It will be seen that though many are already known, yet they represent those of the front exhibition rank (judging from the past season), and they also include some promising novelties.

For instance we have Vicar of Leatherhead, a variety which obtained a F.C.C. in November, and which is a most distinct sort, of a bright yellow colour. It is spoken of as one of the best sent out. Mdme. Terrier has come remarkably fine as a late variety this year.

W. H. Whitehouse is a large reflexed variety with a sweet creamy centre and mauve base. Mr. Louis Barter was well received at Edinburgh show where the Lewisham grower displayed it to some effect. Then Mrs. W. Cursham can scarcely be beaten as a good early Jap.; Mr. Thos. Coles is a grand incurved Jap.; and Miss Nellie Perkins has become hugely popular in one season; and nearly everywhere it has come well. It does not furnish a very large flower, so that lovers of mere size may speculate on others; but for sweetness and refinement few sorts approach it. Mr. F. S Vallis included it in his great collection that won the French and English N.C.S.'s Gold Medals, and large money prize. Mrs. McCombie is good and furnishes a rich chestnut-red variety, having a gold reverse.

Lewisham Belle has caused a bit of a squabble about how it should be classified. Mr. Jones will allow us to say that though it may not become an exhibition variety among any section of the "Japs." yet as a true decorative bloom we would recommend it most strongly. The bleached-straw or soft pale primrose colour, and sharp radiating petals make it distinct, and, to our mind, very attractive. Hon. W. F. D. Smith has proved equal to the expectations formed of it last year; Edwin Smith succeeds admirably in 32-sized pots providing large bright crimson blooms on stout plants; Mrs. Cross, golden and mauve suffused; Florence Molyneux, known to all; George Towers, a fine bold bloom of a mauve hue; Sir Redvers Buller, one of the richest and finest of the season, and sure to become a favourite; Miss Jessie Cottee, which, with Mrs. Talt, came as a sport from Etoile de Lyon, we do not hesitate to pronounce as one of the most beautiful, most lively coloured and most distinct novelties of the season. As an exhibition bloom we would reserve our opinion, but again as a true ornamental variety for the conservatory and for the vase classes at shows and decorative work at home, it will rank amongst the very best. We need not attempt descriptions in this note, for these can be found in the catalogues.

Mrs. J. Bryant received a F.C.C. this year. It produces enormously massive blooms. And now comes Robert Laird, a variety named after the popular secretary of the Scottish Horticultural Association, and which will become as famous as Edith Tabor was when at the zenith of its popularity. Robert Laird is a more massive bloom altogether than Edith Tabor, and it is of the purest white, but the habit, the long curling petals and artless build, are just the same. It is a splendid novelty. Mdme. Von André is good; Little Nell and Mrs. Barkley, together with Lord Salisbury (good colour on late bud); Geo. Davis, Lucy Cheesman, and Marquis Viscount Venosta (Calvat), are all first-class up-to-date varieties.

To mention half a dozen decorative sorts take Argentine, white; Edith Pagram, single, mauve; Houppe Fleure, reddish-orange; Yellow Jane Improved; and Ethel M. King, lilac with a yellow band up the centre of each petal. This came as a sport from La Triomphe; and lastly, Silk Twist, completes a good list. What has been done at Ryecroft for the decorative section of Chrysanthemum is matter of common knowledge.

GARDENING MISCELLANY.

BEGONIAS IN FLOWER.

When one has the privilege of viewing a house almost completely devoted to such Begonias as President Carnot, Dreggii, haageana, Ingramii, carminata, metallica and corallina, all in robust health and with an abundance of flower, the mind is not left wondering why they receive so much appreciation, but rather why they do not receive more. These all flower from the present time right on till the advance of next summer. They are all the very acme of elegance and have the beauty of harmony or agreeable contrast. Most of them, or indeed all, except Dreggii, are pink or crimson-flowered, a colour which one values during winter more than we do at any other season. B. Dreggii though a white-flowered species cannot but be acceptable because of its distinctive and finely moulded, deep, yet shining, pea-green leaves. Begonias President Carnot and corallina furnish two of the finest pillar plants which can be sought out. The others make splendid pot specimens and can be grown just as successfully in a small stove as in a large one. B. haageana, which takes after the B. metallica type, is, at times, planted out in a border (under glass, of course), and like all other plants so treated it generally assumes a grand size and very handsome appearance, a real decorative object indeed. All of them should be firmly potted in a rich compost and should be maintained at a steady stove temperature through the winter. During their summer growth they do well in pits and frames or even outside.

HEATING AND VENTILATING IN GLASSHOUSES.

Bailie A. Donald Mackenzie, of the well known firm of Messrs. Mackenzie and Moncur, Ltd., horticultural builders and heating engineers, Edinburgh, gave a lecture in the Drill Hall, on the above subject, at the meeting of the Royal Horticultural Society on Tuesday, the 4th inst.

In a country such as ours, said Mr. Mackenzie, where the difference in external temperature often varies from 20° to 30° in the twenty-four hours, the need for heating our plant houses is very great. The days of the old brick flues are gone, and hot water pipes are in vogue. By means of a large number of cartoons (diagrams), the lecturer was able to illustrate his ideas. Explaining the flow of water, Mr. Mackenzie said that water expands equally in all directions, downwards as well as upwards, but inasmuch as there is less resistance in the upward direction when water is in tanks and boilers, the hot water naturally forces up. In this way a circulation is begun and maintained along the flow pipes. The return pipe is brought back and discharges the water in the lowest part of the boiler. It can be proved that with a distributed fall of 5 ft., the water in the return pipes falls at the rate of 68·4 ft. per minute. No account, however, is here taken of the friction, which may be very great or very small. Attempts are sometimes made to avoid sinking a stoke hole, but all are absolute failures, and are only done without a knowledge of the flow of hot water in pipes.

About eighty per cent. of hot houses are heated by means of 4-in. pipes, which is the diameter far the most popular, and best.

Larger pipes are used for mains, but the radiating pipes are of the 4-in. bore. The amount of heating surface due to a house is a matter of the utmost importance. The following statistics have been found equal to all demands, except perhaps in the most exposed places. One must provide for the coldest day (reckoned at 32° frost), even though that day only comes once in a series of years. There should be 1 ft. of 4-in. piping for every 35 cubic feet of space. For a plant house requiring a higher temperature, 1 ft. to every 20 ft. or 25 c. ft. of space; but one cannot be dogmatic in this matter. Early vineries require four rows of 4-in. pipes along each side, giving 1 ft. of heating surface for every 12 or 15 c. ft. Span-roofed vineries (16 ft. wide) require no less than eight rows of pipes to afford 1 ft. of heating surface for every 15 c. ft. of space. For intermediate span-roofed houses, twelve rows of 4-in. pipes, giving 1 ft. surface per 17 c. ft., are necessary. For a late Peach house, 1 ft. per 25 or 28 c. ft. of space suffices. With forcing houses, having, say, four rows of pipes below the beds or stages, it is necessary to have a small pipe taken around the sill of the house in order to uphold the top temperature.

Referring to the various kinds of boilers, Mr. Mackenzie observed that among the numerous patented boilers in the market, though each one was put forward as the best, it was not necessary to go into the merits or demerits of each.

The old saddle boiler still keeps its hold as one of the simplest, and, under reasonable conditions, one of the most economical. This could always be recommended where the length of 4-in. pipes did not exceed 700 ft. For lengths from 500 ft. to 2,000 ft., the terminal saddle boiler is best. The latter is practically a saddle boiler with a flow above that brings the water a second time to the front of the boiler and so increases its effectiveness 100 per cent. There are several types of these boilers and all are very good. The steam Cornish boiler, rivetted, is equal to 2,000 ft. and over. Where there is a strong draught, its efficiency is greatly increased by having water-bars. With these, a larger amount of heat is got when the fire is banked up.

What is wanted for a hot-house is a boiler that will keep going for eight hours without attention, having a slow, smouldering fire to keep up a temperature of 150° in the boiler. Mr. Mackenzie then described an American boiler made in sections and of cast iron, though malleable iron is less liable to crack or cause accidents. This American boiler (of which a cartoon was shown) is reliable.

There is often a difficulty in obtaining a constant and steady circulation from one boiler which has to heat a range of houses at different levels, and, perhaps, awkwardly scattered. The only way to overcome the "blocking" which results from an uneven series of circulations, is by a perfect regulation of the valves to allow the water to enter the returns about the same time. To be able to regulate the valves properly demands considerable experience and much thought. The chairman (Mr. H. J. Pearson), in referring to this subject on the conclusion of Mr. Mackenzie's lecture, thought that the "blocking" at the point where the radiating return pipe joined the main, could largely be overcome by fixing it so as to discharge at the top half of the diameter of the main, instead of at the bottom as is generally arranged in hot water pipes. When the furthest house is on a higher level than that nearest to the boiler, the tendency is for the water to rush past the nearest house, circulate round the farthest house, and rush back to cause a block.

Then, speaking for a moment on the principles of ventilation, the lecturer impressed on all the need for constructing the bottom ventilators so as to cause the cold air passing inwards to impinge on the hot water pipes. In houses requiring much ventilation, there should be two sets of bottom ventilators, one beneath the pipes or on a level with them, for cold weather use, and a higher set for increased ventilation during summer. All ventilators should be so arranged that a mere seam or a yard of ventilating space can be given as needs demand.

Mr. Pearson added a few remarks when Mr. Mackenzie concluded, in which he strongly impressed on all who are about to add new houses, to place their business in the hands of the best firms. He insisted on a visit of inspection even, to the works of the firm, so as to be able to form an estimate of the quantity and quality of the timber, &c., that was held in stock. No policy was more shortsighted than that of buying or transacting with those who offered exceedingly low tenders, it was a case of a cheap suit of clothes as against a good suit. A cordial vote of thanks was passed to Mr. Mackenzie.

NATIONAL ROSE SOCIETY.

The twenty-fourth annual general meeting of the N.R.S. was held on Thursday, December 6th, at 3.30 p.m., in the rooms of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, S.W. The business in hand was that of receiving the committee's report for the year; to pass the accounts; to elect committees and officers for the ensuing year, and for the transaction of other general business.

C. E. Shea, Esq., occupied the chair, and was assisted by a strong turn-out of enthusiastic rosarians, including the veteran secretary, Rev. H. Homy-

wood d'Ombrain, V.M.H., and the co-secretary Mr. Edward Mawley. There were also Messrs. J. D. Pawle, Geo. Panl, V.M.H., Geo. Gordon, V.M.H., J. Bateman, Rev. A. Foster-Melliar, Rev. J. H. Pemberton, Rev. F. Page Roberts, Rev. F. R. Burnside, W. J. Jefferies, Chas. Burt Haywood, J. Burrell, A. E. Prince, H. P. Landon, G. Mount, G. W. Cook, R. E. West, E. B. Lindsell, F. Cant, B. R. Cant, K. H. Gifford, and others.

After the secretary had read the notice convening the annual general meeting, the minutes of the last meeting were read and adopted. The chairman then called on Mr. Mawley to deliver the report of the committee for the year. This was read as follows:

REPORT OF THE COMMITTEE FOR THE YEAR 1900.

The committee, in presenting their report, are pleased to record another year of steady progress in all the branches of the society's work.

The cold and dry weather in May, and in the early summer, by checking the growth of Rose plants, had an unfavourable influence upon the Salisbury exhibition, which proved the smallest southern show that the society has yet held; but at the exhibition which took place at Westminster in conjunction with the Royal Horticultural Society a week later the competition was much more satisfactory. The Crystal Palace show proved an unusually extensive one, being the largest metropolitan exhibition, with the exception of those in 1892 and 1897, yet held by the society, but owing to the unfavourable character of the season the general quality of the blooms was below the usual standard. The display of Roses at the Birmingham exhibition was also exceptionally large.

Great credit is due to the local committees for the excellent arrangements made in connection with the southern and northern exhibitions, and especially to Mr. G. Nicholson at Salisbury, and to Professor Hillhouse and Mr. C. W. K. Wallis at Birmingham. Indeed, seldom have these arrangements been in all respects as complete and satisfactory. Much credit is also due to Mr. G. Caselton for his share in the management of the Crystal Palace show. At all three exhibitions of the society the attendance of visitors was exceptionally good.

At the conferences held at Salisbury at and Birmingham interesting discussions took place upon Miss Jekyll's paper entitled "Suggestions for the Decorative Use of some Garden Roses." The report on these conferences has recently been issued to the members, together with a new and revised edition of the "Hints on Planting Roses." The committee take this opportunity of expressing their best thanks to Miss Jekyll for her admirable and suggestive paper. The committee report with pleasure that the sale of the society's publications to non-members has greatly exceeded that of any previous year. They likewise regard with satisfaction the result of their efforts to encourage the staging of exhibition blooms in vases, instead of boxes, and also in the increased number of stands of garden Roses at all three exhibitions.

It is with the deepest regret that they have to record the death in May last of Mr. T. B. Haywood, for seventeen years the society's able and much respected hon. treasurer. They have also to deplore the loss through death of that very generous friend of the society, Mr. F. W. Campion. Then on the eve of the Birmingham Show came the sad news of the death of Mr. Benjamin R. Cant, of Colchester, at all times a warm supporter of the society, and one of its original founders. A subscription list has already been started to insure a special prize, to be entitled the "Ben Cant Memorial Prize," being offered annually in his memory at one of the society's exhibitions.

FINANCE.

The committee feel they cannot refer to this question of finance without expressing their keen appreciation of Mr. Charles B. Haywood's kindness in having consented, on the death of his father, to accept the position of hon. treasurer to the society. The usual payment of £105 from the Crystal Palace Company towards the expenses of the metropolitan exhibition has not yet been received, otherwise the financial position of the society would have been in every respect as satisfactory as in former years. In order to prevent the society being placed in a similar unsatisfactory position at any future time, through the loss or delay in payment of any large sum due to it, the committee recommend that a reserve fund be at once set on foot.

There has again been a steady increase in the roll of members, which at the present time number 584, or more than in any preceding year.

PROPOSED ARRANGEMENTS FOR 1901.

The southern show of the society will be held at Richmond, Surrey, on Wednesday, June 26th, in conjunction with the Richmond Horticultural Society; the metropolitan exhibition at the Crystal Palace on Saturday, July 6th; and the northern show at Ulverston, in connection with the North Lonsdale Rose Society, on Wednesday, July 17th. Prizes will also be offered by the society at the Rose Show of the Royal Horticultural Society, which will take place at the Drill Hall, Westminster, on Tuesday, July 2nd.

MEMBERS' PRIVILEGES.

Members subscribing £1 will, as usual, be entitled to two private view and four transferable tickets, the latter admitting at the same time as the general public, while subscribers of 10/- are entitled to one private view and two transferable tickets. Each of these tickets is available for any one of the society's exhibitions. Members joining the society for the first time in 1901 will also receive copies of the following publications:—The new edition of the "Official Catalogue of Exhibition and Garden Roses," the revised edition of the "Hints on Planting Roses," the "Report of the Conferences on Pruning and Exhibiting Roses," the "Prize Essay on the Hybridisation of Roses," the "Report on the Constitution of Rose Soils," and the conference report on Miss Jekyll's paper on "Suggestions for the Decorative Use of Some Garden Roses." Members alone are allowed to compete at the shows of the society.

The committee express their best thanks to the donors of special prizes at the society's exhibitions, among which may be mentioned the Right Hon. Lord Calthorpe, the Right Hon. Joseph Chamberlain, M.P., Captain Ramsay, Mr. C. J. Grahame, Mr. F. Dennison, and the late Mr. F. W. Campion. Their thanks are also due to those local secretaries who have in any way assisted the society to maintain its present position, and especially to Mr. G. W. Cook, who has again outdistanced all its other local representatives in inducing new members to join the society. Mr. F. W. Wright, a new local secretary, has also done excellent service at Birmingham.

BALANCE-SHEET FOR THE YEAR ENDING 30th NOVEMBER, 1900

Receipts.

	£	s.	d.
Balance at bankers, December 1st, 1899	155	1	2
Subscriptions	390	15	6
Affiliation fees and for medals from affiliated societies	75	5	0
From Wilts. Horticultural Society ..	50	0	0
From Birmingham Botanical and Horticultural Society	80	0	0
Special prizes	47	15	9
Sale of publications	15	15	8
Advertisements	14	4	6
For proposed Treatise on "How to grow and Show Tea Roses"	5	0	0
	£833	17	0

Expenditure.

	£	s.	d.
Printing, stationery, and advertising*	126	5	0
Postage, telegrams, and sundry expenses	56	16	4
Secretary's travelling expenses to arrange shows	3	16	11
Expenses, Salisbury Show	1	11	0
Ditto Crystal Palace Show.. ..	13	1	7
Ditto Birmingham Show	1	9	6
Medals	20	1	6
Ditto for affiliated societies ..	61	12	0
Contribution to R. H. S. Rose Show ..	17	0	0
Prizes, Salisbury Show	90	15	0
Ditto Crystal Palace Show ..	234	15	0
Ditto Birmingham Show	154	15	0
Purchase of plate for prizes	34	3	9
Analysis of Rose Soils	15	0	0
Annual rainfall	1	1	0
Balance at bankers	1	14	0
	£833	17	7

CHARLES BURT HAYWOOD, *Hon. Treasurer.*

Audited with vouchers and found correct { J. D. PAWLE, F. F. WOLLASTON, } *Hon. Auditors.*

*General printing, &c., £67 5s.; printing new catalogue, £51; printing report on constitution of Rose soils, £8

Upon the conclusion of the reading of the report Mr. Mawley advised the members of a special reason that accounted for the low state of the financies at this, the year's end. They had begun the year with £155 1s. 2d., and ended it with only £1 14s. But the Crystal Palace Company, Ltd., had still 100 guineas to pay them as the amount of their contribution towards the subscriptions for the great summer show held in July. This sum had always been received before the annual general meeting of the Rose Society, and on this occasion they would have shown a balance of £70 had accounts been squared. The printing expenses during the year had been heavy, in so much as they paid £51 for the society's catalogue, and £8 for that on "Rose Soils."

In case the Rose Society's summer show could not be held at the Crystal Palace in 1901 Mr. Mawley had written to various other centres, including the Imperial Institute, Royal Botanic Gardens, Regent's Park, Benchers of the Inner Temple, Alexandra Palace, N., London's Exhibitions, Ltd., Earl's Court, and from the letters which he had received, and which were read aloud to the meeting, it was evident that the society would have no difficulty in finding suitable quarters.

The chairman now rose to move the adoption of the report. He said the society could look on a first-class year's work. The shows had been good, the membership was larger, the society's literature had had a greater sale than ever before, and its influence was extending wider and wider, and was more appreciated. In their exhibitions they wanted away as far as possible from mere big blooms—they wanted the charm of variety. The greater extension of the "Garden Rose" classes had proved most attractive to the general public. Mr. Shea then briefly referred to their loss by the hand of death of the late Mr. Haywood and Mr. B. R. Cant. They all deplored their loss.

Touching on money matters, the chairman advised the society to increase its reserve fund, and this could easily be done by augmentations from the various balances. He also proposed that the committee (which is so strong and fully representative) should be empowered to deal with the Crystal Palace matter, and the fixing of where the show would be held in 1901. Allowance would be given till the end of the present month. Mr. C. E. Cant seconded the resolution, which was carried unanimously.

Rev. F. Page-Roberts then proposed a vote of thanks to the officers and committee for their attention and work during the year. Mr. K. H. Gifford seconded, it being carried with acclamation. Mr. E. Mawley and Rev. H. H. D'Ombrain replied.

Mr. H. P. Landon moved the following addition to Bye-Law 3: "The committee shall have power to fill any vacancy in the officers of the society, or in the committee which may occur during the currency of the year." Mr. Mount seconded, and it was unanimously. Mr. G. W. Cook proposed that Bye-Law 12 be altered to read as follows: "That affiliated societies have the privilege of offering for competition the Medals—*except Gold Medals*—of the National Rose Society which Medals may be obtained for this purpose at the following charges, viz.:—Silver Gilt Medal, 14s.; Silver Medal, 11s.; and Bronze Medal, 5s. 6d. None of the Medals shall be awarded by an affiliated society for any seedling Rose or for any decoration or vase of flowers. *No Medals sent without prepayment.* No affiliated society shall offer more than four of the National Rose Society's Medals at any exhibition." He pointed out that the National Society's Gold Medals had lately been used by certain affiliated societies in a way that was never intended. He instanced the case of a "backyard exhibition" not far from London where a Gold Medal was given for twenty-four Roses, not less than twelve varieties. The Gold Medal was the "Hall Mark" of the N.R.S., and to offer thus, was to prostitute it. Mr. Bateman seconded; and it also was unanimously carried.

Mr. Geo. Gordon, V.M.H., proposed the addition to regulation 18: "For four trebles, 2 ft. long; for 6 trebles 2 ft. 9 in. long; for 8 trebles 3 ft. 6 in. long." This refers to the size of the boxes, but as it was felt that many exhibitors would have to go to much expense if a host of new boxes had to be made, the definition at present is confined to a few classes, but in 1902 the rule will be general, and exhibitors were warned to make preparations. Mr.

Geo. Paul, V.M.H., seconded the proposition which was carried with accord.

The last of the proposed alterations was put forward by Rev. A. Foster-Melliar, *re* judging at Rose shows. He moved that definition 5 be altered to read as follows:—"Size shall imply that the bloom DOES NOT IN THIS RESPECT FALL BELOW THE STANDARD OF THE CLASS BEING JUDGED." Thus if there was a large and good bloom of a certain variety in the back row of a set, that bloom would act as the standard by which the stand would be judged. Mr. Burrell seconded the proposition, which, however, only received four votes.

This terminated the business.

In the evening the 24th annual dinner was held, Mr. Geo. Gordon, V.M H., being in the chair.

SIZE *versus* FLAVOUR.

In the growth of our fruits, be they Strawberries, Plums, Apricots or anything else, is there not a mistake made when we feed them so liberally, blowing them out, filling their structures with juice, which, like new wine, requires time to become mellowed, changed and enriched? We hear of people arguing the "liberal use of liquid manure, mulchings, surface dressings and so on; but we find no qualifying notes, or at most a scanty generalisation when remarking on the conditions upon which such instructions ought to be adopted. I have known gardeners who could show massive fruits, a mighty size and weighty, too, but the fruits, Peaches they were, had no colour, or very little, proving that they enjoyed scant sunshine. This would bring in the objection that the Peach-houses were badly situated, or that the sunshine for the season was meagre. Well, the houses were in a poor posture, for from two o'clock in the afternoon the sun was off them. Considering the other argument about a want of sun on favourably placed houses, it may happen that in some parts the late fruit houses may not get enough of that sunshine which "ripens" and develops the true properties and worth of our fruits. Therefore, according to the amount of hot sunny weather, the quantity of liquid or other manurial feeding should more largely be regulated. No one would advocate the starving of fruit trees which are swelling crops, but the idea, which so often is forgotten when nourishing a swelling crop, should be not how large can we make the fruits, but how much substance can we store into them and secure it thoroughly developed, ripened and sweet; in a word, how can we get the highest flavour in them? Poor or burdened trees will never yield sweet, tasty, sappy fruits, nor will overfed trees do so. Perhaps in the feeding of Vines the reason, or a large part of it, why the colouring is so poor in many cases is because the abundance of "food" in the berries has not had time to develop and change to perfection. Medium fruits are generally free from any reproach against their flavour. Vegetables are another case in point where mildness and purity and that appreciable piquancy sought for, is more generally found in the rationally-cultivated and fed, medium crops. So these observations would direct us that to secure flavour and decent size, but more especially the flavour, without which we might as well be eating raw Turnips, we must follow that ever safe path, the middle path, and only apply so much nourishing matter as we may reasonably suppose will have time to "digest" and mature under the action of heat and light.—*T. Grove.*

LEGAL NOTES.

MUSHROOM GROWING IN CELLARS.

In the Sheriff Court at Leith, Edinburgh, on Tuesday, 11th inst., Sheriff-Substitute Maconochie gave judgment in a case raised by the local authority of the Burgh of Leith against William McRobbie. The local authority alleged that McRobbie was using certain cellars in various parts of the town for Mushroom growing, that the cellars were in proximity to and below the level of dwelling-houses, and contained accumulations varying in quantity from time to time of stable manure, which persistently polluted the atmosphere with gases due to fermentation and the soil with decomposing organic refuse, and that the process of Mushroom growing as carried on was a nuisance or injurious or dangerous to health within the meaning of the Public Health (Scotland) Act. 1897.

On November 13th, the Sheriff-Substitute refused McRobbie a proof, and remitted the matter to Sir Henry D. Littlejohn, M.D., Medical Officer of Health of Edinburgh, for examination and report. Having examined the place where the manure is prepared or "sweetened" at a considerable distance from dwelling-houses, and the three cellars where the buisness is carried on, he reported that the vaults appeared to him to be well suited for the purpose; that he could detect no objectional odour, either within or without the respective premises; that he had since his first examination inspected the localities from time to time, and made enquiries at the neighbouring tenants whether they had to complain of any odour from the Mushroom beds; that he failed to detect any himself in his subsequent visits, and that the various tenants assured him they had no cause to complain. Further, he reported, that under these circumstances he considered that the trade of Mushroom growing in the three localities complained of was carried on in a wholesome manner and did not create a nuisance as alleged.

Sheriff Maconochie has now granted absolvitor to McRobbie with expenses. The matter has excited considerable local interest, and McRobbie's defence has been conducted by P. Murray Thomson, S.S.C., Edinburgh, secretary of the Royal Caledonian Horticultural Society.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. Henry H. Gibson, The Gardens, Glencairn, Belfast, for his article on "Penzance Sweet Briers," p. 229.

QUESTIONS AND ANSWERS.

Rusted Fern Fronds.—*C. B G.*: We carefully examined all the fronds sent us but failed to find any evidence of rust or other fungoid diseases upon or in them. By holding the Scolopendrium fronds against a bright light you can practically see through them by the unaided eye. A lens fails to show anything more, and even a microscope of high power reveals nothing in the way of rust as usually understood, and which is the result of the Uredo stage of various species of Puccinia. In the case of this fungus in any stage whatever, when fruiting, there is no manner of doubt about its presence, as you can detect masses of spores with the naked eye, and even scrape them off the surface of plants affected. It seems to us merely a case of premature maturing, or, in other words, decay, owing probably to too much shading in summer. If the blinds are let down earlier in the morning than necessary, and left down too late in the afternoon, the fronds never do nor can acquire that rigidity or substance characteristic of Scolopendriums grown fully exposed in the open air. Of course, under glass the shade and atmospheric moisture will cause rapid and handsome growth, but the fronds are always thinner and shorter lived than those grown in full exposure. Even in this case we may not have probed the secret of the early decay to the bottom, but there is no rust present nor any other filamentous, that is, mycelial fungus present; and as far as we can see there is nothing that can spread from one plant to another.

Grafting Seedling Apple Trees.—*D. W. D.*: Your best plan would be to visit some gardens in your neighbourhood and ascertain what varieties do well. Get some shoots of these in February or March and heel them into soil in a shady position till you want to use them. Cut down the Seedling Apples about the same time to where you want to graft them. About the end of March, or, better, about the beginning of April, you may graft them. Get some clay and work it up till it becomes very plastic; then get some hay, cut it up fine with the garden shears and mix it thoroughly with the clay. Get some matting and have your pruning knife thoroughly sharpened. When thus prepared, cut off a sloping piece of the stem of the stock (seedling Apple to be grafted). Prepare some of the Apple shoots so as to fit the cut you have made on the stock. Be sure that the edges of the bark exactly fit the edges of the stock, otherwise they will not join. A tongue made on the graft, so as to fit into a slit in the stock, will prevent the former from slipping down until a union has formed. Now place the two in position and tie them firmly with matting. Take a piece of the clay and work it all round the graft so as to exclude the air. Finish up by tying some moss over the clay to keep in the moisture. Only one stock and one graft should be prepared at one time, then proceed to do the next tree in the same way. We should advise you to practise with pieces of green wood so as to get a little experience at the art before trying the Apple trees and perhaps spoiling them. For a method of budding the trees, see next week's issue.

Evergreens for Beds on the Grass.—*D. W. D.*: Hollies live and thrive in very exposed positions so that we should think you would have no difficulty with them in the beds on the lawn you mention, seeing that they are sheltered from the east. You would not require a great many plants for each bed, seeing that you intend to plant bedding subjects between them in summer. Golden Queen Holly would make a beautiful subject for one bed, and Silver Queen for another, the leaves being variegated with yellow and silvery-white respectively. Golden Irish Yews might be planted in another. Like the Hollies they grow slowly, and can be kept down to any convenient size by pruning or cutting in with the knife. The golden-leaved Privet (Ligustrum ovalifolium aureum) would make a handsome subject if sufficiently hardy, and not being costly you might well give it a trial. Andromeda polifolia has narrow leaves, white flowers, and grows only 12 in. to 18 in. high. A. floribunda is taller and flowers more profusely, but might not prove quite so hardy. Some varieties of the Box are very handsome, and we believe would do well under the circumstances you mention. Buxus sempervirens myrtifolia has large leaves; B. s. rosmarinifolia, narrow leaves; and there are gold and silver variegated forms you might try. Cotoneaster Simonsii is very hardy and bears red berries in autumn and winter.

Plants for Cut Flowers for Market Work.—*Scotch Gardener*: Gladiolus The Bride is certainly a good item, and you should be ready to plant out the corms in February or even earlier, as your district near the seaboard is relatively mild and open. You should also have a good breadth under Daffodils, including such white varieties as Narcissus bicolor Horsfieldi, Empress, Grandee, and the later flowering varieties of N. poeticus, single and double, the latter keeping up a succession till June. Yellow Daffodils you ought to have are Emperor, Golden Spur, Henry Irving, Scoticus, P. R. Barr, Princeps, and other bold varieties. Single and double varieties of N. incomparabilis would also be useful. If you have only a small amount of stock to commence with you can increase it annually. Irises should not be forgotten, including fine varieties of Iris germanica, I. pallida, and Spanish and English Irises to keep up a succession. Single and double Pyrethrums will be found useful. Other useful flowers are Eryngium giganteum (biennial) and E. alpinum, E. oliverianum, and E. planum (perennial); also Chrysanthemum maximum, C. m. Mrs. Head, Helianthus Miss Mellish, H. Daniel Dewar, Anemone japonica alba, Gladioli of the gandavensis type, Montbretias of various colours in named varieties, Lilies in variety, and early flowering Chrysanthemums, such as M. Gustave Grunnerwald, Mdme. Marie Masse, Mytchett White, and a host of others, which you will find described in catalogues. Do not omit a good sowing of Sweet Peas. If you desire more annuals than the last named please let us know.

Names of Plants.—*H. J.*: 1, Viburnum Tinus; 2, Berberis Aquifolium; 3, Chimonanthus fragrans; 4, Crataegus Pyracantha; 5, Cornus sibirica.—*Western*: 1, Veronica Traversii; 2, Veronica pinguifolia; 3, Gaultheria procumbens.—*A. M.*: 1, Odontoglossum andersonianum var; 2, Odontoglossum Pescatorei; 3, Cypripedium villosum Boxallii.—*A. K.*: 1, Ligustrum ovalifolium aureum; 2, Phillyrea decora; 3, Prumnopitys elegans; 4, Retinospora obtusa; 5, Thuya orientalis elegantissima; 6, Thuyopsis dolobrata.—*J. W. A.*: 1, Onychium japonicum; 2, Doodia caudata; 3, Blechnum occidentale: 4, Begonia semperflorens var.

Names of Fruits.—*J. Mayne*: It is either Bedfordshire Foundling or Brabant Bellafleur, as far as shape goes, but the colour was too far gone to be certain. In other words the variety is out of character.—*D. W.*: 1, Apple Dumelow's Seedling; 2, King of the Pippins; 3, Cox's Orange Pippin.

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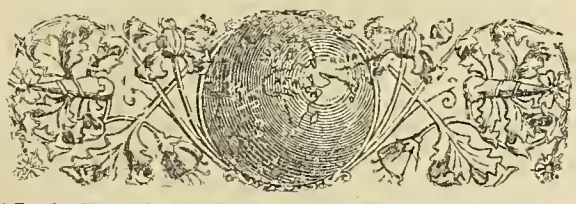

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, DECEMBER 22nd, 1900.

ROSES FOR GARDEN DECORATION.*—During the past year conferences were held at Salisbury and Birmingham by the National Rose Society, on the occasion of their shows at those places, and on each occasion the subject for discussion was a paper by Miss Jekyll, V.M.H., entitled "Suggestions for the Decorative Use of some Garden Roses." Although the Roses used for garden decoration form the oldest section to which the society now gives considerable attention, there was till recently some danger that their claims to distinction would ultimately come to be ignored owing to the great popularity to which hybrid perpetuals and Teas, and still more recently hybrid Teas had attained. We remember their sad plight in 1887 when Roses of all kinds used for exhibition presented a sorry spectacle before the day was half over, but particularly the garden Roses, owing to their naturally fragile character. Since that time, however, the National Rose Society has consistently and persistently encouraged their culture and exhibition, with the result that the section constitutes one of the finest features of the shows held annually by the society. This demonstrates that a beautiful and useful section, though liable to be eclipsed and driven into obscurity by the rising fame of some other type, generally regarded as peculiarly fitted for exhibition, may be brought into special prominence by encouraging the same to the extent of its merits. The National Chrysanthemun Society might take this fact into their consideration in order to resuscitate the waning glories of some of the beautiful though small-flowered sections of their own special favourite; and we have reason to believe that more than one of their members are actuated with intentions of that kind.

Garden Roses are now legion, thanks to the encouragement that has re-discovered old species and varieties, and created new forms. To deal with them in their entirety, as the subject matter of a single paper of limited scope, would be a difficult, if not impossible task, so that Miss Jekyll approaches it in the proper spirit when she attempts to deal with only a few coming under her special province of observation. She says that one often sees in gardens, where money is no object, some of the "best possible Roses planted apparently without thought or knowledge." Just so; it is precisely similar to the ordering of a library—so many hundred pounds' worth of each of the various 'ologies—by one who has no special liking for any particular book, simply because he has no familiarity with it or does not know it, perhaps, inside the bindings. All Roses are beautiful, but there are positions in which many of them would be inappropriate if allowed to grow in a natural way and ramble at their own sweet will; but on many private estates there are positions which could be beautified in a manner one could scarcely dream of until the work had been accomplished by some careful and intelligent observer and worker upon the spot, and who has a clear conception or knowledge of the subjects he is handling. Miss Jekyll advocates a more liberal use of the rambler type of Roses such as the Ayrshire and sempervirens types with the polyanthas and Musk Roses. The Himalayan Rosa brunoniana is selected to typify the latter section; but R. Brunonis, of Wallich, is regarded as synonymous with R. moschata at Kew. A large rambling bush of it in a hedge by the ferneries has been a feature of that part of the gardens for many years past when laden with its clouds of large creamy white, sweet-scented blossoms.

In the kitchen garden, where hybrid perpetuals are often freely planted round the borders in private establishments, Roses of the rambling or climbing type would be altogether inappropriate and out of keeping with the straight walks and neatly trimmed subjects in the borders, unless in the case of climbers that would conform to the trim character of the other occupants of the ground. Miss Jekyll evidently thoroughly recognises this fact, for she advocates the use of such Roses on the outskirts of the garden where the latter joins the rougher ground or well established shrubbery. She

* REPORT OF THE CONFERENCES held by the National Rose Society in 1900, on Roses for Garden Decoration. (Copyright.)

would associate such Roses with Holly, Holly Oak and Box, which would no doubt answer admirably so far as contrasts in the greenery of the foliage are concerned; but it would entail a good deal of attention on the part of the cultivator to prevent the more rapid evergreens from overpowering the liberal and healthy growth of the Roses that are deciduous. In any case Roses grow and flower most liberally when freely exposed to air and sunlight to ripen and give texture to the wood. If the evergreen trees and bushes are sufficiently dwarfed to be fairly overtopped and hidden by the foliage and blossom of the Roses then the supporting plants must suffer, a contingency which the author may consider of secondary importance.

She is now preparing a kind of Rose garden for this class of Roses amongt Yew, Holly and Holly Oak of about twelve years' growth. At the foot of one of the latter she intends planting a group of Cistus laurifolius, which harmonises with the sombre hue of the former. The Musk Rose is intended for contrast with the taller tree and Rosa alba with the Cistus, while some Damask Roses also having seagreen foliage, but pink blossoms, will form a contiguous group. Where the Yews give place to Bamboos with decidedly lighter green foliage there she will plant Roses with pale green leaves, such as R. polyantha and the dark-flowered Crimson Rambler, the sprays of which will be allowed to mingle with those of its more primitive or wild relation having white flowers. Cluster Roses, or certain of them, she would allow to be self-supporting and develop long arching branches laden with blossom, and recalling the appearance of a fountain of water. She would also employ them upon arches, and in trailing wreaths suspended from post to post, reminding us of the idea of an Italian garden with its posts and chains for supporting the Roses. Reine Olga de Wurtemburg, Madame Alfred Carrière and the Boursalts are other kinds she would recommend for rambling without restraint over tree growth. Pictures of this kind may often be met with on our own downs that are more or less wooded yet sufficiently open to let the Roses have the free play of air and sunshine. Varieties of the Dog-rose, the Field-rose and their allies lend themselves admirably to this kind of treatment. Indeed, her word pictures are such, we presume, as she may have observed in a state of nature; and this will account for the beauty of appropriateness of many of the designs which she advocates. The author of the paper has evidently obtained some wonderful growth in the Scotch Rose by planting it in 3 ft. or 4 ft. of earth, placed between dry double walls 4½ ft. high, the branches of the Rose falling over the wall and reaching within a foot of the ground. That is certainly a plan worth imitating with or without modification for it is one of the loveliest of the wild Roses where it grows and flowers liberally.

Death of Mr. John McIntyre.—It is with regret and a feeling of great loss that we learn of the death on November 27th of Mr. John McIntyre, who was so well known as one of the foremost cultivators of plants. He had been for fully twenty years head gardener to Mrs. Gurney Pease, at Woodside, Darlington, and has taken leading honours at many of the large shows in the north of England and in Scotland. At the Diamond Jubilee Show held at Edinburgh, he secured the first prize for a group of plants. An illustration of this group, with Mr. McIntyre standing by the side of it, appeared in THE GARDENING WORLD for November 20th, 1897. Mr. McIntyre succumbed to pneumonia.

Mushrooms are grown in some 3,000 caves in the department of the Seine, France; and 300 persons are employed in their culture.

Crossing an Annual with a Perennial Sweet Pea.—Those who took an interest in the papers and discussions that were delivered in connection with the Sweet Pea Conference held in July of 1900, may recall the debate which arose about the probability of a cross between the perennial Sweet Pea named Lord Anson's Blue and the common Lathyrus odoratus, or annual Sweet Pea. It was announced at the conference that Major Trevor Clarke had obtained a blue-edged variety by crossing a white annual Sweet Pea with the perennial variety named above. We do not think a satisfactory decision was arrived at, but similar crosses have been tried. Mr. H. J. Jones, of Lewisham, is in hopes that he has succeeded in this respect. He chose a pale lavender coloured annual variety, thinking that by selecting a colour not far removed from the blue colour of the perennial, his chances of success would be promoted. He obtained one seed from each of a number of the pods he manipulated and from this fact he thinks the desired results have been obtained; but nothing can be proved until the seedlings have flowered.

The Revolution Effected by Corn.—Prof. Haddon, F.R.S., concludes his series of articles on the "Evolution of Simple Societies" in the December *Knowledge*, by giving a summary of the social revolution accomplished by agriculture. "Corn is the necessary element for large agglomerations of men, for complicated societies. It develops commerce and riches. It modifies and complicates the conditions of cultivation. It develops manufactures and transport. It imposes on women their hardest work. It transforms horses from steeds into beasts of burden and draught. It brings about the complete substitution of a sedentary life for a nomad existence. It renders the appropriation of the soil more permanent. It further tends to restrict the number of proprietors. If it does not essentially modify the patriarchal family it makes its working more difficult, and leads to a selection among the heads of families. It causes the families to be less necessarily self-sufficing, and to be more dependent on commerce. It develops intellectual culture. It brings about a more frequent and intimate contact between families belonging to different beliefs and admits of the contact of dissidents. It complicates the relations of neighbourhood by bringing residents and nomads face to face. Lastly, it necessitates a greater development of government."

Laying Competition.—The competition began on October 17th and ends February 5th. The twenty pens (four pullets in each) are under the management of Mr. G. C. King, The Manor Poultry Farm, Slough. Prizes and specials to the value of £18 are being offered. Below is the result of the first and second month's laying.

Pen.	Breed.	Eggs.	Pts. 1st month.	Eggs.	Pts. 2nd month.
1.	Faverolles (E)	0	0	0	0
2.	Anconas	0	0	0	0
3.	Langshans (Bb)	0	0	2	4
4.	Houdans	0	0	0	0
5.	Liucs. Buffs.	16	30	32	61
6.	Leghorns (Br.)	0	0	2	4
7.	Orpingtons (Bl.).. ..	0	0	0	0
8.	Leghorns (Bf.)	28	56	19	38
9.	Orpingtons (Bf.).. ..	0	0	17	34
10.	Leghorns (Bf.)	0	0	3	6
11.	Ply. Rocks (Ba.).. ..	56	112	22	44
12.	Leghorns (Br.)	0	0	0	0
13.	Wyandottes (Bf.) ..	0	0	0	0
14.	Leghorns (Wh.)	0	0	0	0
15.	Wyandottes (Par.) ..	0	0	0	0
16.	Leghorns (Wh.)	0	0	0	0
17.	Wyandottes (S.)	0	0	0	0
18.	Minorcas (Bl.)	0	0	0	0
19.	Wyandottes (Wh.) ..	0	0	0	0
20.	Minorcas (Bb.)	0	0	0	0

N.B.—In scoring, two points are given for every egg weighing over 1½ oz.

The manager reports that pens Nos. 10, 12, 14, and 16, were not hatched early enough. That pens Nos. 13, 15, 17, 18, and 20 were apparently hatched too early for November laying, they having all gone into moult after laying a little before the competition began. That the majority of the birds appear to have felt the change. That all the pens are in good health.—*L. W. H. Lamaison, Hon. Assistant Secretary, Southwold, Kenley, Surrey.*

Young Potatos have been in the market and shops for fully a fortnight.

Coleus thyrsoides, at the Drill Hall on Tuesday, attracted considerable attention.

Rhubarb.—Strong and beautiful Rhubard is now selling in Covent Garden market.

Weather in London.—The weather for a week past has been drier, brighter, and colder than it was during the previous two weeks. There have been a number of beautiful nights, but no frost was registered.

The Gardeners' Royal Benevolent Institution.—The Rt. Hon. Lord Llangattock has consented to preside at the 62nd Anniversary Festival Dinner of this charity on Wednesday, May 22nd, 1901, at the Whitehall Rooms, Hotel Métropole.

National Chrysanthemum Society.—Mr. J. W. Moorman presided at a meeting of the Classification Committee of the above, on the 10th of this month, and dealt with a large number of incurved varieties. The introductions of the last few years have more or less all proved that a great deal more could be and ought to be done with incurved sorts. Size, finish and general richness have all been maintained and even improved upon. There are now plenty of good varieties to select from for even large exhibition classes. On this occasion the following varieites were classified as incurved and may be shown under N.C.S. rules:—Annie C. Love, Comtesse d'Estoile, Creole, Emile Nonia, Frank Hammond, Fred Palmer, Fouka, Golden Mdme. Ferlat, Henry Ellis, J. Pearce, J. W. Wilkinson, John Carvil, L. M. de la Drome, Lydia, Mdme. J. Steele, Mdme. Mante, Mdme. Vermeul, May Bill, Mervyn Pinford, Miss Alice Hills, Miss F. Southam, Miss N. Southam, Mrs. Henry J. Jones, Mr. A. E. Stubbs, Mr. E. Bennett, Mr. F. King, Stephen Gomm, and Watteau. Certain varieties of incurved hitherto bracketed as too-much-alike, were, owing to experience gained in trials, added to the testimony of experts, declared to be distinct—viz.: C. H. Curtis, and Major Bonaffon, Duchess of Fife, and Mrs. Airdie; so also in the case of the Japanese variety Australie, and Mr. T. Carrington, also classed as too-much-alike. These are now classed as distinct. Lewisham Belle (Mr. H. J. Jones) was classified as a true reflexed variety.

Devon and Exeter Gardeners' Association.—On Wednesday, December 12th, Mr. Henry Webber in the chair, the above society met in the Guildhall, Exeter, to hear a paper from Mr. T. Slade, of Poltimore Park Gardens, on the subject of "Malmaison and Tree Carnations." In his remarks on the culture of the Malmaison Carnations, the essayist advised that the plants be layered by turning the plants out of their pots and placing them on the sides in frames, sandy soil being employed as the compost into which the shoots should be pegged. The frame should be kept close until the layers were rooted, being shaded on very bright days and the plants dewed over to maintain the atmosphere slightly moist. When rooted, the layers should be lifted and potted, to be then placed in cold frames which must be kept closed until the plants become established. Pinching was recommended when 2 in. or 3 in. of growth had been made, and when other shoots had started, a shift to 4-in. or 5-in. pots should be given; thereafter they would require regularly to be staked. Soot water and weak liquid stimulants are beneficial when judicially supplied, but a deal of care should be exercised in the use of chemical fertilisers. Their too free use promoted flabby growth and laid the plants open to attacks by disease. The tree Carnations as well as the Malmaisons should be grown cool. The tree Carnations should be raised from cuttings taken in spring. The young plants should be pinched when about 4 in. in height. Slight bottom heat was recommended for the encouragement of roots from the cuttings. A house, or at least a stage in a span-roofed greenhouse, should be accorded to them during winter. Mr. Slade exhibited specimen Carnation blooms, Pelargoniums, Clerodendrons, &c., all of which were very superior. A spirited discussion followed, at the conclusion of which Mr. Slade was accorded a vote of thanks for his excellent paper.

Ratafia is a spirituous liquor flavoured with the kernels of Cherries, Peaches, Apricots, and similar stone fruits.

National Dahlia Society.—At a meeting of the committee of the above society, held on the 18th inst. it was decided to hold the annual general meeting on January 8th, 1901. Members of the society should, therefore, keep that date free so that they may attend the meeting.

Women in Agriculture.—It seems to be very expensive to run a Women's Agricultural College and training school. Lady Warwick's Hostel at Reading requires the aid of a benevolent millionaire. It has been found that the scale of operations at present is too limited to do the fullest amount of good, yet it is too large to be successfully managed by one person. There seems to be a lack of appointments for the women improvers. Still, joking apart, there are openings for women in some of the branches of agri- and horti-culture. Returns show that last year this country imported butter to the extent of £17,000,000; cheese, £5 250,000; margarine, £2,250,000; eggs, £5,000,000; and poultry to the value of £800,000, giving a total of £30,800,00. What the figures are relative to horticultural produce, is not given; but they must also be enormous.

Freesias.—Naturally, my eye caught the short note from "D." on the above in your last issue. Well, I must admit mine are only now just showing their spikes (mine are home grown bulbs), and have stood in a light position in the greenhouse for the past eight weeks. The temperature has not fallen below 45° as yet, and rises 10° most days. No doubt I could have got half a dozen of these plants in flower by now had I given them more heat; but I am afraid the foliage would have reached double its normal length and the individual flowers of little texture. It would be interesting to learn of fresh imported bulbs or home grown, and what number of flowers are on each lateral, if I may so term it, as each spike generally has a leader and two side spikes as well, usually carrying from five to eight flowers. We have seen nine on some of ours. Do those now in bloom come up to this standard? If so I must freely confess I am behind the times with these lovely Cape bulbs, in the matter of early flowering, and must endeavour to compete with the authorities quoted by your correspondent "D." another autumn. —*J. Mayne, Bicton, Devon.*

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of the society was held at St. John's Parish Room, Redland, on Thursday, the 13th inst. Mr. G. Brook presided over a good attendance. "The Hardy Fruit Garden" was the subject for the evening, dealt with in a very able paper by Mr. Thomas Coomber, of "The Hendre," Monmouth. He claimed for the subject, that it was in every respect worthy of the keenest study, and contended that the best results always followed the most thoughtful efforts. Dealing with details, he advised as an ideal site for fruit culture a position facing south, and sheltered from the north, east and west winds, either naturally or by plantations, and at an elevation well above the fog line if possible. The soil, he said, should be at least 2 ft. deep, and well drained. In the selection of varieties, he advocated due regard being paid to times of ripening, without a great multiplication of sorts. The best time for planting he gave as early in November. Mr. Coomber also dealt very fully with such branches of the subject as pruning, root pruning, manuring, protection from birds and insect pests, giving from his own experience much useful information on all these matters, concluding with the assertion that in this as in all branches of the gardener's work, thoroughness should be his watchword, for much of his success as a cultivator depended on it. Mr. Coomber was heartily thanked for his paper on the motion of Mr. W. A. Garaway. Prizes for six dessert Apples were awarded Messrs. Attwell, McCulloch, and Bannister, and for six culinary Apples to Messrs. Bannister and Atwell. Certificates of Merit went to Mr. Gardner (three pots Mignonette); Mr. E. Poole (tray of Apples); Mr. Orchard (basket of Mushrooms); Mr. Ware (Zygopetalum Mackayii); and a Certificate of Special Merit was recommended to Mr. A. M. Ross for two bunches of Grapes.

Tobacco cultures occupy 1,500,000 acres of the earth's surface.

Vegetable Culture.—This was the title of a most interesting paper read by Mr. J. Gibson, The Gardens, Danesfield, Marlow, before an exceedingly large attendance of members of the Reading and District Gardeners' Mutual Improvement Association on Monday evening last. The subject was dealt with both from the "kitchen" and exhibitor's point of view. The varieties touched upon were Potatos, Peas, Beans, Brassicas, Onions, Celery, Leeks, Parsnips, Beets, Carrots, and Tomatos. The paper was not only of the most practical character, but the magnificent vegetables staged by Mr. Gibson demonstrated that his culture was of the highest order. The collection consisted of Sutton's Selected Ailsa Craig Onion, Snowball Turnip, Tender and True Parsnip, Pine Apple Beet, Tender and True Climbing Bean, New Red Intermediate Carrot, Arctic Green Kale, Dwarf Gem Sprouts, Perfection Savoy, the Lyon Leek, Lockie's Perfection Cucumber, and Polegate Tomato. A discussion followed, which at times became very animated, those taking part being Messrs. Stanton, Chamberlain, Wilson, Barnes, Exler, Neve, Davidson, Fry, W. Smith, Cretchley, Powell, and D. Dore. Mr. F. Lever, The Gardens, Hillside, gained the Association's Certificate of Cultural Merit for a grand batch of Primulas of the stellata and obconica types, whilst Mr. George Smith, of Cintra Lodge Gardens, showed some splendid spikes of Calanthes, and Mr. R. Chamberlain, Cressingham Gardens, a few typical specimens of New Red Intermediate Carrot. A hearty vote of thanks was accorded to Mr. Gibson for his paper, in proposing which the president (Mr. C. B. Stevens) referred to the necessity of young gardeners making themselves not only acquainted with the work under glass, but to give every attention to the learning of the general routine of a kitchen garden. Two new members were elected.

Ealing Gardeners' Society.—An excellent meeting of this society took place on the 11th inst., when Mr. Jas. Gibson, of Danesfield Gardens, Marlow, gave a well prepared paper on "Vegetable Culture," Mr. C. B. Green presiding. In introducing Mr. Gibson to the meeting, the chairman referred to his (Mr. Gibson's) first-prize achievements for the current year, and also to his success at Edinburgh on three distinct occasions. When Mr. Gibson rose to deliver his paper he was greeted with a cordial welcome. He suggested at the outset the importance of a thorough knowledge of vegetable culture, for these succulent necessities of modern life were always in great demand in large establishments, and, therefore, often taxed the gardener's skill to its utmost capacity. Whether for exhibition or for supply to the house the quality should be the first consideration, and the quality depended a good deal on the preparation of the soil. Young gardeners were apt to despise this, and to look upon the kitchen garden as of only secondary importance. He, the lecturer, considered that no greater test of the skill of the gardener could be imposed than this one of vegetable culture. Mr. Gibson then dealt in detail with the leading types of vegetables, giving practical information on the best sorts and how to grow them. His remarks were listened to with evident attention, while many notes were made for future application. Mr. Gibson spoke of the Potato as the king of vegetables, and said that it was often grown in fields better than in gardens, because the latter were often too rich in nitrogenous matters. If the best results were expected trenching must be resorted to, and overcrowding avoided. Much other matter was discussed, including French Beans, Peas, Carrots, Parsnips, Celery, Tomatos, &c., and many useful suggestions given concerning the culture and value of each. In resuming his seat Mr. Gibson received another ovation, and was also cordially thanked for his exposition of the art of growing vegetables. An excellent exhibition of twelve table plants was provided by the generosity of R. Callard, Esq., the result being seven entries and a keen competition. The first place was occupied by Mr. Rouse, gardener to C. T. Sutton, Esq., of Esst Acton, who had a fine show of Dracaenas, Crotons, Palms, Asparagus, Grevillea, &c., and the popular Begonia Gloire de Lorraine. Mr. Holloway, gardener to E. Hyde, Esq., Hillcrest, Ealing, closely followed with Dracaenas, Primulas, Eulalias, Ferns, &c. Three other prizes were awarded, the whole forming a very pretty effect and a charming feature.

Sugar now costs £15 per ton; but in 1810 it cost £95 per ton.

Sandwich and District Market Growers' Association.—The market growers who reside around Sandwich and neighbouring places in Kent have united to form an association for mutual benefit in the various lines of their business. A strong committee has been formed, including representatives from Ash, Wingham, Eastry, Sandwich, Worth, Woodnesborough, Stourmouth, Preston, and Staple. The districts from which members may join has been extended to include Deal, Ramsgate, Margate, Minster, Adisham, &c., and these districts, it is hoped, will be represented on the committee. The society has for its objects the enlightenment of its members by reading papers on subjects of interest; and members may submit samples of fertilisers and artificial manures for expert examination, and obtain full reports on the same at nominal charges. Diseased plants and fruits, which any of the members may submit, will also be reported upon by scientific experts. The subscription is only 2s. 6d., and may be paid to the treasurer at the London and County Bank, Sandwich; or to the hon. sec., Mr. Fred. F. Coleman, of Sandwich.

ROCKERIES.

No garden is complete without an outdoor rockery. If possible it ought to be constructed in the most romantic corner. It may be on a large scale, or if a small one is wanted more taste must be used. A spot pretty well shaded should be selected, where Sedums, Saxifragas, Ferns, and Vincas, &c., may be used. One side of the rockery should be exposed to the sun if Heaths and Mysotis are planted. The first thing to do is to make up mounds of unequal size with a good turfy soil, putting the highest mound in the centre. Make little serpentine walks about 18 in. wide to lead in through these mounds. If procurable get pieces of burnt glass and any rough looking stones, placing them in a zigzag form over the mounds, keeping the largest for the centre, and leaving spaces between the stones for your plants. The little walks can be laid with broken granite or white gravel. The beauty of a rockery can be greatly improved if water is at hand to form a cascade with basin, or a fountain. An arched trellis covered with Clematis or Honeysuckle is also a pretty adornment, under which could be placed a nice home-made rustic seat.—*T. S. Dick, Castle Milk Gardens, Lockerbie, N.B.*

A BEAUTIFUL CLIMBER.

Although we have many beautiful climbing plants in cultivation at the present time, but few produce their blossoms during the dull months of the year; therefore a plant possessing this desirable quality is rendered doubly valuable. The plant under notice, Ipomoea Horsfalliae, has been a conspicuous feature in the stove for the past three or four weeks, its beautiful crimson flowers showing up very effectively against the dark green digitate foliage. With regard to soil, the plant is not at all fastidious, any good open material suiting, provided the border is well drained. The plant is a very strong grower, therefore plenty of space should be allowed; the best effect is obtained by training the main stems to wires under the glass and allowing the lateral branches to depend. Constant attention should be paid to training and thinning the growth. After flowering, all lateral growth may be cut hard back. Propagation may be effected from cuttings of half ripened wood, inserted in sandy soil and placed in a propagating case. Another point in the plant's favour is its remarkable freedom from insect pests, a free use of the syringe during the summer usually sufficing to keep the plants clean.—*E. C.*

SINGLE CHRYSANTHEMUMS.

Since so many splendid recent additions to the single Chrysanthemums have come to be known, this section is now advancing to popular favour. In the collection grown by Messrs. Wells & Co., Ltd., Earlswood Nursery, Redhill, Surrey, the creamy coloured single variety called Disraeli still holds good as one of the best. Treasure is deep yellow, and lasts in flower up till Christmas; Golden Star furnishes another golden-yellow sort, and is a grand thing; Eda Birch with its attractive orange disc around which

is a white halo and a mauve ring that tips the ray petals, is one of the most attractive and strongest; Nancy Cherry is named after an old Brighton character, who was known under that designation. It is one of the large-flowered singles, and is bronzy-gold. Gus Harris (small flowered) is mauve, and has an orange disc. Old Gold is a seedling from Scarlet Gem, and has the same habit as the latter variety. Pretty is pure white; Earlswood Glory, pure white, large sized even for its class; Yellow Giant, very fine; Framfield Beauty, bright purple; Sarah Wells is a very persistent bloomer, and if the withered flowers on the top shoots are cut whenever they are past the bottom shoots continue to flower. The colour is rose-mauve. Purity is another large and distinct white. Miss Ellen Terry is bright amaranth; Eucharis, so named because of the form and colour of its blooms, and Buff Prince, a reddish-buff variety of merit. Besides these good singles, the "decorative" varieties, which are meant to imply the spidery, thread petalled and boutonnière sections, are all grown to perfection at Earlswood.

SALADS.

These are one of the most essential things the gardener has to supply for his employer, and with care and forethought he need never be lacking in having some to send up. If preparation was made some time four months back as regards the seed sowing of such salads as Endive, Winter Cos Lettuce, etc., these should by now have been taken up and housed in some cold frames or laid in soil of the cool orchard house, keeping them dry as far as possible, giving them just enough water to keep them from flagging. Where a sheltered spot was chosen for them to stand the winter these will not hurt, as a little dry bracken flung over on a sharp frosty night will help to preserve them. The past week or two of damp weather has caused a few failures with those left out, as damp is quite as much an enemy to them as frost. "Marche d'Italie," better known as Lamb's Lettuce, comes useful as a change for the salad bowl. When in growth it resembles the blue Forget-me-not (Myosotis). Chickory and Dandelion also may be used if placed in soil within the Mushroom house, covering the crowns to a depth of 6 or 8 in., to well bleach it. Salads are a great feature with the French. Even the humblest of our French brethren never fails to have his plot of salad ground. Mustard and Cress may be sown at intervals of about ten days.—*S. Jordan, Frythesden Gardens, Great Berkhamsted.*

NARCISSUS TRUMPET MAJOR.

To flower the above by the end of November, when it is appreciated more than at any other time of the year, pot up five in a 48-sized pot half filled with crocks, using a rich porous compost. Before plunging the pots in ashes or fibre give a good watering. When the bulbs are well rooted gradually expose to light, and then place in greenhouse temperature. Bulbs potted in this way will gain about a week or ten days on those potted in the ordinary way. The idea of half filling the pots with crocks, is that the crocks retain the moisture, so that the roots can easily get at it. Another very important item is that of getting good sound bulbs. French are to be preferred before Dutch. Trumpet Major is considered by many people to be a difficult Narcissus to flower early, but by never letting the bulbs feel the want of water and not putting them in too high a temperature they will be found to flower satisfactorily.—*B. Fleming, junr., Wexham Park, Slough, Bucks.*

ASPARAGUS BEDS,

If not already taken in hand, should be as soon as possible. I should like to mention a method I have seen carried out for some years with excellent results. When ready in the autumn cut down, leaving sufficient of the old stalks, so as to ascertain where the roots are, but before manuring and making up draw as much soil from the bed as possible without interfering with the roots; then give a good layer of short well decayed manure. Leave the beds at this, after loosening up the soil in the alleys and making tidy until it has had a few good soakings of rain. Choosing a fine day the beds might then be shaped up, throwing sufficient crumblings to cover the manure. By this method the beds are kept at the same height and the roots do not become buried deeper—a cause from which the roots often rot, more so in my opinion than from frost. On light soil it seems quite unnecessary to form beds for this delicious vegetable, providing the ground is well dug and manured. The roots can be planted on the level, as it retains the moisture better during summer, mulching with manure as stated above or dressing with chemicals now, or early spring, according to their natures. For instance, if Thomson's Fertiliser and nitrate of soda were the two selected, the first named I should apply now, the latter in early spring. —*W. Waite, Southfields.*

CHRYSANTHEMUMS TO CHRISTMAS

May be had in abundance by observing a few simple rules and selecting suitable varieties. I do not say one word against large blooms for exhibition or specimen glasses; but this season outdoor flowers have been good up to mid-November, which caused 'Mums at their ordinary season to be less appreciated; and that gardener, who has plenty coming to Christmas, will succeed this year. Souv. de Petite Amie is a good white, and may be had from mid-November to the new year by growing three batches, the first on crown buds, the second on lateral buds, and the next batch on second laterals or third buds. The latter two batches, if allowed to carry three to four buds, removing the central-terminal bud, will produce pretty little sprays. Source d'Or is an admirable variety, with graceful orange-brown flowers. Faustine is a beautiful variety with peach shaded cream flowers. Nearly all the decorative section lend themselves to the above treatment.—*Henry H. Gibson, The Gardens, Glencairn, Belfast.*

FORCED ASPARAGUS

At this time of year (and we have been cutting for the past fortnight) is a luxury, and entails a lot of labour if anything like a supply has to be kept up, but no forced vegetable is more highly prized than Asparagus. It is easily brought on after this date. As with Seakale and Rhubarb various methods are adopted by gardeners, but I do not think the old hot-bed system can well be beaten, though a pit having a 3-in. hot-water pipe running along the front is useful in case hard frost sets in. It is then when we find the former a bit slack, but we rely upon this hot-bed of leaves and a little long strawy litter in Devonshire. We collect Beech, Oak, and Sweet Chestnut leaves as soon as they can be got, throwing the same up into a big heap for ten days or so. When making the hot-bed allow 2 ft. more space all around than a four, two, or three light box will occupy. For lining, in case the heat subsides, let the bed be 18 in. or so higher at the back, so as to get all the sun possible, placing the box slightly inclined to south-east. Three or more year old roots are best for forcing, placing 4 to 6 in. of light soil or leaf mould at the bottom and above the roots, keeping the lights closed until growth appears, when a little air is beneficial on all favourable occasions. A bottom heat of 60° will suffice. Where forcing is practised yearly a few ozs. of seed should be sown thinly each spring, transplanting same the following April 2 ft. by 1 ft.—*J. Mayne, Bicton.*

ORDERING SEEDS.

In a very short time the seed lists of the various nurserymen will be in our hands. It has, therefore, occurred to me that a few hints on that important subject might be of interest. A great many gardeners I know leave the dispatch of the seed order till the last minute, as I might say; then they grumble if they do not get their supplies at once. I need hardly point out the unfairness of this method to the nurseryman. When a great many orders arrive at once late in the season it stands to reason that some one must wait. I therefore say send in the order by the middle of January, and then it will receive the very best attention, and you will receive your seeds in plenty of time, and, therefore, cause no worry either to yourself or your seedsman. Another reason for obtaining your seeds early is the advantage you can take to get them in whenever the ground is suitable for the various crops. Our climate is so erratic that the successful gardener must be ready to utilise every opportunity. How is he to do so if he has not the seeds beside him? Several varieties of seeds, too, ought to be sown by the end of January, such as Begonia, Gloxinia, and Tomato, also Cyclamen if not done in autumn. There is one other inducement to order early; that is, if you do so you get the best of everything. Towards the end of the season there is sometimes difficulty in procuring certain popular favourites, and the late comer has to be content with substitutes.—*Chas. Blair, Binny, Uphall, N.B.*

BEGONIA GLOIRE DE LORRAINE.

On the dictum that too much cannot be said about a good thing, I once more refer to the above. The numerous beautiful examples to be seen this season are evidence that its cultural requirements no longer remain a mystery. However, as Adam V. Main asks a question, the answer to which may be of general interest, I will give my experience. The question, "Treatment of plants after they have done blooming." The first difficulty is they seem never to have done blooming, and it is a great mistake to cut the plants back until quite late in the spring. If they are allowed to go on without stopping or cutting back, the buds at the base will remain dormant until it seems natural for them to start into growth which does not flower, and it is these short shoots taken when they have made three or four leaves that make the best cuttings. The plants should be kept in a moderate stove temperature throughout the winter, and have a light open position and careful attention to watering. Good cuttings taken in April will make fine plants for the following autumn. I have found that cutting back only induces the plants to break away into new flowering growth, and is a loss rather than a gain. I may mention that it is not always that this Begonia will give good cuttings; those propagated from shoots after they begin to show flower do not break so freely as those grown from leaf cuttings, or the short growths which have no flower buds when they are propagated.—*A. Hemsley.*

NOTICE OF BOOK.

A Handy Book of Horticulture. An introduction to the Theory and Practice of Gardening. By F. C. Hayes, M.A., Rector of Raheny, Lecturer in Practical Horticulture in Alexandra College, Dublin. With Illustrations. London: John Murray, Albemarle Street. 1900. Price 2s. 6d. net.

The book runs to 225 pages, including a good index, and the printing is in large type, on thick paper, so that the unaided eye can easily read it. The author in his preface states that he writes more particularly for the benefit of amateurs and those young men "who are placed in sole charge of small gardens, who have little aptitude for gardening, and no training, and who look in vain to their employers for teaching or suggestions of any kind." This young man is, we believe, a very common one, and we can but regret that so many start life in an occupation for which they have no aptitude, or what is more likely, who take no trouble to turn their intelligence to account by reading books or gardening papers for instruction in the line to which they have turned their hand, haphazard as it were. The author thinks there is a demand for a simple book of horticulture suitable for the class of men just named, and we hope there is, for it would be a pleasing sign that this particular young man is waking up. Gardeners who have spent years in studying the profession, practically and theoretically, would not, of course, admit this class within the pale of the profession. He has his duties, however, and should be educated. The author is also a lecturer on horticulture and takes this means of assisting his audience and others.

Several illustrations and diagrams are interspersed with the text, some of the former being beautifully executed reproductions of photographs, full page, on separate paper, interleaved with the text. Groups of Rodgersia and Bamboo, single white Paeonies, Wistaria sinensis, Gunnera manicata and the Water Lily Pond in the Trinity College Botanic Gardens, Dublin, are certainly very interesting.

The reader, before he or she has dipped very deeply into the subject, will find that this Dublin rector is a great enthusiast in his hobby, as was John Lawrence, M.A., Rector of Yelverstoft, Northamptonshire, mentioned in our last week's issue. The author of the present book is not discouraged

by long Greek and Latin names whose meaning he soon comes to recognise, and likewise their appropriateness to the plant. Some of the educated amateurs he addresses may have had the benefit of a classical education but we fear too many of the young men put in charge of small gardens are much at sea in this respect. The advice given to those about to build a greenhouse is "Don't" as Punch said in another case. The explanation is that a garden will take care of itself even if neglected for some days, but a greenhouse, if overlooked, will very soon give no end of trouble and bring discredit to its owner.

Instructions are furnished concerning the soil and its preparation, the food of plants, manuring, half hardy plants and their culture under glass, profitable glass gardening, hot beds and cold frames, the gardener's natural enemies, budding, grafting, inarching, the spring garden, summer and autumn flowers, shrubs and autumn tints, &c. A large number of different kinds of flowers receive attention in separate paragraphs. Selections are given of what the author considers the best varieties. The same may be said of Roses, Ferns and other subjects which do well in the Emerald Isle. Vegetables also get a share of attention and the advice given by the author is generally very sound as far as it goes. Those who desire other mental pabulum are furnished with the names of other books which go more deeply into the subject.

THE FRUIT HOUSES.

STRAWBERRIES FOR FORCING.—The earliest batch of Royal Sovereign Strawberry may be placed in an early vinery or in a Peach house, which is intended to be started soon. The very best plants should be selected for the earliest forcing. Clean the surface soil and remove any moulded or dead foliage, and at the same time wash the pots. Place the plants for a day or two on a stage of the house so as to inure them a little to the change, and also to have them more directly under observation so as to get the soil into proper condition. When Strawberries are brought in from frames or the open air one sometimes finds some too wet, or some too dry, and when they are placed straightway up on the shelves they are not open to receive the care they demand. The plants only require clear water until growth begins, but must be seen to every day. A temperature of 50° at night up to 65° in mild days, with the best lighted shelf as their position, should be accorded to them.

CUCUMBERS.—Cucumbers are a source of anxiety during hard winters, but the present season has been so mild that little trouble has been occasioned. The plants should be lightly pinched and tied in, the pinching being performed only on the lateral shoots just beyond the second, and in some cases even the first leaf beyond the flower. Do not tax the plants by allowing them to carry weakly growths or old growths, which might give place to younger and more vigorous shoots. Remove the fruit when they are three parts grown. Top-dress the roots occasionally with good loam, having a dash of guano and suitable proportions of leaf mould and sand in it. This should always be warmed before being applied. The soil should not be mounded around the base of the stem. Fill the evaporating troughs with liquid manure from the cow sheds, and sprinkle the borders, stages and paths just often enough to maintain a soft, moderately moist atmosphere. The night temperature should be 65°, with a rise of 10° during the day.

EARLY FORCED POT VINES.—Those started in November were recommended to be plunged in leaves, clean Oak or Beech leaves being preferred. The temperature during the present mild weather may go as high as 75° during the day and down to 55° at night. I always like to let the temperature low down at night to insure a firm, short-jointed wood. This cannot be so readily got when the house is kept at a high temperature. In severe weather a maximum temperature of 65° is sufficient. Until growth starts, there is little need for much water; and when water *is* given, it should be tempered to the heat of the house. Tie up the canes as soon as the first buds have started, but do no pinching nor disbudding until the flowers show at the end of the growths.

EARLIEST FORCED VINES IN BORDERS should now be started to follow on after the pot Vines have yielded their crops. Start the house at a temperature of 50°; and in a fortnight raise this to 60°, and gradually after that up to 75° as the maximum day temperature. Black Hamburgh and Buckland Sweetwater are two of the best for early forcing. Syringe the rods with tepid water three times a day, but avoid deluging in any case. In dull, heavy weather the least possible amount of water should be sprinkled about or syringed as is consistent in maintaining a soft, agreeable atmosphere. The air of the house should be kept slightly circulating. A mere seam of top ventilation will insure this. Fill the troughs with liquid manure. Some growers think it beneficial to mulch the inside borders of the vinery, but to put it mildly, the practice is ridiculous. I strongly urge that the outside borders be covered over to a depth of two feet with fresh leaves such as have just fallen in the woods, for these ferment, and besides warming the border, they maintain an even moist condition, and plenty of air gets in to supply all the needs of the roots. Heavy rains and chilling snows, should these come, are also warded off. A layer of straw may be spread over the leaves and a few clods of soil here and there over the entire covering will suffice to keep the straw, &c., from being blown off. The early Muscats, including the best and most popular of all, Muscat of Alexandria, together with Muscat Hamburgh and Black Muscat, should also be started where Muscat Grapes are wanted by May or early June.

THE MIDSEASON HOUSES should be rested for yet awhile. As soon as the leaves fall, pruning to two buds should be done. In the matter of pruning, however, each grower favours a special system, and that which he has found to answer best will naturally be adhered to.

THE EARLY PEACH HOUSE should be got ready for starting. Peach trees in pots for very early fruits, say May, should now be treated in the way recommended for early pot Vines.—*D. K.*

Kitchen Garden Calendar.

DURING wet and bad weather there are many operations that may be done in the garden under cover, which will save time later on when outside work is more pressing. If such work as making labels, preparing pea stakes, tying mats, &c., be done now, this will help forward in spring. All root stores should be looked over, and any that show signs of decay removed. Potatos should also be stood on their ends in an airy place, where frost can be excluded, to induce them to make firm, robust growths. Too much importance cannot be attached to having sturdy growths on Potato sets, as such usually produce the best crops. Ample soil should also be got under cover for filling seed boxes and other purposes. When the weather is fine and the ground in a workable condition push on with the digging of all vacant plots as fast as possible, but do not attempt such work when the soil is pasty and sticks to the boots to any extent. When not able to get on the land hedges may be clipped and any other work done that will help forward later on.

FORCED VEGETABLES.—There are many kinds of these that pay for a little extra attention being bestowed on them, and although the season has been so mild as to admit of a plentiful supply of good Broccoli and other green vegetables being taken from the open ground, it is necessary to provide a change. Seakale will now be in demand, therefore, a supply of roots must be introduced into a gentle heat to induce them to push up new growth, select some of the best crowns for this purpose and plant them rather thickly in the Mushroom house or other dark place where sufficient warmth can be maintained to cause a sturdy growth. Potatos may also be planted in heated pits or on hot beds; if the former, care must be taken not to have the temperature too violent and air must be admitted on all favourable occasions. Tubers that were stood on their ends in shallow boxes and placed in a gentle warmth will now be in a fit condition for planting. Where space is very limited, it is a good plan to start the sets in 60-size pots, allowing them to push through the soil before planting out. Such will generally produce tubers fit for lifting in seven or eight weeks, according to the state of the weather.

FRENCH BEANS.—These do not set very freely this dull weather, therefore the crops are not heavy unless in properly constructed places. Sowings made now will be in bloom when the days are getting longer, and as such will set their fruit more freely a less quantity will be sufficient to keep up a supply. It is a good plan to sow a few once a fortnight in small pots. These can be planted out or transferred into larger pots, as the case may be, or the convenience at the command of the grower. When grown on shelves in houses pay particular attention to keeping the foliage clean, as they are very subject to the attack of red spider. Those who have low-spanned, well heated houses will have no difficuty, but where various things have to be grown in the same structure, some are sure to suffer, unless special care be taken to look after their wants. See that there is a good stock of Endive, Chicory, Lettuce, Dandelion and the like always in readiness. Mustard and Cress, small Onions and other salads will also be in request, therefore due attention should be paid to these. The time will soon be round when seed lists for the coming season must be made out; it will therefore be well to look round and see what is required so that there may be no delay when the time comes for sowing. It is far better that the seeds should wait than the grower should wait for his seeds.—*W. F. J.*

Gleanings from the World of Science.

Grasswrack from Kwen Lun Mountains.—At a meeting of the Linnean Society of London, on December 6th, Dr. A. B. Rendle, F.L.S., exhibited specimens, including leaves and fruit, of Grasswrack (Zostera marina, L.) recently found by Capt. H. P. Deasy, near Yepal Ungar, in the Kwen Lun mountains, at an altitude of 16,500 feet. The plants were not growing in this remarkable locality, but were preserved in a bed 10 ft. to 12 ft. thick on top of and interspersed with which were strata of blue clay. The broken leaves and sheaths of which the specimens consisted were dry and brittle, but showed no alteration, the internal structure being as perfect as in the fresh plant. As the country is geologically unknown, it is impossible to estimate the age of the deposit. It probably formed the bed of a salt-lake. There is one in the neighbourhood; and Capt. Deasy is of opinion that the whole district formed at one time a large salt-lake. The specimens were very dusty, but microscopic examination of the dust revealed nothing beyond particles of sand and a few small brown objects, apparently spores of some kind, Capt. Deasy states that he saw similar growths in a lake in the same district, but was unable to procure specimens. This occurrence of Zostera marina in the heart of the Asiatic continent and at so great an elevation, is of special interest. The plant, so far as known, is purely marine, occurring plentifully on our own coasts, and throughout Europe, on the Atlantic shores of North America, and in North-east Asia. It has not previously been recorded from an inland lake, though an allied species, Zostera nana, L., occurs in the Caspian. Whether its existence in the Kwen Lun range has any relation to the Tertiary marine deposits which connect the Mediterranean area with the Himalayas is matter for conjecture. There seems to be some evidence for the existence of Zostera in Upper Cretaceous and Tertiary times; at any rate several species have been described from fossils resembling the rhizome of the plant, found in Central European beds. A discussion followed in which Dr. Stapf, Messrs. E. M. Holmes, H. Groves, J. E. Harting, and Prof. Howes took part.

Halophila stipulacea.—At the same meeting Dr. Rendle also showed a specimen of another marine monocotyledonous plant, Halophila stipulacea, Asch., from Tuticorin in Southern India, sent by Mr. Edgar Thurston. This species is not included in the 'Flora of British India,' nor in Trimen's 'Ceylon Flora,' a plant found by Dr. Harvey at Trincomalee, and thus determined by Thwaites, being assigned to the commoner H. ovata, Gaud. H. Stipulacea occurs in the Red Sea, the Mascarene Islands, and Rodriguez.

A Revision of the British Thrifts.—Mr. H. Groves, F.L.S., on behalf of Mr. G. C. Druce, communicated a paper entitled "A Revision of the British Thrifts" (Statice and Armeria), in which he attempted a rectification of the synonymy, and discussed the value of the pubescence on the ribs of the calyx as a distinguishing character. A discussion followed in which Dr. A. B. Rendle, Mr. F. N. Williams, and Mr. Daydon Jackson took part.

HINTS FOR AMATEURS.

Trees and Shrubs.—Though a good many handsome shrubs have been included in the lists furnished under "Hints" during the past month, yet those who know the enormous selection of ornamental hardy subjects that might be chosen, will agree that I have merely dipped promiscuously, and have at the best but chosen the popular genera and their species. I do hope that these notes may have led to some further planting. There is not much trouble in planting, and where some portion of the garden expenditure can be set aside for any extras make the "extras"—shrubs.

To have beautiful and ever-pleasant gardens plant shrubs and Roses. Hardy perennials and alpine plants ought not to be neglected, but with a fair proportion of them there will still be space for specimen shrubs, or beds or belts.

Abelia floribunda.—If this charming member could be guaranteed to do well in the average garden there is no doubt but that it would be extensively planted. It is more adapted for a wall, except, perhaps, down in Devon and Cornwall where, I believe, it succeeds admirably. But the pretty tubular flowers hanging in bunches are so delightful that even space on the best situated south wall may well be accorded to it. A rich sandy loam will, in most cases, be found most acceptable. Abelia floribunda is evergreen, and seldom grows higher than from 4 ft. to 6 ft. It flowers in March if the season is open, and sometimes continues for a good part of the summer. A. rupestris is much dwarfer and hardier, furnishing a suitable subject for a cosy part of the rock garden.

The Cherry Tribe.—Our gardens, especially the smaller villa gardens, would miss the larger share of their attractiveness and splendour in the early months of springtime were the Gean trees, the Bird Cherries, the Mahaleb, Waterer's double Cherry, and the other species of the Cherry tree order, absent. The neighbour genus, that of the Prunus, to which belongs the Almond, Prunus triloba, and P. spinosa or Sloe, are also worth consideration. The values of these trees and shrubs are so well known that to recall their names seems sufficient. They agree in liking a sunny situation, and as most of them are amongst the hardiest of flowering trees and shrubs, they can be recommended the more readily. The Almond and Prunus triloba do not make such brave shows in northern gardens as they do in the south, yet by placing them in the best places they may be expected to do equally well with many other shrubs. A moderately heavy soil is very suitable.

Amongst the Pyrus are the Mountain Ash, the True Service tree (P. Sorbus), P. Aria or White Beam tree, and some distinct varieties of these that are more or less known. For the sake of their associations and their own real merit (though this lies more especially in their bright fruits) we should not like to see them displaced by newer introductions. After these in this section we would choose the Siberian Crab, the Dartmouth Crab (P. Malus var.), and some of its varieties. P. Michauxii, P. spectabilis, P. sinensis, and P. japonica, otherwise named Cydonia japonica. The latter furnishes a rich flowering wall shrub.

With the foregoing lists of shrubs the smaller gardens might be said to have a pretty fair amount to select from, especially when some foliage subjects will likewise have to be planted. The best of the ornamental foliage shrubs would include Cornus Mas variegata, C. alba Spathii, C. florida pendula and C. f. rubra. The golden and cut-leaved Elders are beautiful; Prunus Pissardi, Corylus Avellana purpurea, various varieties of Elms; Euonymus latifolius and variegated varieties; Fagus sylvatica asplenifolia or Fern-leaved Beech; F. s. purpurea, F. s. folius-aureis variegatis, &c.; Gleditschias, Gymnocladus canadensis, which has light and graceful bipinnate leaves like those of Dimorphanthus. There are also Hollies, Golden Laburnums, Liriodendron tulipifera or Tulip tree, Lonicera japonica reticulata aurea, Negunda aceroides albo variegata, and N. a. aureo variegata, many of the Maples, the Lombardy Poplar, Ptelea trifolia or Shrubby Trefoil, Rhus Cotinus, R. C. purpureus, R. Toxicodendron (Poison Oak), and the large-flowered Sumach, R. typhina.

The Roses, the Brambles, the Robinias (Acacias), Vitex Agnus-castus and some of the species of Willows are amongst the first of those that come to mind in suggesting ornamental or tinted-leaved shrubs and trees.

Work of the Present.—Most of the garden work is at the present period being pushed on out of doors. Walks are being made or repaired; edges have often to be relaid, especially the edges of lawns, and besides pruning, planting and general clearing up, there are very many other jobs waiting to be performed.

The levelling of lawn edges is an easy enough matter. Care is required to get a level by means of sighting rods held upon stout pins which are driven into the ground to guide the worker in obtaining a true level. Live edgings, other than turf, can still be relaid, though the work, of course, would have to be given up should frost visit us. Then again in making paths and walks, be sure to lay a good foundation. A depth of 2 ft. is amply sufficient, but the bottom layers of stones should be hand-laid and gradually graded up to the surface level. Some clay should be scattered over and rolled-in with the top-layers of gravel composing the walk to make it bind. The centre of all walks should be raised; 1 in. to 2 in. for a 6 ft. walk being the ratio.

Trees on walls should be cleaned, pruned and readjusted. At this season fruit walls should be pointed over, for crumbling and tumbling walls are a source of all round trouble and nuisance. After pruning the Currants and Gooseberries the soil may be surface manured, using short and well rotted material that can be forked in afterwards.

In the plant houses, or more definitely the stove, many of the occupants may be sought out directly after the turn of the year for repotting. Generally the stove plants do best when merely topdressed or are given but a very small shift. If it is thought the plants can succeed for another season merely by renewing the surface soil, place such of them apart from the others and with a pointed stick loosen about 1 in. of the soil. Then make up with the prepared compost, firming this surface addition evenly but, of course, allow space for sufficient water. Watering should be done with a rosed-can until the surface soil has become united and settled. When repotting plants entirely, make sure that the soil gets well shaken down or slightly rammed as the case may be. Leave no vacuums or air-spaces along the sides of the pots; and be careful to crock thoroughly upon which so much depends in the culture of specimen plants.

Allamandas and the climbing Clerodendrons which nearly every gardener tries to grow, are not always quite easy to succeed with. Sometimes they do well when given abundance of pot room, but more generally they are successful when their roots are confined and nourished by means of plenty of water with frequent additions of weak manure. All weakly growths should be pruned away leaving only the best ripened wood. When the buds break, train up the shoots so as to allow them all the light possible. At the present time a number of stove plants may be propagated so as to come into use by the end of March; I refer to the edging plants, Ferns, and softer class of stove decorative plants. Dracaenas that may have become leggy can be cut down and put up into eyes, these being placed in pans. The thick fleshy roots of Dracaenas are generally made use of in this way. They should be cut into sizes half the length of one's finger and may be plunged either at once in sandy soil, or in damp cocoanut fibre till they root, after which pot them individually into small 2-in. or 3-in. pots. When Dracaenas are confined to small pots they are apt to run to flower. The flowers are attractive enough (and perhaps some day we may have them as flower and foliage plants combined by selection and improvement) but if a grower cares to allow his plants to flower why not try to cross-fertilise the best varieties and raise seedlings? A valuable seedling might originate although the process covers a number of years.

Keep Lobelia and all soft bedding plants or cuttings on the dry side for some weeks, and look them over frequently to remove any damping or decayed shoots.—*Beacon.*

Vines occupy 350,000 acres of the available area of Greece; one-fifth of it is occupied with Currant Grapes.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Cestrum (Habrothamnus) elegans.—*Isaac Gray* If you cut the flower shoots some of the shoots at the base of the flower stalks may push up and flower, but there are many chances to the contrary. If you can keep the plant free from aphis and treat it reasonably, and do not subject it to a temperature higher than 60°, your plants will flower for a month or two. When the flowers begin to fade, the shoots that bear them should be cut hard back, and before starting the plant again give it a rest. Then repot it; but as this plant enjoys both head and root room it is advisable to plant it in a border.

Dividing Tuberous Begonias.—*L. R. K.*: Tuberous Begonias can be divided just as successfully as Potatos or Gladioli. If you possess tubers of any exceptionally fine or distinct variety, we advise you to save them until the tubers are large and fit for division. If you care to divide them at their present size, do so after the eyes have started. You will then see how many parts you can make of each, and being in growth, if you pot them carefully into small pots and use light soil, they ought to establish more speedily than cuttings. It is necessary to use light soil to pot them into, and even silver sand should be sprinkled beneath and around them. Cuttings of the side shoots make better plants as a rule.

Pruning Plumbago capensis.—*L. M.*: The only pruning needed is to radically thin out the weakest shoots—cut them hard back in fact. The stronger and firmer ones may be shortened back, and this is necessary for the sake of cleanliness and tidy appearance by keeping the plant within bounds. Specimen plants in pots should not be hard pruned, but merely regulated and thinned. Those on rafters and pillars in conservatories have to be restricted. Top-dress the borders or pots about the beginning of March.

Violets.—*K. Hamilton*: If the runners are strong you might lightly peg them down upon the soil. This will induce them to root from the joints. Rooted plants from such runners are not generally severed and removed from the frames until about the beginning of April. At that time they are placed into made-up beds to grow throughout the summer and supply winter plants.

Heliotropes as Specimen Plants.—*R. F.*: Plants lifted from the beds about October, and potted then, are sure to lose their former sprightliness. Even with careful potting and after treatment we did not give you hopes of having them in flower after Christmas. They may now be rested by a gradual lessening of the water supply, and should be placed on the shelves of a dry, cool greenhouse. By allowing them a little heat (60°) in March they will break away and form bushy plants. The tall specimens that were lifted and potted should not in any way be encouraged to grow for the next couple of months, though there is no gain in nipping off the flower trusses. These larger and ripened plants generally keep on blooming all winter. The plants to furnish your conservatory early in the year should be treated in the same manner as the Schizanthus, only that some pinching will be needed by the Heliotropes, and not by the latter. A temperature of 60° and a well lighted position should be given. Try to maintain firm wood.

Making a Seakale Bed.—*A. Carter*: It is not advisable to run a bed so long as you have done yours; eight or nine years is long enough. By forcing the crowns now you would have this year's crop cut and the ground prepared for the new crowns at the proper planting season in March. It would be wise to buy in a fresh stock altogether, and you will find such stock will grow vigorously.

New Zealand Flax.—*J. L.*: New Zealand Flax (Phormium tenax) is quite hardy in Scotland, and you would do well to include a bed of both it and the variegated variety along with the other plants by the margin of the water. They like a rich loamy soil. You could divide the old plants you speak of in April and plant then.

CHRYSANTHEMUM MRS. J. C. NEVILLE.

THE lists of white and of yellow Chrysanthemums have been augmented during the past two seasons by some exceedingly high-class varieties; and among those of the foremost rank must be included Mrs. J. C. Neville. It is even thought that this grand variety may surpass any other white now grown. It s of immense size, being 10 in. to 12 in. across and of proportionate depth; the petals are wide and of good substance, prettily forked or notched at the ends. They droop and curl gracefully, and incurve at the tips. It was shown in grand style at the November show of the National Chrysanthemum Society, by Mr. H. J. Jones, of Ryecroft Nursery, Lewisham, who furnished the photograph from which the accompanying illustration was prepared. To secure the best exhibition blooms the plants should be pinched during the third week in March, and second crown buds should be secured.

CHRYSANTHEMUM MRS. J. C. NEVILLE.

ON FRAGRANT TREES AND PLANTS*

HISTORICAL SKETCH.

THE subject we have arranged for consideration this evening is one which has held an important position in the affairs of all ages, and old-time history has left on record many classical fables and legends to illustrate the attractions of fragrant plants and trees.

* A paper with fifty Limelight Illustrations read before the National Amateur Gardeners' Association, by Donald McDonald, F.L.S., November 6th, 1900.

In all countries, civilised and savage, in the religious festivals of all creeds, and upon all occasions of grief or rejoicing, the odoriferous properties of flowers, leaves, or wood, have had an important significance; whilst the earliest records we have of perfumes tell of their extraction from fragrant juices or resinous gums, which exude naturally or by incision from trees and shrubs.

The fondness of the early Eastern nations for sweet odours and perfumes seems to have been carried to almost extravagant excess, and the antiquity of the custom defies research into its origin.

In hot climates the use of fragrant oils and other perfumes has always been a necessity, and there is no doubt that the adoption of sweet odours in religious rites generally had its origin in sanitary precautions.

The ancients, moreover, had no soap, or at least were not familiar with its use, except as a sort of pomade, and were driven therefore to adopt the use of substitutes, in the form of ointment and other preparations of all kinds of odoriferous gums and resins, and the custom is to this day carried out in the ablutions of the wealthier classes in the East and in the washing of the dead.

Their gardens appear to have been chiefly used as resorts of repose and indolent recreation. In these retreats the greatest rulers and warriors found rest and peace amidst the fragrant bowers and aromatic herbs, when worn out with the fatigues of their high position.

The Jews seem to be the oldest nation to have taken the fullest advantage of the great opportunities they had for obtaining a knowledge of plants, and many are the references recorded of the fragrant trees from which they produced cooling fruits to allay thirst, odorous herbs to give tone to the system, and aromatic substances for embalming the dead.

Both Persia and Egypt appeared to have continued the customs in an intensified degree, for not only do they still wash the bodies of their dead with fragrant oils, but the funeral pyre oft times consists of aromatic herbs and branches of trees that give off terebenthinate odours.

Arabia Felix was celebrated for its abundance of aromatic plants. "Among the inhabitants," says Piny (*lib.* 12 *cap.* 18), "no other kinds of wood but those which sent forth sweet odour were used as fuel, and they cooked their food with the branches of trees yielding Frankincense and Myrrh." Although ancient writers all agree that Arabia Felix obtained its name from these odour-breathing plants, it is probable that such accounts are mostly fabulous, and that being but imperfectly acquainted with the regions beyond, they concluded that the country whence they procured these spicy luxuries must of necessity be the country of their origin.

The Greeks as a nation were deeply interested in the study of Nature, and collected much material, which eventually formed the basis of the science of botany. In their cultivations they ascribe a divine origin to the perfume of plants, insomuch that in their sacrificial offerings the victims were always decked with fragrant flowers.

It would seem difficult at the present time to realise the estimation in which leaves and flowers were held in ancient Rome. The victors of the fight, or at the athletic games, were always crowned with wreaths at the feasts, differing according to the importance of the victory. To such a degree of nicety had the Romans reached in this particular, that the composition or mixture of leaves and flowers for wreaths, chaplêts, and garlands, became a point of close study, and those trees were planted adjoining each other whose odours assimilated best together.

The whole of Southern Asia, from Arabia to China, is laden, as it were, with the smoke and sweet odours of perfumes, and it is in the bazaars of the countries of the Eastern Archipelago that their use and, in many instances, their very names, have been kept from the first in an unbroken tradition.

In Indian cities the various products sold are in hourly use in private life to anoint the body, particularly the finger nails, to perfume clothes and furniture, to offer guests, and perhaps still more profusely in the public services of the innumerable idol temples and in the burning of the dead.

The lives of all the old princes and nobles of India are teeming with references to sweet odours, and many are the fabulous stories handed down.

In common with other Eastern nations, they have their floral feasts and periodical decorations. Sir George Birdwood tells me that at the present time Western India, both in Hindoo and Parsee, is a wilderness of Roses and other sweet things.

The highly cultured tastes of the Japanese are proverbial, and their appreciation for all that is lovely in flowers is quite a trait in their character.

This flower worship is of quite national importance, and floral feasts extend through most months of the year. They have also many refined forms of social amusement, in which the fragrance of plants takes a leading part. That veteran Eastern traveller, Sir Edwin Arnold, has a good deal to say on this subject in some of his charming writings.

The Chinese, too, are great lovers of flowers, but their entertainments are conducted under much more primitive methods. The three chief feasts are dedicated to the Dragon, the Moon, and the Year. On each occasion every garden is a flower show of the first order. Winding walks and curious arbours, associated with many sweet trees, are so arranged that the fragrant odours may be readily dispensed around.

In both America, Australia, and other Colonial possessions, that are peopled by what may be termed our own kith and kin, we find dainty products thriving in all directions. Every fertile country indeed has its fragant flowers and trees; the sweet Cyclamen of Alpine meadows; the Pine forests of Norway; Honeysuckle bowered and Hawthorn scented hedge-rows of Britain; the Mayflower of woodland shades in Canada; the Cedars of Asia Minor; the Orange blossoms of the breezy slopes of the Californian coast; the sweet Bay, Myrtle and Cypress at health-giving San Lorenzo, distilling a grateful odour in the sunny clime of the Mediterranean; the spicy uplands of Ceylon; the great tropical islands of the Eastern Archipelago, teeming with odorous things; the Freesias of the South African veldt; the sweet Verbena of Chili; the Roses on the sunny hills of Provence and the Balkans; the catkins of the White Willow of Northern Europe to the humble wild Thyme of our airy downs—wherever they may be, and their influence felt, they are living associations of all that is delightful.

It seems remarkable that on the Continent of Europe—particularly in France and Germany—the beauties of a flower are first considered from its size and gaudy colouring. Fragrance is quite a minor point, and beyond the fact that large areas of sweet smelling plants are cultivated for the extraction of scents, this favour, so much appreciated by us, is only recognised abroad for its value as a commercial commodity.

As the last stage of this cursory glance into the history of other countries, so far as it applies to our subject, I will now have something to say about ourselves.

Although the early dwellers of Great Britain appear to have placed great value upon the aromatic herbs indigenous to the soil, we have little record of flowers of any description. The monks seem to have been the chief cultivators during these dark middle ages, and they did not only regard these herbs as mere objects of utility to man, but also used them as emblems of the saints, and symbols of the various festivals attached to their religious rites.

It was not until the times of the Crusaders that we glean any particulars about flowering plants and garden trees.

During the sixteenth century, when intercourse with other nations became general, many dainty products found their way into gardens, but it was not until Cardinal Wolsey conceived the idea of building the great palace at Hampton Court that we gather any specific facts as to fragrant plants.

In the Chapter House account, for the additions made to the palace grounds by Henry VIII., appears the following curious entry:—"4 Bayes at 2d. the pece, 200 Roses at 4d., 100 Violettes, Primroses, Mynts, and other sweet flowers. . . . a bourder of Rosemary, 3 years old, to set about the mount." There was also a thicket of Sweet Brier and Honeysuckle, with low-growing flowers, which were sweet and sightly.

One of the first books on English gardening, which appeared in 1574, was written by Thomas Hyll, a citzen of London. He recommends "mazes, labyrinths, and knots, all to be made with herbs."*

William Lawson, writing in the same century, says:—"It is comodyus to have a faire garden repleatyd with herbs of aromatyke and redolent savours."†

Gervase Markham, another writer of this period, goes into greater detail regarding these garden knots. He also says:—"The nosegay garden should be planted with Violets, Gilliflowers, Lilies, and Hyacinths, and the herb garden with Southern Wood, Rosemary, Lavender, Basil, Tansy, Pennyroyal, and Mint. What is more delightsome than an infinite varietee of sweet-smelling flowers, the Violet nothing behind the rest for smelling sweetly, and July flowers—they have the name of Cloves—for their scent, and the Damask Rose, most pleasant to sight and smell."‡

Nothing indeed is more charming about these old gardens than the high position always occupied by sweet-smelling vegetation.

This simple and genuine delight between art and nature became feeble as the seventeenth century dawned, when fashions in stone and statuary, introduced from abroad, quite crushed out the innocent amusement that the arrangement of a herb garden had hitherto afforded. Its place was taken by the formal garden, traces of which are still seen in many of our old country domains. Still, however great the changes that have since taken place in gardening fashions, sweet-smelling plants hold their own in general estimation.

Shakespeare has a good deal to say in his plays about nosegays, posies, and aromatics.

Up to and during Queen Elizabeth's time it was customary to strew certain dried leaves and rushes through the rooms of houses, not only as occupying the place of carpets, but to impart a pleasing fragrance through the atmosphere. "The Sweetening of the House" and "Strewing of the Hustings" is an old-time custom, which no doubt had its origin as a preventative against disease germs.

Years ago the admission of air into churches and public buildings was but little studied, consequently these places, through being kept closed, would smell stuffy; and to obviate this, sweet-smelling herbs were distributed about the floors and seats to impregnate the atmosphere with a pleasing odour. It may surprise many of you to know that the custom still prevails in the City of London in connection with the electoral functions that take place at the Guildhall between Midsummer and Michaelmas day.

Through the courtesy of Messrs. Potter & Clarke, of Artillery Lane, I am able to exhibit a sample of the strewings used on the last occasion. I believe the custom still prevails in a few of our churches in the country and also in the Judges' Courts at the Old Bailey, as a preventative against jail fever.

Another interesting custom that is still preserved at the Guildhall on Michaelmas Day is that of laying the City Sword on a bed of Rose leaves. This is supposed to have had its origin in the Wars of the Roses.

(To be continued.)

THE EDELWEISS.

EVERYBODY seems to know and love this little alpine Cudweed, Gnaphalium Leontopodium, otherwise named Leontopodium alpinum. The name Leontopodium comes from *leon, leontos*, a lion; and *pous*, a foot, in reference to the supposed likeness of the gray, everlasting flower-heads to a lion's foot. Lion's Foot, indeed, is one of its popular names. Varieties of the Edelweiss occur in various mountain chains, and even in the Andes of South America, but its headquarters is in the Swiss Alps, where travellers many times admire this curious and charming plant without knowing anything about its history or distinction. It was first introduced to English gardens about the year 1776.

The plant is dwarf, the foliage being limp and thickly-covered with gray, woolly hairs, hence the additional appellation of Moleskin-plant, and also because of its gray or silvery covering the French have named it the Cottonière, or "Cotton-plant." The flower stalks are about the thickness of a pencil and about a foot high, terminating with the strange

* The Profitable Arte of Gardeninge, 1574.
† A New Orchard and Garden, 1597.
‡ The Country Housewife's Garden, 1623.

radiating gray-leaved flower-heads, the plant being a member of the natural order Compositae.

The flowers open in all seasons of the year, some in spring, others in summer, autumn and winter. We read that "With the Swiss maidens this little plant is regarded with almost sacred devotion. The hardy and poor mountaineer lover has often no gift but the Edelweiss to offer, and often on a Saturday he will climb the high and dangerous rock in search of the plant, and as it frequently grows in almost inaccessible places up on the snow line, it is gathered only at great risk, and the Swiss maidens regard the little cloud-horn plant thus presented as a proof of high courage and chivalrous devotion." There are a few legends (fabulous) respecting the origin and history of this sweet little alpine, but none is finer than that which appeared in *American Gardening* above the signature of Christene Wood Bullwinkle.

THE LEGEND OF THE EDELWEISS.

High up amid eternal snow
There dwells the rarest flower I know;
Sweet Edelweiss.
Alone she lives and blooms and sighs,
And greets each bird that heavenward flies;
But sad her heart—as she defies
The snow and ice.

A swan, her love in days of old,
Dwelt on a mighty sea that rolled
Beneath her bower.
'Twas centuries ago, I ween,
'Ere God-created man was seen.
Frail blossoms hailed her, "Lovely Queen!"
This snow-white flower.

The Frost was jealous; long he tried
To make this beauteous flower his bride,
The Amorous Frost!
Now, daily, as the swan would float,
So gracefully, the Frost did note
And envied him his glossy coat—
His joy was lost.

'Twas love-songs sweet the swan would sing;
Brave heart the heart beneath his wing;
He feared no foe.
The Frost, with malice, sought a reed
Well filled with poison and did lead
The swan (all innocent) to feed.
Alas! 'Twas so!

The Edelweiss in sorrow weeps,
And evermore in memory keeps
A snowy feather.
A prisoner she—the Frost-King's hand
Surrounds her now on every hand.
She grieves for her beloved land
Of sunny weather.

'Twas in the Tropics she did dwell
Ere this dread fate her lot befell.
Sweet Endelweiss!
The sun wings high—the clouds float low;
While ages come and ages go,
She blooms—the purest flower I know—
Midst snow and ice.

In gardens the Edelweiss is usually propagated by seeds and it succeeds either in pans for the alpine house, or on exposed pockets of the rockery in firm, well-drained sandy soil. In the Alps which tourists most frequently visit, it is almost exterminated. The Swiss themselves gather and sell it.—*Harrison D.*

SEASONABLE NOTES.

THE grounds and kitchen garden are now fairly well dressed and the winter smoulder-fire should now be made up. All the old Pea and Bean haulms and the general stock of rubbish which even small gardens soon collect, should be gathered and set on fire. If some wood and branches are included in the heap it should be banked all over with soil, whence it will smoulder perhaps for a week or a fortnight to form charcoal, burn-bake and wood ashes, all of which are of the highest importance as ingredients of composts for the culture of fruits and plants. The charcoal should be sifted and graded to be taken to the stove sheds; the ash residue may likewise be placed under some cover, otherwise the rain washes out its fertility.

Pea sticks for next year's use have to be looked out at this, the tree-felling season. Good Beech branches are as suitable as any.

Pear and Apple trees intended to be grafted may be headed down. Scions should be selected now that the pruning is being done, and these will keep fresh if they are heeled into the soil by the shady side of a wall. Grafting may commence at the end of February or March.

Rhododendrons in pots can be grafted at the present time, though the work may be left for a couple of months when the plants are out of doors. R. ponticum is nearly always employed as the stock upon which the finer hybrid varieties are grafted. The saddle-graft should be employed and the lower it is the better; the graft, in fact, should be covered with the soil when the Rhododendron comes to be planted.

Lawns should be renovated. Relaying, draining, levelling, turving may all be proceeded with. It is not advisable to sow till March, nor to apply top-dressings till then. The store rooms should be checked over; and now that the seed catalogues are being sent out a day or two can be spent as soon as you like in writing out a list of all the requirements of the garden. This business demands knowledge and thought, but is one of the most pleasant that the gardener undertakes.

The fruit rooms may be scanned to remove any damaged or decaying fruits. The Pippins, among Apples, are in grand condition just now. Out of doors pruning and digging are engaging attention; and planting absorbs a deal of time. Asparagus and other permanent beds can be smartened up. A top-dressing of sea weed or leaf mould may also be applied with benefit. Early in January the Willows and Osiers for basket making may be cut. This is the best season or the operation.—*K.*

LARBERT HOUSE, STIRLINGSHIRE.

LARBERT HOUSE, the seat of J. H. N. Graham, Esq., is about a mile from Larbert station and lays embowered amongst trees which clothe this portion of the estate. The mansion stands on rising ground and is surrounded by grassy sward in the immediate neighbourhood, but at no great distance are some handsome specimens of Beech and Lime having a wide sweep of branches. Other trees include the Ash, British Oaks, Turkey Oak, Mountain Ash and some handsome Birches, with elegantly drooping spray. Many fine old Portugal Laurels stand about 15 ft. to 20 ft. high, and as wide or wider. There are also broad spreading clumps of Rhododendrons, some of them single plants. The walks in front of the house were at one time closely hidden by trees and bushes which came close up to the drive. Within the past few years they have been cleared away by Mr. David Airdrie, the gardener, who rightly concluded that more breathing space was required on sanitary grounds alone. Beautiful vistas have been opened out, and the sloping sward at some distance from the house have been planted with Daffodils, but even this portion is kept neat and trim after the Daffodils have died down. At the bottom of the slope on one side is a large lake, with an island wooded to the water edge. On all the other sides are fine trees, ultimately giving place to open park and pasture fields.

Flower gardening is not extensively pursued, but a design by the proprietor was laid out round the house. Last September, the central bed of the design was occupied with tuberous Begonias, with bands and lines of bicolor and bronze Pelargoniums and yellow Calceolarias. Around this were four crescent-shaped beds, one of which was filled with Nemesia strumosa Suttoni on a ground of Lobelias. The second was planted with tuberous Begonias and bicolor Pelargoniums, while the third had Begonias surrounded by bronze Pelargoniums, &c., and the fourth had Begonias and Calceolarias, surrounding Happy Thought Pelargonium. Elsewhere were some isolated beds of fancy design filled with appropriate material.

THE GLASS HOUSES.

The conservatory is attached to the mansion, and, at the period of which we speak, was occupied with Palms, Ferns, Grevilleas and other greenery, brightened with early flowering Chrysanthemums, Lilies, Fuchsias, &c. Pots of Asparagus Sprengeri were suspended from the roof, which was also adorned with Roses.

The rest of the glass is situated in the kitchen garden, where there is a fine range of vineries, Peach and plant houses. We gave an account of the well kept vineries, and the splendid Grapes grown here by Mr. Airdrie on p. 87, so that on this occasion we shall confine our remarks to the other houses.

The Peaches in the earliest house commenced to furnish a supply in the second week of June. The varieties grown were Royal George and Dymond Peaches, and on the back wall were Rivers' Orange, Sir Charles Napier and Early Rivers' Nectarines. The last-named ripens fourteen days earlier than any other variety in the house. The trees had been pruned after the gathering of the fruits. The roots are also pruned about every second year in the same way as those of the Vines. In the second early Peach House, some fruits were still hanging, particularly Golden Eagle, the colour being rich and handsome. Others were Violette Hative Nectarine and Stirling Castle Peach, while a large tree of Elruge Nectarine occupied the back wall. The trees were in excellent health and good crops had been gathered.

The fourth Peach house is an open corridor without a door, and here Goshawk and Crimson Galande Peaches were finishing off a fine crop. On the back wall were Pitmaston Duchess and Maréchal de la Cour Pears and Elruge Nectarine. The late house was occupied with Pitmaston Orange, Newton and Pineapple Nectarines, the latter having been finished by the third week of September.

About the middle of the range is an ornamental house with a high roof. A quantity of Figs grown in pots were located here; and from the roof Dendrobiums were suspended to ripen up their growth. An uncommon Palm was Brahea filifera raised from seed. The fan-shaped leaves are notable for the long thread-like fringes which hang from their edges.

A large greenhouse was filled with tuberous Begonias that had been flowering since May. Very pretty was a white one, having carmine-rose edges to the petals, and named Mrs. M. Temple in compliment to the wife of Mr. M. Temple, of Carron, who is a neighbour. Zonal Pelargoniums are largely grown, including the new varieties sent out by Messrs. Cannell, H. J. Jones, and Pearson; also the Ivy-leaved varieties. Tradescantia multiflora and Nepeta Glechoma variegata, grown as basket plants, had developed a pretty pink tint as well as the white variegation, and this was evidently due to the abundant ventilation.

Next in order came a pit occupied with Ferns, Orchids, Acalypha sanderiana, &c. Late flowering plants of Cattleya gaskelliana bore large and handsome flowers. The Croton house was filled with plants of a useful table size of some fifteen or sixteen named varieties. Golden Ring is the favourite for general purposes, and very handsome it is with its twisted and richly coloured leaves.

Stove plants proper are gradually getting crushed out to make room for Orchids. There were, nevertheless, well grown specimens of Palms, Anthuriums, Dracaenas, Maranta kerchoveana, &c. There is a good collection of Cypripediums, including C Sedeni, C. chamberlainianum, C spicerianum, C. Charlesworthii, C. leeanum superbum, C. superbiens, C. oenanthum superbum, and other beautiful and useful varieties. A batch of Calanthe Veitchi was finishing off good growth. Dendrobium dalhousieanum had made grand growths; and alongside of it were D. Rolfeae, D. nobile nobilius, and other choice forms. Sobralia macrantha is also grown well. Nepenthes hookeriana was suspended from the roof.

Another greenhouse is largely devoted to growing Malmaison Carnations and Pelargoniums. Close by is a cool house devoted to the cultivation of Coelogyne cristata, C. c. alba, and Cypripedium insigne, all of which afford a fine lot of flowers for cutting.

Some span-roofed houses stand outside the walls of the kitchen garden, and in one of them was a fine batch of Pineapples. Some fine fruits of the Queen Pine were ripening, the pips being of large size, while others were in various stages of development. Smooth Cayenne was also well grown in pots, and fruiting. Another compartment was devoted to Tomatos, including Lister's Prolific, a free-fruiting sort with large clusters. A new variety has also been raised at Larbert House, but the favourite Tomato is named Larbert House, which has medium-sized, highly coloured, and perfectly smooth fruits. The stems are very short jointed, and bear clusters of four to six fruits at every joint, so that it is very handsome when in full bearing. The flesh is solid and of good flavour, with few seeds.

KITCHEN GARDEN.

As is customary at many establishments throughout

the country, fruits, flowers, and vegetables are grown in the kitchen garden, the flowers being confined to borders alongside the paths. Mr. Airdrie is making a speciality of Pentstemons and various other hardy plants of a useful character for furnishing cut flowers. Late flowering Phloxes are grown in great quantity and variety. Carnations are favourites, and are planted rather extensively. Sweet Williams are being improved by selection, there being numerous fine varieties scattered about the borders, of a choice character with regularly defined zones of colour. Antirrhinums, Shirley Poppies, Iceland Poppies, and Michaelmas Daisies are also favourites.

Something like 1,000 Chrysanthemums in pots were then standing about on the walks, 700 of these being intended for big specimen blooms, and the rest as bushes for conservatory and house decoration. All the buds were set, well formed, and full of promise in spite of the backward season which had been experiened. Cactus Dahlias are also well cared for; and large beds are set apart for the cultivation of Lily of the Valley. Roses are very popular at Larhert House, for they were practically planted everywhere in suitable positions round the borders and also outside the garden proper. Teas, hybrid Teas, and hybrid Perpetuals do well on the soil here.

In the vegetable quarters we noted a new Savoy on trial and named Wee Curly. The stems were very dwarf, so that the foliage everywhere touched the ground, the inner and younger leaves being bright green, the outer ones darker green, and all remarkably curled or blistered. Mr. Airdrie considers Austin's Superb as one of the finest early Cabbages grown. Austin's Express is, however, a trifle earlier in coming into use. We shall no doubt hear of all these again. Onions, raised under glass early in the year and later on planted out, have not given the usual satisfaction this year, owing to the cold, wet season; but those sown in the usual way for small, good keeping bulbs were satisfactory enough.

Fruit trees are grown on the high walls of the garden, and amongst them we noted Williams' Bon Chrétien and Beurré Diel, bearing a fine crop of large fruits. A heavy crop was also borne by Beurré d'Aremberg. Jargonelle Pear also does well in Scotland, but the fruits ripen and get gathered in August. Pond's Seedling Plum carried a fine crop of handsome size.

BEECHHILL NURSERY.

At the end of the second week of September we had a run through the nurseries of Mr. John Downie, Beechhill, Murrayfield, Midlothian, pleasantly situated on the southern slope of the hill overlooking the rich agricultural strath drained by the Water of Leith. Leaving out of count the area planted with fruit trees, the older portion of the nursery is limited in extent, but is crammed with a great variety of useful subjects, including a rich collection of Conifers, and hardy evergeen and deciduous trees and shrubs, as well as herbaceous subjects and florists' flowers.

The Glass Houses

are also well stocked at all times with useful subjects. The first house entered contained a well grown collection of Bouvardias in bloom. The three double varieties are all very serviceable and last a long time in presentable condition. Alfred Neuner is white; President Garfield, pink; and Hogarth, rosy red. The last named is the newest of the doubles, and very handsome in its way. Single varieties are more numerous, and though fairly well known, have not been superseded. President Cleveland is scarlet; Humboldti corymbiflora, pure white, very fragrant and of large size; Vulcan, much smaller, but glowing red; Priory Beauty, pink; Elegans, soft rosy scarlet; and candidissima, rather small, but with white flowers. A batch of these plants in a moderately warm greenhouse have a wonderfully brightening effect during the dull autumn months. A collection of the more useful Heaths is also grown at Beechhill. Erica cerinthoides coronata, with a hairy scarlet corolla; E. mammosa major, with large rosy flowers; and E. bowieana, white, were in bloom; while the summer flowering species had passed that stage. The graceful and floriferous E. Caffra (white) and E. gracilis (rose are now in season.

Crotons have always been a strong feature here and are much used in decorative work. A handsome new variety, with large red, yellow and crimson leaves, is that named Baronesse Alfonso de Rothschild. The large, oblong, red, yellow and olive leaves of Reedii are also very handsome. The number of varieties is too great to enumerate here; suffice to say all the best types are represented. The white flowers of Jasminum nitidum consist of seven to nine long, starry segments. The leaves are also well developed, with large, ovate leaflets. A rare plant is Leea rockrosiana, which has its stems and leaf stalks spotted and marked like those of an Amorphophallus. The leaves are made up of nine large, oblong, wavy leaflets.

Standing about in boxes in the open air were quantities of Lily of the Valley, but whether early or late, we shall not presume to say, for it is practically flowered all the year round. The firm uses something like 30,000 retarded crowns and 100,000 of the ordinary crowns, and the demand is kept up for this sweet-scented subject in the form of cut flowers and otherwise. Some retarded crowns were 3 in. to 6 in. high and stood in the open air, where they come on more strongly and better at that period.

Ferns are represented by a collection of all the most useful for decorative work and in private establishments. What are termed Japanese balls have also found their way here, and consist of Davallias grown on rafter and made up into various fanciful forms. Some of these fanciful compositions had found their way to this country previous to 1886, for we have seen them at Normanhurst, brought there by the late Lady Brassey from Japan. They also made their appearance in the west at the Paris Exhibition of 1889, but now come regularly to our shores as an article of commerce.

Numerous Dracaenas are grown, including the newer forms that turn up from time to time. For instance, Victoria is a golden-edged form of D. Lindeni. D. pendula is also a broad leaved form, and Princess of Wales has moderately broad leaves, bordered with a wide white margin. Those of the Sirdar are broad and short, with a red edge. Narrow leaved varieties are also favourites, including Distinction, having red edges; Lady Morley, bronzy and red edges; and Duchess of York, green, with a rosy-red edge. Other good varieties are also well cared for. A curious and pretty Palm in this house was that named Kentia sanderiana, having long, narrow pinnae, which give the plant a graceful appearance. The plant is curious in producing side shoots.

The Palm houses are well stocked with useful subjects, such as the universally grown Kentias, in many sizes. The same may be said of Livistonas, Cocos weddeliana and others indispensable in all furnishing and decorative work. Acalypha sanderiana needs no description now as most gardeners are familiar with it. The greenhouse was gay as well as perfumed with Lilies, the most powerfully scented being L. auratum and L. a. rubro-vittatum, with its broad red band down the middle. The most handsomely coloured form of L. speciosum is L. s. Melpomene. The large panicles of Hydrangea paniculata grandiflora show that it is well treated as a pot plant for conservatory work. Another greenhouse contained Aralias, Passionflowers and all sorts of conservatory climbers. Besides those Lilies already noted, a batch of L. longiflorum plunged in the open air was 12 in. high and showing flower buds. The cool atmosphere of this northern district had developed a rich purple tint on the stems. The Lily house was likewise full of bulbs in various stages of growth. The general collection of bulbs was likewise in the open air.

Ivies in quantity and variety were grown in pots behind a north wall. The frames were full of Genistas, tuberous Begonias and other flowers. Two perpetual flowering and fruiting Strawberries were also noteworthy. We refer to Oregon and St. Joseph. The former is the better of the two, the fruit being of good flavour for the past season, and in this respect superior to St. Joseph, which was fair but distinctly behind. Old plants of Oregon carried seven bunches of flowers and fruit. While speaking of tuberous Begonias in frames, we may also state that seven large beds of seedlings were grown in the open air, and flowered splendidly, the colours being rich and varied, the flowers large and abundant, while the growth left nothing to be desired.

Trees and Shrubs.

The collections here are replete in variety, all kinds suitable for town planting and for the parks and shrubberies of private establishments being grown. The major portion of the leaves of Fraxinus excelsior alba variegata were white last autumn; we rarely, indeed, see white variegation carried to such an extent. Another variety of the common Ash named acubaefolia, grown in the form of standards, had broad elliptic leaflets blotched like an Aucuba. Both are suitable for planting on lawns and in pleasure grounds. Clethra alnifolia flowers even as late as November. Weeping trees are grown in considerable variety, many of them being popular and well known. Salix mutabilis has oblong, silky leaves and is comparatively little known. A plantation of Olearia Haastii, only 12 in. high, was flowering very profusely. Rhus Cotinus atropurpureus is more handsome than the typical smoke plant; and quite of another kind is R. glabra laciniata, with its much cut leaves. The Beech was represented by the cut-leaved and Oak-leaved varieties. Quercus pedunculata pectinata is also finely cut; and the leaves of the golden Birch are in their best colour in spring. The collection of Maples (Acer) is also very extensive, and few trees are more handsome when in good form. Caraganas, Privets, Cotoneasters, Willows, Aucubas, the large-leaved Acer macrophylla, green and golden Poplars are grown in great variety and largely in the form of standards as street trees, &c. Rhododendrons, both R. ponticum and its varieties and hybrids are grown in bulk. White Thorns and Yews are stocked in quantities for hedge planting. The same may be said of Planes, that is, Sycamores, Larches and other kinds of nursery stock.

Fruit trees in the form of standards, dwarfs and pyramids are also a feature of the nursery, and fruit well. In passing through the grounds we also noted a collection of the large flowering Gladioli, particularly of the gandavensis type. Herbaceous and tree Paeonies are grown in great variety and are productive of fine effects in their season.

Conifers.

All the choice trees and shrubs of this order that are hardy and suitable for the adornment of gardens, parks, pleasure grounds, &c., find their way here, where they are set out in orderly arrangement and at all times kept tidy and clean. There is a general collection of Cupressus, including nice young trees of C. nutkaensis aurea, C. lawsoniana erecta viridis, C. l. Allumi, C. l. lutea, C. l. aurea and many others. The last named grows much more freely than C. l. lutea, and therefore a finer thing. Retinosporas are represented by neat specimens of R. plumosa aurea, R. filifera, R. f. aurea, with golden branches and twigs resembling whipcord. The golden Junipers are also handsome and include such as Juniperus japonica variegata aurea, with bright yellow patches, and J. chinensis aurea, with more wholly golden shoots and branches. At all times Cedrus atlantica glauca is a very handsome tree, which seems to stand the smoke and fog of towns much better than the ordinary green form. All the best of the Thuyas may also be found here. Other choice things are Abies Pinsapo glauca, with glaucous foliage; Abies polita, with stiff leaves; A. kosteriana glauca, of a beautiful silvery-blue; and A. excelsa Remonti, noted for its conical outline and dense habit. A. pungens glauca is popular for its neat habit, and silvery-blue, stiff leaves. A. orientalis is characterised by the shortness of its leaves, and the twiggy appearance of the shoots. The above, by no means, exhaust the lists of fine, useful, decorative subjects; and a journey to the nursery would well repay the visitor.

LAST N.C.S. SHOW OF THE CENTURY.

He would be a most unphilosophic man who, on visiting the National Chrysanthemum Society's show held at the Aquarium in the beginning of the month, did not pause and try to contemplate what quality of Chrysanthemum show one might expect to witness at the end of the first quarter of the twentieth century.

Since about 1760 when the great Industrial Revolution may be said to have started, down through the present century, evolution in almost every branch of science, art, and commerce has been so very great that our curiosity is tuned to the highest point of eagerness. Inventions have overlapped inventions; progress has overstepped progress and all along the line there has been and is now an incessant turmoil and eager striving. We have all watched these last years of the nineteenth

century because they have been so full of interest. We have got to the top of the hill (for the century seems like a hill that we have been climbing), and the discoveries along the way have made us wonder how many more we will see.

The Chrysanthemum has developed to a marvellous extent. There is no end of types, each quite capable of being fixed, and later on may be developed, so that in a dozen or twenty years' time we may reasonably expect to see as great divergence between types and sections of Chrysanthemums as there are between the members of the genus Brassica—the Cabbage tribe.

The Kale of the cottager's yard, the Cauliflowers and Broccoli of our up-to-date gardens, together with the different kinds of Cabbages, including Brussels Sprouts, have all originated from the wild Cabbage that grows on our shores. All our beautiful Roses, too, have come from a few species, and other examples could be quoted. Can we, then, even guess at what the Chrysanthemum may give rise to? From certain indications we seem to be on the verge of a new field of experiment and selection.

Take the case of the decorative section. It is certainly a good while ago since Mrs. Filkins as a spidery variety was first seen, but additions have been slow. One or two nurserymen, however, have lately specialised this section, and we are having a more distinctly spidery race than the old progenitor. There are now Silk Twist, Golden Thread, White Thread, and others; and these we think ought to be specialised as much as possible. On the lines that these varieties point out to us, a distinct section might be raised, having long and exceedingly fine petals. Then the Sam Caswell and Miss Harvey types seem distinct enough to be worked out also as a definite section, possessing stouter and shorter petals, though still much finer than any Japanese variety. Golden Faden sets us wondering whether a ray-petalled strain quite distinct from the singles could not be evolved; and Cheveux d'Or and some of the newer seedlings that have already appeared, indicate a type of bloom with somewhat fluted petals and incised or lobed tips, which also could be further improved and defined. And lastly there are the boutonnière varieties, which, however, approach to the pompons, but might be raised to special importance by selection and study.

Within the last four or five years a considerable amount of attention has been spent on how staging at shows can be most effectively performed to suit the wishes of the ordinary visitor and of the exhibitors. Hitherto the exhibitors have provided a show on their own lines of interest. The public, however, who pay for admission to such shows have had to be catered for—have had to be attracted by the introduction of features that begin to satisfy their ideals. Thus we have a greater number of vase classes, and a more extended employment of the aesthetic and less formal system of arrangement. For years some of the leading Chrysanthemum nurserymen have made excellent and elaborate exhibits, and so far as we can judge it has been to their own advantage, and has certainly added quality and variety to the shows. Such exhibitors should in every way be encouraged. The displays made by them has a greater persuasive influence in bringing in new patrons to the ranks than all the long flat lines of exhibition blooms. There should be, however, even a greater amount of variety in the best exhibition groups. At present the bulk of the blooms are those of recently introduced varieties of Japs., and when the exhibitor is limited to so many feet of space we cannot find fault with him for only using varieties whose inclusion guarantees "orders." But if those who have proved themselves to be able to show well, had greater space allocated to them, we should much like to see all classes of Chrysanthemums—Japs., incurved, singles, pompons, decorative, Anemone-flowered, and others—included. These could be arranged in the form of minor groups yet conjointly forming a whole.

It would be a wise advance if the committee of the N.C.S. in framing next season's show schedules would enlarge and offer substantial prizes for a great leading class to include all sections of Chrysanthemums on the lines laid down in Class XXIV. of the November show this year.—*J. H. D.*

SOCIETIES.

ROYAL HORTICULTURAL.—*December 18th.*

WINTER-FLOWERING Begonias, including Ensign and B. Gloire de Lorraine were again in strong force on Tuesday last, and decorative Chrysanthemums monopolised a fair amount of space. The first of the groups of forced Daffodils also made its appearance so that there is time for a very lengthy season.

Orchid Committee.

PRESENT.—Harry J. Veitch, Esq., in the chair; with Messrs. James O'Brien, De B. Crawshay, H. M. Pollett, H. Ballantine, H. Little, F. Sander, H. J. Chapman, W. H. Young, H. A. Tracy, F. J. Thorne, E. Hill, Jas. Douglas and Jeremiah Colman.

J. W. Moore, Esq. (gardener, Mr. Morris), Chardwar, Bourton-on-Water, exhibited a collection of Cypripediums in the cut state, including many fine flowers of the richly blotched C. insigne montanum type. He also had fine flowers of C. i. Sanderae, C. i. Ernesti, C. arthurianum, C. vexillarium and many other hybrids. They were set up in vases with Maidenhair Fern and attracted a great amount of attention. (Silver Flora Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea staged a group of Orchids, including plants and cut flowers, set up with Palms and Adiantum. Very fine were C. oenanthum superbum, C. Euryades, C. Morganiae langleyense, C. Leonidas, C. arthurianum pulchellum, C. Actaeus, C. leucorhodum, C. leeanum superbum, C. Niolae and many others. Laeliocattleya Pallas, Lc. Semiramis and Lc. Cassiope major were also prominent and interesting. A fine contrast was presented between the orange sepals and petals and the purple lip of Laeliocattleya leucasta. (Silver Flora Medal.)

J. Hubert Grogan, Esq., Worthing, exhibited Laeliocattleya lucasiana. Cypripedium insigne Grove House var., Laelia gouldiana alba and Laelia autumnalis alba were shown by Col. Shipway (gardener, Mr. W. Walters), Grove House, Chiswick. M. Charles Maron, Brunoy, France, exhibited Cattleya Leda and dowiana Rosita, a very handsome form with a large lip, streaked orange, and rich purple petals, fading to cream in the centre, and Laeliocattleya leucasta. Messrs. F. Sander & Co., St. Albans, exhibited a basket of hybrid Epidendrums, varieties of Epidendrum Endresio-Wallisii, with stems 10 in. to 15 in. high.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, exhibited Neobenthamia gracilis, having a dense truss of white flowers, a spike of the rich chestnut-brown Houlletia odoratissima Lindenl, Maxillaria picta, and M. punctata. Henry Little, Esq. (gardener, Mr. Howard), The Barons, East Twickenham, staged Cattleya percivaliana Little's var. R. I. Measures, Esq., Ladymead, Rogate, Sussex, exhibited the beautiful hybrid Cypripedium Charles Rickman.

W. A. Bilney, Esq., Fir Grange, Weybridge, exhibited Cymbidium traceyanum Fir Grange var., a fine plant carrying two spikes of blooms, of handsome size and richly coloured. Chas. Stewart Harris, Esq. (gardener, Mr. E. Davis), Avenue House, Southgate, staged Cypripedium insigne Hilda Davis.

Floral Committee.

PRESENT.—W. Marshall, Esq., in the chair; with Messrs. Charles T. Druery, H. B. May, R. Dean, Wm. Howe, W. Bain, Chas. E. Pearson, Charles E. Shea, George Gordon, Herbert J. Cuthush, W. J. James, E. T. Cook, Chas. Blick, Geo. Paul, H. J. Jones, and James Walker.

Messrs. James Veitch & Sons, Ltd., Chelsea, again exhibited their new strain of winter flowering Begonias, the colours of whose double flowers are variously crimson, crimson-scarlet, and shades of these warm colours. The plants are bushy and very floriferous. They also showed trusses of their Javanese Rhododendrons and plants of Coleus thyrsoides. (Silver Flora Medal.)

Earl of Ancaster (gardener, Mr. J. Butler), Stamford, showed a group of well flowered Begonia Gloire de Lorraine edged with a couple of Vines of Lygodium scandens, 17 ft. each in length. The point of interest in the plants of this group was that they were all in very small pots, and meant for impromptu table decoration, or for small edging plants to a table. (Silver Banksian Medal.)

Messrs. Wells & Co., Ltd., Redhill, Surrey, staged pyramids of the decorative Chrysanthemums Letrier, white; and Golden Princess Victoria.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, sent up the variety of Ilex Aquifolium named Marnock, which approaches I. A. Hendersonii The branches were well berried. They also exhibited the new scarlet Carnation called America. The plants are robust, about 2 ft. tall, and floriferous. The blooms are strong and showy, furnishing a useful cut flower at this time.

Messrs. R. & G. Cuthbert, Southgate Nurseries, Middlesex, showed a very even and strongly flowered batch of Narcissus Telamonius plenus var. Cuthbert's Early Double Golden. The chief point of merit of this variety is its exceeding earliness. It has flowered for three weeks, and the blooms are bright, large and strong. (Bronze Flora Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, came forward with a highly attractive exhibit of Zonal Pelargonium trusses set up in tall glasses above white paper. The newer representatives were, W. E. Corden, rich scarlet; Winston Churchill, white centre with rose-amaranth border; General Buller, mauve-amaranth suffused with scarlet; Lord Roberts still deeper in colour, having even a tinge of violet; Mrs. Brown-Potter, bright rose; Lilacina Improved, Barbara Hope, reddish-rose; Lady E. Malet, shell-pink edged rose; Mary Pelton, rich-rose pink, and some grand unnamed seedlings. The exhibit was the centre of much admiration. (Silver Flora Medal.)

Lord Aldenham (gardener, Mr. E. Beckett), Aldenham, Elstree, showed a wonderfully fresh collection of decorative varieties of Chrysanthemums. These were arranged in stout vases above white paper, and were given ample space. The vases of blooms were of massive dimensions and each truss was bright and strong. Some of the finer of these included Jessica, a white, fringe-petalled variety; Kate Williams, a golden yellow single; Princess Victoria, creamy; Golden Gem, King of the Plumes, Golden Thread, and the rich yellow Anemone pompon variety Eugenie Lanjailet. (Silver Flora Medal.)

Messrs. Sander & Co., St. Albans, sent a finely flowered early batch of Coleus thyrsoides. This was flowered at Kew about two years ago, and has, on numerous occasions, attracted considerable attention. It is handsome in so far that it has long racemes or thyrses of deep, but bright blue flowers. Cuttings are taken in April, and can be grown on through the summer for a winter display. It succeeds in a cool house.

Fruit and Vegetable Committee.

PRESENT.—George Bunyard, Esq., in the chair; with Messrs. James H. Veitch, C. Herrin, S. Mortimer, Alex. Dean, H. Esling, F. Q. Lane, Edwin Beckett, J. Willard, G. Reynolds, Jos. Cheal, and H. Balderson.

Messrs. H. Cannell & Sons, Swanley, Kent, showed a fine lot of their new variety of Cabbage named Cannell's Defiance. These were from seeds shown in July of this year.

Messrs. Watkins and Simpson, 13, Exeter Street, Strand, showed Celery Covent Garden Red; Bibby's Defiance; and Standard Bearer, each receiving an Award of Merit.

Messrs. Barr & Sons, King Street, Covent Garden, showed Celery Champion Solid White. (Award of Merit.)

Messrs. J. Veitch & Sons, Ltd., received Awards of Merit for Celery Ivory's Pink, and Veitch's Early Rose. The Messrs. Veitch also showed Carrots in the varieties James' Intermediate Model, and Matchless, all of which were exceedingly good samples.

Messrs. James Carter & Co., High Holborn, London, made an attractive display with a collection of Capsicums, which were well fruited and sturdy. (Silver Banksian Medal.)

A small show of Apples was brought together from various parties including the Earl of Ilchester (gardener, Mr. C. Dixon), Holland House, Kensington; Mr. James Douglas, Great Bookham, Surrey; Mr. W. W. Cox, Collingwood, Ontario, Canada, who showed finely coloured, evenly sized specimens of Ben Davis, Spy, Golden Russet, Wagner, King and Ontario. The dishes were placed upon paper marked with stars and stripes.

Messrs. H. Lane & Son, Berkhamsted also showed fruits. Sir Trevor Lawrence, Bart., Burford, Dorking; and Capt. Carstairs, Newbury, were also exhibitors.

A dish of Potato Dumfries Model from Messrs. Kerr Bros., Dumfries, received an Award of Merit.

Messrs. Lee & Co., Knightrider Street, Maidstone, showed a fresh fruit and milk bottling apparatus

(patented) The patent is simple and provides an easy means of sterilising bottles of fruit, &c., from bacteria or germs that are contained both in fruit and water. The fruits are filled into bottles and are subjected (by means of steam impinged upon these bottles) to a temperature that sterilises the germs and expels the air in the bottles. They are further fitted with a patent lid which clasps the top so securely as to hermetically seal the bottles. Both fruits, Peas, Tomatos, &c., can be thus bottled, and will keep for years. (Silver Banksian Medal.)

LEGAL NOTES.

THE TRADE POISONS BILL.

THE summary of the provisions of the Trade Poisons Bill, which is to be brought before Parliament, is briefly as follows:—

The Bill seeks to make it lawful for all chemists to sell poisons or poisonous compounds for agricultural, horticultural, and other trade or technical purposes under certain conditions, among which are that the person or firm selling shall be registered and pay certain duties; and that such poisons (which are not to be sold for therapeutic or medicinal use, or the preparation of medicines) shall be sold only in closed vessels or packages, and, where the seller is not the manufacturer, in the original packages as received from the manufacturer without breaking bulk.

The present agitation about the right of selling poisons for technical purposes, *e.g.*, for fumigating, spraying, or weed-killing, &c., originated about a year ago, when a certain firm was prosecuted by order of the Council of the Pharmaceutical Society for selling a weed-killing poison, though they were not chemists. Some other prosecutions followed, until sellers of weed-killers and all the various poisons used in gardening, farming, &c., joined to petition Parliament to have the Pharmacy Act altered. The alterations wanted have just been referred to. By its actions the latter body has shown that when they recognised the extent of the trade in poisons for technical purposes, they thought they would try to cause such trade to pass through their own hands by enforcing the Pharmacy Act, the wording of which certainly bars the sundriesman. The journal called *Oils, Colours, and Drysalteries* points out that the Pharmaceutical Society has it in its power to prosecute in connection with many other poisonous compounds that are sold every day by those who are not chemists. This journal points out that paints intended for ship bottoms contain arsenic in order to prevent incrustations of animal life. And again Emerald Green, which has been used for nearly a century in house painting, is manufactured direct from arsenic.

It will thus be seen that the society that was lately formed for the sake of having the Poisons Bill altered, and which hopes to be backed by the chemical section of the London Chamber of Commerce, is attempting a most necessary and desirable reform. The Trade Poisons Bills was recently discussed at a meeting of the chemical section of the London Chamber of Commerce, and at the close of the meeting a vote was taken, when an equal number indicated their approval and disapproval of the measure. This result is distinctly encouraging to those who are oppose to a monopoly in trade.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. T. S. Dick, Castlemilk Gardens, Lockerbie, N.B., for his article on the "Paeony Garden," p. 246.

QUESTIONS AND ANSWERS.

**** Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Correspondents, please note that we cannot undertake to name florists' flowers such as Carnations, Pelargoniums, Chrysanthemums, Roses, nor such as are mere garden varieties, differing only in the colour of the flower. Florists' flowers, as a rule, can only be named by those who grow collections of them.]

Delphiniums from Seed.—*James Bartlemany, M.P.*: Delphiniums are perfectly hardy even much further north than your garden, so that no protection will be needed. The chief danger is that the small plants may be eaten by slugs and snails in spring, when the plants commence to grow, especially if there are grass verges, lawns, or Box edgings near so as to harbour such pests. The best plan under such circumstances will be to transplant them into freshly dug or prepared soil away from such edgings or grass if possible until the plants get strong. In the meantime make sure that the soil is fairly dry, so that the roots of the plants may not be water-logged. If the soil is very wet the plants might be carefully lifted, put into boxes, and placed in cold frames till they commence to grow in spring. Some of them may bloom next summer, particularly late in the season, but they are not likely to be very strong the first year. We should understand that you sowed the seeds in the open ground, otherwise they would have been stronger. A better plan would have been to sow them in heat in March to give them an early start, and then to transplant them into boxes 2 in. apart each way, finally putting them in the open ground after hardening them off about the end of April. In any case give them plenty of room when you transplant them in spring, and they will flower strongly in 1902.

Red Spider on Violas.—*James Bartlemany, M.P.*; There can be little doubt that red spider got a footing on the Viola cuttings while the weather was still dry in autumn, or they may have been kept rather dry after they were put in the frames. The mild, open weather has been favourable to the pest ever since. It is not a very common occurrence for this thing to happen so late in the season; but we had some samples of Violas sent us some weeks ago, infested with the same enemy. Your best plan will be to give the cuttings a good syringing with soft soap or Gishurst Compound dissolved in water (rain water for preference) at the rate of 1 oz. or 2 oz. of either insecticide to 1 gallon of water. Another remedy is to put some flowers of sulphur in water, thoroughly stir it and syringe the cuttings with this. In all cases try to get at the under-surface of the leaves as much as possible. Do this in the morning and the superfluous moisture will be dried up before nightfall. Repeat the operation in the course of a week if you have reason to believe that some of the pests are still alive. You should have no difficulty in subduing the pest. Soap, sulphur, and water are very hurtful to red spider if you can make sure of wetting the same.

Marguerite Leaves Disfigured.—*A. M.*: Winter does not stop the breeding of the insect which disfigures the leaves of Marguerites and various other Chrysanthemums. In a greenhouse with the present mild weather the pupae in the leaves will develop into perfect flies, which forthwith commence breeding and laying eggs upon the leaves again, so that the mischief keeps on increasing or extending. In a warm greenhouse, where plants are kept in bloom during winter, the increase of temperature will be greatly in favour of the small black fly (Phytomyza nigricornis), which does the mischief. You should make an effort to exterminate the fly during winter at least. The very worst of the plants should be burnt (it is a mistake to throw them on the rubbish heap), then proceed to pick off the worst of the leaves on other plants affected. Leaves that are not very bad should be turned up and inspected, the underside enabling you to localise the grubs or pupae in the leaves. Squeeze the same between the finger and thumb. Do this with all the Chrysanthemums and Marguerites that may be in the house. Also syringe them with diluted tobacco water, as this helps to keep the flies from laying their eggs upon the leaves.

Remedy for Raspberry Beetle.—*G. West*: We presume you mean the grubs that bore into and destroy the fruits, making them useless for the table. You can do something at the present time to lessen the pest, though summer is a better time to get at the perfect insect. If the old stems are not already cut down you should proceed at once to do this, as the grubs often form cocoons in the crevices of the bark or elsewhere in the neighbourhood where they can find shelter. Carefully remove all dead wood even to the base of last year's stems, if they still remain above ground, and having carefully raked them up with the leaves, have the lot burnt forthwith. This should be done before topdressing the ground for the winter. About the time the plants come into flower next spring get some freshly tarred trays of wood and go over the plants early in the morning, one holding the tray while another shakes the bushes or branches over the same. Any beetles present will fall on the tar and be held there. This should be done several mornings in succession till you find no more beetles. By this means you will prevent a lot of egg-laying and subsequent damage. During the day the small brown beetles fly away if disturbed.

Budding Apple Trees.—*D. W. D.*: Apple trees that have been grafted in March or April will occasionally fail, and if the stocks that have been headed down for that purpose should fail to throw up one or more shoots from below the graft, the trees that were grafted will be lost. On the other hand if some of the grafts fail to take, and the trees develop a shoot or two from below the graft, you will have another chance of budding the same in July, August or even later provided the bark will "run," that is lift readily. In order to bud you will have to get well developed shoots of the variety of Apple you want to work upon the stocks in question, that is, having fairly plump and prominent buds. The budding may be done at the base of the young shoots, or on the stem of the stock itself according as you find the bark to rise most readily. Some matting or raphia is necessary for binding. Also get your knife thoroughly sharpened. When everything is ready make a T shaped cut where you wish to insert the bud. The latter must now be prepared by cutting off a thin slice of the Apple shoot you have procured. To do this insert your knife just clear above a bud, passing it downward for about an inch. Cut off the leaf blade, leaving its stalk. Then with the point of your knife remove all the wood from this thin slice of shoot, with the exception of the little knot at the base of the bud. If this latter is removed the bud will die. Now hold the bud by the leaf stalk and with the point of the knife carefully lift the bark of the stock on either side of the cut below the head of the T. Now insert the bud beneath the bark, and tie all rather firmly with the raffia, to keep out the air. By the end of the third week you will see whether or not the bud has taken, and if so you must cut the raffia so as not to strangle the swelling wood of the tree.

How to Get a Stock of Gypsophila paniculata.—*T. H. W.*: Plants, or rather roots, of this may be obtained for spring planting from nurserymen who grow herbaceous plants. They might be planted now, but would be more certain to succeed if planting is deferred to March or April, according to the state of the weather. If you desire a considerable stock of it you can obtain seeds from any good seedsman. As the plant is a perennial it would not give you much if any flowers the first season, unless you sow it early in heat and grow it to some size before planting out the seedlings. As soon as they come up you must keep them in a cool greenhouse or airy pit near the glass to prevent drawing. Prick out the seedlings in boxes, or pot them singly to encourage growth.

Ferns for a Wardian Case.—*R. M.*: Only dwarf growing kinds should be used; but that will depend largely upon the size of the case, and the number of plants you would like to grow. For ornamental effect you may plant such as Asplenium bulbiferum minus (A. Collensoi), A Trichomanes, Scolopendrium vulgare crispum, Polypodium vulgare cambricum, or other fine varieties, Lastrea glabella, Pteris hastata, Pteris rotundifolia, Asplenium Hemionitis, Adiantum Capillus-Veneris imbricatum, and other varieties, Doodia aspera, Trichomanes radicans (Killarney Fern), Asplenium marinum eloogatum, Asplenium fontanum, and other dwarf species. For mere decorative effect you could use small plants, raised from spores, of Pteris Wimsettii, P. cretica cristata, P. tremula, Asplenium bulbiferum, and Lady Ferns in great variety. Of course the latter die down in winter so that you can decide to use them or not. As the others get too large replace them by young ones.

Names of Plants.—*A. C.*: 1, Begonia semperflorens var.; 2, Begonia manicata; 3, Carex brunnea variegata (erroneously named C. japonica variegata in gardens); 4. Pelionia daveauana; 5, Phyllanthus glaucescens.—*D. R.*: 1, Cypripedium insigne; 2, C. i. Maulei; 3, Oncidium crispum; 4, Dendrobium nobile (a good variety but not nobilius).—*T. B. A.*: 1, Ophiopogon japonicus; 2, O. Jaburan variegatus; 3, Scolopendrium vulgare crispum; 4, Polystichum angulare proliferum; 5, Adiantum diaphanum; 6, Polypodium plesiosorus, often called Goniophlebium appendiculatum in gardens.—*A. L.*: 1, Iris stylosa; 2, Jasminum nudiflorum; 3, Helleborus niger altifolius, often called maximus.—*W. D.*: 1, Primula floribunda; 2, Fittonia argyroneura; 3, Aralia elegantissima; 4, Libonia floribunda.

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, LTD., King's Road, Chelsea, London.—Catalogue of Seeds, &c., for 1901; also A Catalogue of Fruits; List of Chrysanthemums; Border Carnations and Picotees; and The Chelsea Horticultural Manure.

JAMES CARTER & CO., 237, 238, and 97, High Holborn, London, England.—Carter's Tested Seeds, 1901.

DICKSON, BROWN & TAIT, 43 and 45, Corporation Street, Manchester.—Catalogue of Vegetable and Flower Seeds and Garden Requisites.

SAMUEL DOBIE & SON, Heathfield Gardens, near Chester.—The Amateur's Garden Annual for 1901.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World
Edited by J. FRASER, F.L.S.
SATURDAY, DECEMBER 29th, 1900.

NATURAL AND ARTIFICIAL ROCK GARDENS.—To a certain extent all rockeries, deserving the name of "garden" must be artificial to a greater or less extent; but in some situations most of the material may be ready to hand and only require developing. This cannot be the case where the land is relatively level, and there are no rocks, hill or mountain to assist the builder. In such cases the rockery must be wholly artificial, whether it is elevated or built above the ground or sunk below the level of the same. If on any large scale, in flat situations the ground must be skilfully undulated, so that, by elevating the ground in places, depressing it in others and planting trees and shrubs, the rockery will be isolated more or less from its surroundings, and make it impossible for the eye to survey the whole scene at once. On the other hand it may be sunk below the level of the ground throughout the whole or most of its extent, thus making the work of isolation a matter of comparatively easy accomplishment. To make a large, elevated rockery appear part of a level piece of ground would be a difficult or impossible operation. On the other hand if it is sunk below the ordinary level, the visitor can enjoy that repose and isolation which gives to the prospect the appearance of being natural. The trim, straight edgings and walks, associated it may be with a formal flower garden, or even a kitchen garden, or other objects of a purely utilitarian character, are screened from view, and the charm of a rockery, however artificial, is greatly enhanced.

The hand of nature, so to speak, would be more visible in rock gardens that are constructed under or at the side of rocks, hills or mountains as the case may be. Like Mahomet we can go to the mountains, because the latter will not come to us. Not every would-be builder, however, can go there; but such as are situated in proximity to elevations of greater or less extent can adopt the idea and turn it to practical account. We have seen a continuous cascade or a series of them, having an extended length of a mile or two on mountain slopes and could wish to see the lower reaches utilised for adding to the beauty or even the grandeur of a rockery. In some parts of the British Isles these mountain streams are being utilised, where they make their descent in the vicinity of private establishments. During dry weather in summer these streams resemble cascades of silver flashing in the sunshine, but after a thunderstorm or a heavy rain of even short duration, the streams become mountain torrents, foaming with white spray throughout their length. In many cases such torrents would be distinctly detrimental to the interests of a rock garden; but the streams can and should be tapped at a sufficient elevation to get the force of water required, and have the inlet strictly limited at all times so that no overpowering force of water could ever reach the stream actually watering the garden, or otherwise ornamenting the same. In such circumstances it would be easy to form cascades of various designs, pools and ponds of varying size and shape, all adapted for the growth of some kinds of plants.

Such rockeries as the above would necessarily be situated in mountain districts, and likewise at a low elevation in order to secure the necessary shelter of trees and shrubs; and as a matter of course homesteads are always so situated for the same reason. As far as Alpine plants are concerned shelter from the prevailing winds, chiefly west winds, and moisture are two of the principal things to keep in view. In order to regulate the temperature at low elevations partial shade will have to be provided for and this can be secured by trees and shrubs placed at a sufficient distance away not to overhang the plants in any way. A large proportion of the plants placed on rockeries, however, delight in direct sunshine, and must be planted where they will receive it. Watering, particularly in districts where the rainfall is relatively scanty, will have to be given in dry periods or seasons; but the skilful builder will obviate this as far as possible by constructing the artificial portions of the rockery so that the roots of the plants will have access to an ample depth of soil, so that when thoroughly established they will be fairly independent of the weather in the majority of cases.

Furthermore, when building rockeries, two things will have to be kept in view, namely, the ornamental effect of the general plan, and the suitability of the various portions for plant growth of some kind or other. One will have to modify the other, that is, ornamental effect will have to be subservient to utility; otherwise the building of stonework might be carried to such a height or in such a form as to render the growth of plants impossible owing to

the lack of soil and the impossibility of keeping it moist. Even in this case, however, with the aid of a continuous and natural supply of water some interesting features in the way or rockwork may yet be developed. In a state of nature dripping rocks, or those continuously moist throughout the year just suffice to keep numbers of beautiful and interesting plants alive and happy even on the perpendicular face of rocks, where the seams or crevices are just sufficient to afford a nidus for a small quantity of soil and the roots of the plants. Little seems to have been attempted in this way as yet; but we think the plan is capable of being developed. In speaking of a dripping well it must not be assumed that the water or any great amount of it is intended to fall upon plants. Falling spray, if light, and only continued intermittently, may not only be harmless, but beneficial to Ferns and other moisture loving plants; but any great weight of it would soon make the bulk of plants unhappy, eventually killing them at no distant date. On the other hand water oozing through the seams of rocks, and not stagnant would provide situations for growing such interesting plants as Saxifraga aizoides, S. oppositifolia, S. stellaris, the Golden Saxifrages, Asplenium viride, and many others which, at present, are considered difficult of cultivation, particularly in the south. With plenty of moisture at the roots a southern exposure would not be too much for them, whereas on a dry rockery they would sooner or later succumb.

A bog garden, or bed, with a supply of water would be most easy of formation, and might consist of a layer of peat, 18 ins. in depth, excavating the natural soil to receive it. A small stream, meandering through it, would supply the necessary moisture for plants; and at one end might flow into a basin or pond, of a size proportionate to the area at command. This latter would serve for the culture of Water Lilies, Cape Pond-weed, Butomus umbellatus, Sagittarias, and various others. The banks of this or parts of the bog garden itself would be suitable positions for Osmunda regalis, Calthas, including the ordinary double form which flowers grandly when overhanging water, with its roots dipping into the same. Parnassia palustris, Cardamine pratensis flore pleno, Anagallis tenella, Primula japonica, P. rosea, Orchis foliosa, O. latifolia, Cypripedium spectabile, and other terrestrial Orchids are merely a few examples of the subjects that may be planted in the bog garden. The Bog Bean (Menyanthes) seems to prefer a boggy situation to deep water; and when seen at its best is really handsome. A dry peat bed will afford a suitable home for quite a different class of plants, including Heaths, Menziesia, Andromeda polifolia, various species of Ledum, Lilies of suitable height, Trillium grandiflorum, and many others which delight in cool though fairly dry quarters. There is a host of smaller subjects that the plant lover could locate in such situations. The bog bed and peat bed would form pleasing adjuncts to the rockery proper, and could be made in the bays or small valleys of the same. All this goes to show that the rockery builder should have some clear idea of the requirements of plants, or must be under the guidance of one who does.

Singapore is a great centre of the tinned Pineapple industry. As the Pineapple crops cover the hills within easy reach of the large establishments that have been erected for the business, everything is carried through with facility and dispatch. Cocoanuts are also largely grown in various islands of the Straits Settlements.

Hippeastrums (Amaryllis) are in flower at Kew.

Standard Varieties of Chrysanthemums.—*The Florists' Exchange* in a supplement names seven standard varieties of Chrysanthemums that are largely soldin New York market in the early part of November. These include Major Bonnafon, Modesto, Mrs. H. Weeks, Col. D. Appleton, President Smith, Pennsylvania, and Golden Wedding.

French competition in Cider.—The French government has been establishing experiment stations in the chief cider producing districts in order to promote the cultivation of good vintage fruit, and to improve the quality of the cider produce. This, it is understood, is being done for the express purpose of producing an article fit for exportation to England. Our own growers, however, are looking after them, for the matter came up at the last meeting of the Hereford Association of Fruit Growers. A resolution was then passed that it was essential that similar pomological stations should be established in this country. It was decided to forward this resolution to the proper quarters.

Wintering Apples, Roots, &c.—A writer in a contemporary some time ago announced that he had proved the pitting of Apples to be a most commendable practice. It seems to be reversing all past teaching to pit Apples just as we do Potatos; yet this is what he (the writer) approves of. Each winter a portion of his Apple supply is so treated. "This method seems to keep all the flavour and all the crispness in the Apple intact, and perhaps is the simplest and safest of all ordinary uses. The Apple is less susceptible to injury from freezing than Potatos. The Apples are piled conically from an underlayer of clean straw, and are finished off exactly in the way that Potatos are treated. A plug of straw should be inserted about the middle of the pit of fruits, and should be carried upwards to provide a sort of funnel for airation. We would much rather see all Apples stored on dry ashboard shelves in proper storehouses where the bad fruits can be picked from the good ones, as often as they are detected.

The Value of Spraying Mixtures.—Though the various spraying experiments that are being carried out by practical and scientific men all over the world do not affect the growers of an acre or two of mixed vegetables and fruits, that is, the average gardener, yet gardeners like to follow the trend of things. Spraying has, in the majority of cases where properly carried out, been an unqualified success. That's one fact to remember. In connection with this it has been found out that only the best mixtures are worth the using. No matter how many laws are passed to suppress or stamp out adulteration, there are always one or two dishonest sellers. A case was mentioned in an Irish paper recently, where a man had bought Bordeaux Mixture from two tradesmen. The results which the solutions from the two have given, under the same conditions, prove that the mixture from A. has always yielded an advantage of 20 per cent. and up to 35 per cent. over B.'s mixture. It is well for buyers to recognise that inferior stuff is offered, and there should be no hiding the matter when adulteration or inferiority has been proved.

Nature's Clocks.—The intelligent observer of the flowers of the field, hedgerow and wood can form a fairly accurate guess as to the hour of any sunny day. At a few minutes past seven in the morning the Scarlet Pimpernel opens its petals and closes them again a little after two in the afternoon. The Star of Jerusalem, known better as "Jack-go-to-bed-at-noon," hardly ever varies in opening at three in the morning, and has become tired of the day's business by noon. The Dandelion unfolds at four on sunny mornings; at five out comes the Hawk beard; and somewhere near six o'clock (for Nature is not particular to a minute or two) the Viper's Grass blossoms. At seven the Lettuce "spreads its petals," eight is marked by the opening of Venus' Looking-glass; nine, by the bloom of the Creeping Hawkweed; at eleven the Star of Bethlehem "strikes"; and, as we have seen, Jack-go-to-bed, by his sleepiness tells the hour of noon. At one the Succory opens; at two the Squill expands; at three the Marigold betrays her beauty to the sun and so on; the evening Primrose opens into smiles as the labourer returns from his toil at six o'clock.

Christmas Trees.—The practice of having parties and Christmas trees laden with toys, is a German custom, introduced to England by Her Majesty Queen Victoria, who had the first Christmas tree at a party at Windsor in 1846.

Holly and Mistleto.—Practically no Holly comes from abroad. It differs in this respect from its traditional partner, the Mistleto, the greater part of which is furnished from the Apple-growing districts of Normandy and Brittany.

Flax.—In Ireland there is reckoned to be 50,000 acres of Flax under culture. The question whether the industry can be made to pay the agriculturist is at present seriously engaging the minds of our Irish neighbours.

Illness of Mr. S. Cooke.—The many friends of our esteemed correspondent Mr. S. Cooke, who is head gardener to de Barri Crawshay, Esq., Rosefield, Sevenoaks, will learn with regret that for some time he has suffered severely from rheumatic gout. Mr. Cooke contracted a severe chill during October, and although he had only made slight recovery he showed little or no diminution of activity on the occasion of the Sevenoaks Chrysanthemum Show when he again performed the duties belonging to his honorary post of secretary to this society. Though his Christmas may not be merry, we, and all his friends, sincerely trust that the New Year's week will find him well on his way to strength and activity.

The Orchard Area.—The continued expansion of our orchard area is one of the most gratifying facts revealed in this year's agricultural returns. An addition of 3,526 acres has now raised the area to 232,129 acres; and when it is found that in 1892 the total was but 208,950 acres, it will be seen that since that time an increase has occurred amounting to over 11 per cent. In 1893 the total was 211,664 acres, in 1894 it rose to 214,187 acres, in 1895 to 218,428 acres, in 1896 to 221,254 acres, in 1897 to 224,116 acres, and in 1898 to 228,603 acres. Thus during the past eight years the orchard area has been increasing at the average rate of 2,900 acres per annum, and the present area in England alone exceeds that in Great Britain a couple of years ago. Practically, however, the expansion of area is restricted to England, and if we pick out the twelve counties of Great Britain, which possess the largest extent of orchard land, it will be found that these all lie in the south or south-west of our island. Leaving out of consideration the county of Kent, which grows a greater variety of fruit than any of the others, we find that the counties of Devon, Hereford, Somerset, Worcester, and Gloucester have an aggregate orchard area of 119,650 acres. These five counties of the west and south-west of England—constituting in one continuous area what is essentially the cider country of our island—embrace therefore rather more than half of the entire orchard area of Great Britain. There are eight English counties with less than 1,000 acres each of orchards—Bedford, Cumberland, Durham, Huntingdon, London, Northumberland, Westmoreland, and the East Riding of York—and one, Rutland, with less than 100 acres. The largest orchard areas in Wales are in the two counties adjoining Hereford—Brecon with 1,180 acres and Radnor with 705 acres; at the other extreme is Anglesey, with an orchard area of only 19 acres. Lanark takes the lead among the Scottish counties, with 734 acres. Perth and Haddington following with 579 and 123 acres respectively. No official returns are available concerning the orchards of Ireland, but according to a report of the Department of Agriculture the fruit industry has not received the attention it deserves in that country. The only localities at present largely identified with fruit culture as an industry are the Drogheda district (Balbriggan, Gormanstown, Julianstown, and Duleek) and the Armagh district (Richill, Markethill, and Annaghmore). In the former the grower bears the cost of picking, packing, and shipping, but in the north, what is known as the Scotch system is largely employed—that is, the sale of the fruit while growing, the buyer being responsible for picking and marketing. An inquiry by the Irish Agricultural Organisation Society into the prospects of the Drogheda district has resulted in the proposal to establish a factory for the manufacture of preserves, whereby, it is hoped, increased profit will accrue to the grower.—*Midland Counties' Herald.*

Great quantities of Holly, Spruce, Mistleto, Ivy, Laurels and Bays, are now pouring into Covent Garden Market.

Araucaria excelsa, also called the Norfolk Island Pine, has been increasingly grown for the purpose of Christmas trees for some years past.

Christmas Wreaths—The smooth leaves of a species of Holly (Ilex Aquifolium Hendersonii), and the scarlet fruit clusters of Crataegus Pyracantha Lelandii, have been used this season in the making of bright Christmas wreaths.

Trade Notes.—Messrs. Alex. Dickson & Sons (Ltd.) have been registered with a capital of £25,000 in £1 shares, to acquire and carry on the well-known nurserymen and seedsmen's business at Newtownards, Co. Down, Belfast and Ledbury.

Eurya latifolia, a slow growing shrubby, variegated plant; and Funkia ovata marginata, a herbaceous plant, are two of the most popular subjects grown by market men for decorative uses. Thousands are disposed of by retail trade, to be used in fancy bowls in town dwelling-houses.

Weather in London.—Thursday and Friday of last week were mild and dull; Saturday gave us 6° of frost; and Sunday brought the first inky-black fog of the season. Midday in London on Sunday was as dark as a moonless night. Monday, as we go to press, is again very foggy.

Premonitory!

Old Sol looked down; the birds began to sing,
And flowers to bloom. The bees are on the wing:
All Nature smiles—there's joy in everything.
The Jasmine's gold; the Fiery Thorn is king;
The Roses bud and bloom, and fragrance bring.
Sweet zephyrs blow; Oh! joy, 'tis spring, 'tis spring!
—*C.B.G.*

December 16th, 1900.

Freesias.—In answer to Mr. J. Mayne, I am pleased to say that the early forced Freesias referred to by me, carry from three to five blooms on each raceme. The flowers are individually of average size and are fragrant, but naturally one cannot expect the standard quality of substance. The foliage reaches from six to nine inches. The mere desire to have these sweetly fragrant flowers before Christmas is the only reason for the special effort put forth in forcing.—*D.*

Worms in Potatos.—A correspondent mentions a case where a lea field was ploughed after a rest of fifty years, and was planted with Potatos. The crop, however, has been unsaleable because each tuber was full of worm holes. The ground had a slight dressing with hot lime after the Potatos were planted. The poor farmer wonders what he should do. As the "worms" appear to be wireworms, a good dressing of fresh gas lime to be ploughed in now is the best preventive. Crushed rock salt at the rate of 10 cwt. per acre is also beneficial. A liberal dressing of kainit should always form part of the artificial mixture when there is danger of infestation from wireworms.

Dried Prunes.—All of us who live in or near by cities, can see boxful after boxful of dried and pressed Prunes or Plums in grocers' windows. These fetch a profitable price. The growing of these Plums and all the work in connection with the evaporation and packing of the fruits, furnishes quite an industry in parts of the Continent. In our Islands manufactures outweigh the agricultural, horticultural, and the fruit growing industries (though we could do much more in the latter), leaving us to be supplied by countries where manufactures are of minor importance. The countries that give themselves up to what may be called raw production, are presumably adapted for the purpose. Our own country on the other hand, having such extensive coal fields and iron deposits, is naturally fitted for its chief business of working up the raw materials. So the question of division of labour and free trade is illustrated. But to back back to the Plums or Prunes—these are imported from the Austrian-Hungarian Kingdom, and the various subject kingdoms or dependencies. A great deal comes from Servia, which, however, is under Turkish dominance. The Plum orchards are chiefly along the banks of the rivers. Vast quantities of the fruits are also converted into jam.

Crosses for use in cemeteries are readily made by using small branches of young Birch trees, Betula alba. These should be cut to lengths of 2 ft. to 2½ ft. for the perpendicular piece, and shorter for the cross piece. Bunches of evergreens can be arranged on the cross by way of "make up." The branches are sawn along their length, the silvery bark being retained on the rounded side. Branches of about 4 in. thickness are used.

A Russian Inspection at Eynsford.—Mr. Nicholas Schawroff, government director of the Silk Industry in the Caucasus, visited the Swanley and Eynsford districts of Kent, on Monday, December 4th. His object was to ascertain all he could about the rural industries of Kent. He applied to Mr. E. D. Till for information on bee keeping, poultry keeping, and cider making. On being interrogated as to how the Mulberry trees are treated in the Caucasus, he answered that they are denuded by cutting off about 3 ft. of the shoots to feed the silkworms. The Vines are then trained up the bare trunks. Enormous Quinces are grown in the Caucasus of a different shape to ours, and single fruits weigh as much as 2½ lbs. It is a favourite fruit there, and is cooked like Apples. Mr. Schawroff was conducted to cider works, a jam factory, the Horticultural College, and to Messrs. H. Cannell & Sons' nursery. He found a good deal to interest him, and in return was able to impart some useful information to those who accompanied him.

Royal Horticultural Society of Ireland.—The annual general meeting of the R.H.S. of Ireland was held on Monday, December 10th, in the Central Lecture Hall, Westmoreland Street, Mr. Greenwood Pim, M.A., presiding. The committee have decided to omit the spring show, as this has been for a number of years a source of great loss to the society owing to lack of public support. The membership has increased considerably during the year, and the committee hope that all possible endeavours will be made to further augment the numbers. The thanks of the society were tendered to all who had offered special prizes. Various suggestions were made as to what should and could be done to place the finances of the society on a sound basis. Several members threw out proposals in favour of personal guarantees to the amount of, say £50, so as to insure the continuance of the shows. The secretary took note of all the suggestions, and these will receive the careful consideration of the council.

Sevenoaks Gardeners' Society.—The Sevenoaks gardeners met at the "Rose and Crown" Hotel, on Tuesday evening, December 18th, and enjoyed a very interesting and practical paper on the culture of that important Lily—Lilium auratum. The essayist was Mr. Fox, gardener to Mr. Sowerby, Solefields, Sevenoaks, who passed over the description of the flower and proceeded at once to give cultural instructions. He advised a start to be made at the latter end of November or early in December, at which time they should be potted-up. This applies both to new bulbs and to those which may have been grown in pots previously. The proper time to repot was when the stems had begun to die down. The bulbs should then be turned out, and if in a crowded state they should be shaken out of the old soil and sorted; the small ones being kept apart to be grown by themselves. Single bulbs should be repotted into pots one size larger than before. A suitable compost consists of about equal parts of fibrous peat and loam, with the addition of some crushed charcoal and coarse sand. Moderately firm potting is advisable, but in no case give the bulbs too much space—but rather confine them. The bulbs should be kept well down to allow of three or four inches of top-dressing when the stems begin to throw up. There are two root systems—one belonging to the bulb, and the other springing from the lower part of the stem and which draws nourishment for the flowers. Seven or eight-inch pots are quite large enough for a moderate sized bulb. Provided the soil was fairly moist, as is necessary for potting, no water need be given until the bulbs start to grow. They could be placed in a frame, an outhouse, or even under the stage of a cool house, but they must be free from drip. A brisk discussion ensued, in which Messrs. Huntly, Westcott, Heath, Potter, Edwards, Turner and Elliott and other members took part and a pleasant evening was concluded by a vote of thanks to Mr. Fox and the chairman.

Liability for Damage caused by Hedge Clippings.—A farmer was lately sued by a neighbour for the loss of a heifer, which had died from the effects of Yew poisoning, the animal having eaten clippings which had fallen and been allowed to lie on the public highway, from a hedge that had been cut by the defendant. The judge who gave decision held that the clippings constituted a "public nuisance," and it was quite immaterial whether the person who put the "nuisance" on the highway knew it was a danger to persons, cattle, or other animals, or not. Just as everyone is "supposed to know the law," so it would seem everyone is supposed to know what will do damage and what will not. We think, however, that all farmers, to say nothing of labourers and others, ought by this time to know that Yew clippings, partly dried, are very poisonous to cattle. As it was, in this case, the pursuer received £7 as damages.

CHRISTCHURCH PARK, IPSWICH.

SINCE 1894 the town of Ipswich, which stands upon the river Orwell, in the east of Suffolkshire, and is renowned for its manufactures of machinery, was fortunate enough to secure a splendid public park. This public area, amounting to considerably over fifty acres, forms what is called Christchurch Park. The purchase of this ground was certainly one of the wisest deals the corporation could have made. The park is situated on the north part of the town where its outer limits on this side furnishes some of the most elevated views to be obtained. In its superficial conformation the park is charmingly undulating and has as many natural variations as any park could be deserved to have. The park used to be an old family residence. "The name of Christchurch is derived from a Priory of Canons of St. Augustine, founded in the church of the Holy Trinity, prior to the year 1177," or over 700 years ago. Some of the excavations which have been executed during recent years on the spot where the Priory stood, have brought to light at least one old relic, a curious and enormously clumsy stone coffin. The sides and bottom of the coffin are about 3 in. thick, the kind of stone being probably some variety of sandstone. This antiquarian treasure is now in the Ipswich Museum. After various changes, the Priory just mentioned became the property of Powle Withipoll, a London merchant of the Tailors' Guild, who represented the City of London in three parliaments. The Withipoll family came originally from Italy, and to-day this name, with a few other names of pure Norman and Italian extraction, are quite familiar in this region of Suffolk. It should have been mentioned that within the grounds of Christchurch Park, there is a mansion which now also, through the munificence of Felix T. Cobbold, Esq., an influential gentleman who lives in the neighbourhood, forms a part of the public property. This mansion was erected by a son of the London merchant referred to. Those who are interested in historical story, and who visit Ipswich, can have a legend spun to them which would glorify every room of the old Christchurch Mansion. The powerful Queen Elizabeth slept here, and of course that fact is duly chronicled. The uses or supposed uses of certain mysterious secret passages and rooms, furnish material for other stories of strange trend—and there are fifty-six rooms! The estate passed into the hands of the Hereford family, and was owned by them till the middle of last century. Then from the time of the Herefords relinquishing it, till it was put in the market a few years ago, it was in possession of a family named Fonnereau, another Norman name. The Fonnereaus were of the merchant and clergy class. So these few lines (from a sketch by Mr. Frank Woolnough, curator of Ipswich Museum) briefly outlines the story of change which has so satisfactorily culminated in providing the 70,000 inhabitants of Ipswich with a healthy, enjoyable, and lovely public park.

There are numerous fine old Elm, Oak, and Spanish Chestnut trees throughout the park. Other belts of plantation have been recently planted. There is an abundance of roadways, paths, seats, and stretches of ornamental water stocked with water fowls. In the park itself there are few or no flower beds, but in Clarke's Arboretum, which consists of 1,005 rods of the sunniest and loveliest grounds imaginable, and which adjoins the park, there is quite a pro-

fusion of beds, borders, lawns, specimen trees, shrubs, and shrubberies. The mansion within the park, with its fifty-six rooms, is utiltarian as well as ornamental. Within its walls quite a grand list of technical and scientific classes are held, such as chemistry, physiography, botany, plumbing, agriculture (principles of), besides women's classes in cooking, laundry work, &c. In all respects, Christchurch Park and Christchurch Mansion are sources of gain and much satisfaction to the corporation and inhabitants of smart and pretty Ipswich.

TREE ROOTS AND FAGGOTS.

THE rugged roots or stumps of Oak and other trees that have either been blown down or felled might much more frequently be used as objects of ornament in garden grounds. Here and there we find them and when they are covered or partly covered with the Golden Honeysuckle, Brambles, Ivies, or Virginian Creepers they are a distinct source of interest and pleasure. Smaller sized stumps could be arranged in a little group or knot at the point where paths diverge or they might be arranged so as to allow a curve to be introduced in the course of a walk. It is one of the laws of landscape designing never to introduce a curve without a reason, and when there is no reason save that of affording pleasure to the eye, you can overcome the simplicity of the ground you are dealing with by placing down an obstacle and then take the walk around it. Thus if one had a broad stretch of flat ground, it would be puerile to zig-zag or curve a path about, simply because English garden design advocates curves and irregularities rather than formal lines.

Here the other part of the business or art comes in, and the designer plans an intervening group of ornamental shrubs or a bed of this or that. He may even elaborate a Rose dell, a rockery or a rootery. Not to go so far, he can at least arrange a minor rootery and make it a feature of beauty too, and he may then take his path curvingly around the root-knoll and the detour is naturally accounted for by the presence of the said knoll.

Even without walks, in "tame" grounds the introduction of tree root arrangements on a scale proportionate to the needs of the case, would do much to bring them into better garden form; they would be more attractive and more inducive, and conducive to the tastes and delights of the owner of the garden. They are made in the same fashion as rockeries, having pockets for small plants, and larger areas for the roots of such trailing or climbing plants as I have named. If vigorous and bright-leaved varieties of these trailing plants are chosen, the effect is indeed as picturesque as need be desired. Forsythia suspensa might be included among the suitable plants; Hops and Jasminum nudiflorum are also worthy; Clematis of sorts, Honeysuckle; Everlasting Sweet Pea, and Tropaeolum speciosum, serve further to indicate the class of plants that are used when planting a rootery or faggot knoll.—*J. H. D.*

THE ART OF GARDENING

Is in many cases an improvement on Nature; and the gardener has it in his power to produce many beautiful pictures in the landscape by selecting trees and shrubs of varied colours, suited to his soil and calculated to produce permanent beauty. A few days since I saw a semi-circle of tall Acers, the hand that planted must be still—bounding to landward a level carpet of soft green grass. Between this and where I stood was a broad lake with a silvery, rippling surface, which yielded a pleasant foreground to the sward and the majestic Acers in their glorious tint of autumn, a tint between gold and brown, nameless and beautiful, thrown against a sky of soft clear blue, showing infinite atmosphere. Another picture of rock work and water—which a few months ago was a wild mountain stream—had waterfalls, made of and margined with moss covered stones, placed informally to produce a natural appearance, from which the water rolled like glass by a curvilinear course of varied breadth, soon to tumble over a double waterfall, and foaming rush on to feed an automatic fountain with many jets, flinging the water above and about in many shapes. The sides had been made of good soil, covered with stones and Ivy-clad tree stumps, many Ferns taking to their new home. Rushes and hardy Irises, with Ranunculuses and Aponogetons found a home. Above this arrangement bywashes were made to carry the flood waters in another course.—*Henry H. Gibson, The Garden, Glencairn, Belfast.*

ACANTHUSES.

THESE classic plants are not so commonly grown as they should be. Yet besides their beauty of form, they are of great interest. The most common species, Acanthus mollis, is the plant which is supposed to have served the Greek and Roman sculptors as a model for the embellishment of the Corinthian column. Most of the species are natives of South Europe. They will grow in almost any soil or situation, even doing fairly well in the shade, though to have them flower well, they should have a warm sunny spot. The best soil for them is a deep and open one. Propagation is easy, either by division of the roots in autumn or early spring, or by seeds. Acanthus mollis latifolius (A. lusitanicus), is the best of the genus. This stately plant makes a fine picture with its mass of rich green lobed leaves. In mild seasons, it may be seen in perfection even in December. It is alike suited for the sub-tropical bed, the border, the rockery or as an isolated specimen in the wild garden. Other species well worth growing are A. longifolius, A. niger, and A. spinosissimus. There is another, not so well known, and it needs a stove temperature. It is A. montanus, a shrubby species from tropical Africa. The leaf is a dark green with a white mid-rib; in shape it is much like a thistle, and tapers to a point very gracefully, making a pleasing contrast with the other stove plants.—*L.F.*

ROOT PRUNING.

HAVING read carefully Mr. Mayne's article on the above subject, which appeared in your issue of the 8th December, would it be asking too much of the many readers of THE GARDENING WORLD, for one or two of them to give a few details of their methods on this important work? The most important item, in my estimation, in Mr. Mayne's article was the replacing of the same cold soil about the roots after the operation had been accomplished, as it seemingly is the former's method of doing. Well, in my views of the matter, I would consider it a waste of time and injury to the tree, as it is only remedying the evil for a very short period. There being nothing about the roots, as a matter of food, they work away into cold subsoil, seeking nourishment, and long bare roots without fibres are the result.

In a great many gardens the fruit trees are rendered practically useless, through want of attention to this all important matter, sometimes through neglect, but oftener through false ideas of economy. Deep planting is one of the greatest mistakes in fruit growing, it having a tendency to create bare fibreless roots at the very start. Rather plant a little above the level, and mound up round the roots, than place them down into the cold, wet, unwrought soil. I have seen trees planted in private gardens, under a system which was a disgrace to all connected with the gardening profession, by simply digging a hole large enough to admit the roots, after which the tree was planted, a look given to see if it was straight to the eye, if so, it was all right. No thought was given about the future, as regards roots or nourishment to support them, but a good crop of fruit was expected the following season. None but the most ignorant would do so; still it is done on a large scale throughout the country.

It stands to reason that if fruit trees are not given a little nourishment to entice fibrous roots, through which fruit buds are formed, they will not make them in tough, clayey soil. My method would be to place some good fibrous loam, clean leaf mould, some inch bones, or rough lime rubble, mixed into a compost, carefully placing the same firmly about the roots, which would both encourage root growth, much finer and shorter jointed wood, instead of long unripened wood, caused by long fibreless roots. The roots of fruit trees are very impatient of too much water, so drainage should be an important matter too. Avoid, if possible, the addition of rank dung for fruit trees when planting, as it only excites them to grow luxuriantly, to imbibe nourishment too strong for their constitution, and ultimately brings on the many forms of disease, which attack fruit trees.

In conclusion, mulching in autumn round the roots is very beneficial to all fruit trees, either standard or wall trees. It encourages the young roots to come to the surface, where they derive some advantage from the rays of the sun acting on the surface, which is the more necessary, to be observed in cold, late situations and where the soil is naturally cold and clayey.—*Walter Hogarth, Norton Gardens, Ratho, Midlothian.*

LAPAGERIAS.

AMONG the many beautiful climbing plants with which we can adorn our greenhouses, there are few which can rival the Lapagerias, and at least one of the two well known varieties, rosea and alba, should be grown in even the smallest collections. The former is the best where one only can be grown. They do best if planted in a border in a mixture of peat and loam, or if grown in pots make splendid objects if trained on a balloon wire. They require plenty of water, but good drainage, as they dislike anything stagnant about their roots. Choose a shady part of the house, as they will not flourish if exposed to the direct rays of the sun. The flowering period extends over several months, but the best display is usually during September and October. They may be increased by layers in the following manner:—Procure a long narrow box, put in good drainage, and fill up with a mixture of peat and sand. Take a piece of half ripened wood, and cut just through the bark at the base of each leaf, and peg down, slightly covering with soil. They will take five or six months to root. The best time is May or June, but they can be successfully rooted at almost any time. They may also be grown from seed, which the plants sometimes produce, and which ripens under ordinary conditions.—*G. Robins, The Gardens, Dudley House, Springrove, Isleworth.*

PRUNING OF ROSES.

THE majority of people do not consider nor do they study the object almed at in pruning. It is painful to see some plants pruned with no more care or thought than if the operator were pruning a hedge—all the shoots cropped over big and little, all alike. The result is, the few strong shoots give a few flowers, probably only wood; the small shoots, a few sickly yellowish leaves. The first object should be to select a few shoots (the number depending upon the size and age of the plant) capable of producing good flowers. These shoots should be well ripened, short-jointed, not too strong, and the nearer the ground (for dwarfs) the better. All the soft prematurely ripened wood, and all the old and weakly shoots, should be cut clean away, leaving only those described. These should be cut back, according to the strength of shoots or variety, as a rule from 4 in. to 12 in.; the stronger they are the longer they should be left. By this method the plants should grow vigorously, flower in profusion, and be kept young and healthy for years. Pruning should be done in March, but if they have been planted late in spring, the tops should be left on to encourage root action. The middle of April is not too late under the circumstances. Keep clean by syringing later on with a mixture of soft soap dissolved in water.—*T. S. Dick, Castlemilk Gardens, Lockerbie.*

SAVING THE RAIN.

MR. PETER KAY, V.M.H., delivered a few remarks on the subject of saving the rain for use in gardens, at the meeting of the Royal Horticultural Society held on September 25th. He opened his remarks by referring to the depths of rainfall in various parts of the world, the amounts which fall in India, Australia, Central Africa, and dealt particularly with the rainfall of the British Isles. In parts of Patagonia it rains every day in the year. In the Sahara Desert and the Desert of Gobi rain scarcely every falls. How necessary rain is to the existence of all conditions of living things, it is not necessary to recount. India has been a glaring example for some years past. But thanks to the works for conserving the rain, which have been undertaken by Col. S. S. Jacobs, there is a probability that the future may hold greater prosperity for India than the past has done. The practice of saving the rain was more in vogue twenty or thirty years ago, but with the increase of glasshouses the labour of pumping and carting the water

about was considered too great. The water companies stepped in and supplied a force of water which was just what the growers wanted. By means of enormous tanks for storing rain water and the power to raise and diffuse this water, Mr. Kay avers that he has saved £600 per annum which he formerly paid to Water Companies for his supply. It must be remembered that Mr. Kay owns thirty-four acres of glass, used for market purposes.

Besides this direct saving, the crops are at the same time benefitted by the rain water. But Mr. Kay mentioned that the laws of hydro-mechanics must be fully understood before any one attempted to help himself in this way. Mr. E. Mawley and others had something to say on the matter.

KEEPING GRAPES THROUGH THE WINTER.

While many are able to keep Grapes till late in spring with soundness of berries, footstalks green, and flavour as good in April and May as they were at the end of the year, others, not few either, have striven to have fruit fit for their employers' table (and some, we know, as extensive growers for market) in first-rate condition late in the season as indicated —but have failed utterly.

It is often remarked that though Grapes are kept late and appearances are all that could be desired, yet by reason of being kept by the wood placed in bottles of water they become flavourless. The cause of these failures, I think, is not from the water or from the methods in other respects of managing them during winter, but from want of proper preparation during the ripening period.

I know some of the most successful Grape growers and exhibitors in the north who complain that they cannot keep their Grapes in such condition as to give satisfaction to anyone, shrivelling of berries, withering of footstalks, and loss of flavour always being in evidence. The error is by not properly ripening the fruit. When black Grapes become finely coloured they are then left as finished. If fire-heat (especially in such a season as this has been for continued damp and absence of sun) has not been judiciously applied, long after the bloom has been put on very nearly perfect, and free admission of air allowed night and day to fill the juices in the berries with sugar, good keeping need not be looked for. Lady Downes is among the first to suffer from this cause; and this variety seems to be the favourite above all others for latest work.

I have seen none, either in possession of fruiterers, on exhibition tables, or in the Grape stores of private gardens, keep so perfectly as this old sort. I have tasted none to equal it, say during April and May. Some are much in favour of Alicante but it is tough in the skin, being of soft flesh and an absence of the brisk, slightly Muscat flavour, which good Lady Downes always possesses, reduces its value. Mrs. Pince is tried as a keeper, but the fine Muscat flavour which is so much in evidence in this sort as late as February is absent in the late spring months, and the skin becomes leathery in substance. An old critic, who believed strongly in his superior knowledge, once called the attention of the writer in terms by no means polite, to what he considered a huge blunder by placing Mrs. Pince second, on an exhibition table, and Lady Downes first. I told him that I was one of the judges, and he had better reserve his epithets on that occasion. Tasting was a crowning method of settling the matter. Greenness of berries at the footstalk was also against Mrs. Pince. Our ancient critic was suddenly struck silent. Gros Colman is often tried as a late keeper, but I never tasted it in April which could be called even passable as to flavour.

For many years I endeavoured to send in the last of our Lady Downes along with new Grapes (Champion Hamburgh, being the first among earlies), some time late in May; and it was always admitted that the rich sugary flavour of the late Grapes surpassed that of the Hamburgh. Over thirty years ago I tabled Lady Downes along with Black Hamburgh at a June show (the latter being first among thirteen exhibits), but it was remarked that for flavour and colour the late kept bunches were superior to the new Grapes. To prove my contention as to the usefulness of Lady Downes, I sent some years ago an example of the latter to an Editor of a leading gardening paper (which by reference I find was on July 13th), and the reply was "That for *colour and flavour*, he (the Editor) had seen or tasted none which equalled these late kept Grapes during that season." Early and thorough ripening are the strong points to be kept in view, while Grapes are under preparation for late keeping. Some keep their Grape rooms too hot and give air in such abundance that shrivelling takes place. About 40° to 45° is always safe, and total darkness should be maintained. I may mention that I could keep Alicante better in England than Lady Downes.—*M. Temple, Carron. Stirlingshire.*

THE ROYAL NURSERIES, SLOUGH.

When on a visit to Slough recently, I took the opportunity of looking round the houses of this well known nursery. The first house we came to was filled with Raspail Improved Zonal Pelargoniums. Their bright red flowers looking exceedingly gay this dull weather, are always acceptable where an abundance of cut flowers is required.

Chrysanthemums.—Several houses are now filled with the Autumn Queen. Two large houses are arranged with Japanese and incurved, forming very pretty groups, containing several hundred plants. Though not show blooms, they are of good colour and shape, with well furnished foliage. All the leading varieties are grown in this collection.

Another house was devoted to decorative varieties, one side of the house arranged with Souv. de P. Amie, being a credit to the grower. They are grown in 8-in. pots, with the foliage hanging down to them, and one mass of flowers. Ivory and Pink Ivory are also two useful sorts for cutting or decorating purposes. Soleil d'Octobre and Harvest Home were getting past their best when these notes were taken; for an early yellow the first-named is unequalled. The late varieties for Christmas and New Year decorations are grown in large numbers at Slough, all of which are in excellent condition, arranged in cool, airy houses.

Carnations are found in all stages; range after range of frames are filled with them. Several span-roofed houses contain well grown plants in various sizes and variety, of which Winter Cheer and Valetta are at present flowering freely.

Many houses are filled with plants of all description for forcing, &c., several being devoted to Azaleas and Ericas, in small pots. Araucaria excelsa is grown in large quantities; also Solanums, which are loaded with their bright scarlet berries. One side of a long greenhouse is filled with Plumbago capensis and its white variety, alba. The blue and white together make a pretty display. These are chiefly in 32's and are flowering freely. In one of the houses is a collection of well grown Bouvardias which will soon be in full beauty. Cyclamen are just beginning to show their flower spikes. The popular Asparagus Sprengerii is grown in all sizes, a vast number being found in this nursery. The same may be said about Ferns. The forcing houses contained Azaleas, Roman Hyacinths, Tuberoses, Liliums and Lilies of the Valley in different stages of growth.

The stoves are filled with well grown plants in small pots of Crotons (chiefly the narrow-leaved varieties), Dracaenas, Cocos weddeliana and Palms, of various heights.

Several houses sre filled with sturdy rooted cuttings of Pelargoniums for sending out, whilst others are arranged with the large trained specimens, for which this nursery is so widely noted.

Primulas, double and single, and Begonia Gloire de Lorraine, in a long span-roofed house, are making a fine show; whilst in frames outside are some hundreds of Violets, in the leading varieties.—*J. Botley, Blythewood Gardens.*

THE FLOWER GARDEN.

Too often the term flower garden implies only that section of it which is represented by the summer flower beds—the formal flower garden as it is more correctly called. But by the flower garden the writer includes the herbaceous borders, rockery and permanent hardy beds as well as the formal or geometric flower garden. There is nothing to do in the latter section of the garden except in touching up the beds, or in keeping them generally respectable and clean.

Rock Garden.—Many rockeries are in course of alteration or formation at this season, and perhaps it will come useful to recall some of the little occupants that should be considered when the time comes for planting, which should be left over till March or April. The Aubrietias can never be too liberally planted. Their violet-blue, rose, or amaranth colours enrich a whole garden and even whole districts. I have enjoyed the sight of a bank of Aubrietias fully half a mile off, the view being across a valley on to a pretty garden sloping to the sun. The best varieties are A. deltoides, A. d. Hendersonii, A. d. William Ingram, A. d. Leichtlini, A. d. olympica, A. d. graeca, A. d. purpurea and A. d. violacea. The variety named Campbellii does not differ from Hendersonii. Young plants should be dibbled into good soil, 4 in. apart, about March.

Along with the Aubrietias, neighbouring beds or clumps or "swatches" of Alyssum saxatile and its sulphury variety, as well as Arabis albida (which is such a good bee flower) may be planted. If it can be arranged to have sheets of these differently coloured plants out of sight of each other, so much the better. Their colours seem to be too directly opposite to please good taste. And now just one sentence of notice to recommend the Bleeding Heart, Dicentra eximia. When planting on the north or west side of a rockery it flowers for months on end. I think it one of the very best of the herbaceous alpines. Another pretty little alpine is Waldsteinia fragarioides, with foliage like a Strawberry plant and flowers like a yellow Potentilla. It is not a handsome plant, but happily does not require to be stately to be loved and admired.

Omphalodes verna is a bright little sparkler, with blue flowers that look like so many innocent eyes that make one ask whether the plant has not a soul behind! Uvularia grandiflora, though it passes rather speedily from the perfect to the faded state, is nevertheless a very gracious plant, whose presence toward the base of the rockery lends a great deal of extra merit. It should be planted in a big clump, and not in a small pocket.

The dwarf alpine Phloxes are also gems of the rockery and can be as liberally planted by owners of small gardens as by those with expansive ones. In their case the rockery pocket is very suitable, and when they are taken good care of, in a year or two they form fine spreading plants.

P. divaricata with its attractive blue flowers is a popular member of most first-class rock gardens. P. pilosa amoena with bright rosy flowers also finds a place; and so do P. subulata (syn. setacea) and its varieties frondosa which is stronger in growth than the species. According to strict botanical definition those alpine Phloxes respectively named Nelsoni, nivalis and aristata are merely varieties from P. subulata. They are distinct, of course, and are offered in nurserymen's catalogues, but it is well always to keep the parent type in view; for our knowledge of plants is thereby simplified and is, at the same time, more reliable and interesting to ourselves and others. Phlox repens (syns. P. crassifolia, P stolonifera) is another of the best of our early flowering little alpines.

In making a selection of other dwarf members, do not overlook the claims that the encrusted Saxifragas have for notice. The mossy species, especially S. hypnoides which also bears the beautiful names of Dovedale Moss or Eve's Cushion, have a charm which one does not find nor expect in the nobler flowering plants. In rain or sunshine this and other species of Mossy Saxifragas have a refreshing variety of changing colour and much attractiveness of form.

Gentiana acaulis and G. verna, the smaller species are known to all. Then there are the Epimediums of which E. musschianum, E. macranthum and others are species with very beautiful foliage, this being their chief feature of merit.

The Edelweiss should certainly not be forgotten; Christmas Roses can find a corner, and a pretty large one I would make it. The Heucheras, especially H. sanguinea, are all popular rock garden plants, though some of them should be planted in the rougher parts rather than the more prominent places.

Houstonia caerulea, various dwarf Irises, Liatris pycnostachya, Linarias, Lippia repens, Primulas and Pinks, Globe flowers and Ranunculuses, Heleniums and Spiraeas, Sea Lavender, Catchflies, Centranthus ruber, Lungwort, Lithospermum prostratum, Rock and Sun Roses, Meadow Rue, Aquilegias, Foam Flower, Wood Lilies, Torch Lilies, Day Lilies and other vigorous kinds of Lily are all choice. Do not forget to plant a number of shrubs, for these yield shelter and are one of the best features of the rockery.—*J. H. D.*

HINTS FOR AMATEURS.

Chrysanthemum Cuttings.—Now that the Chrysanthemum plants are cut down and are drafting their strength to the suckers, active preparations will be necessary to prepare for the cuttings. All know to select only the stoutest and plumpest of these cuttings. Shallow boxes and a light quality of soil should be chosen. Old Chrysanthemum soil having a percentage of fresh leaf soil and sand may be got ready. A few sifted cinders should cover the bottoms of the boxes (which need not be more than 1½ in. to 2 in. deep), and over the cinders place a layer of some fibrous matter. Make the soil moderately firm, then insert the cuttings. These must be prepared with care before being put in. A good cutting should have a firm heel or knob of older wood at the base, though this is happily not absolutely necessary. A clean, sharp, transverse cut should be made below a joint, and one or two of the leaves may require to be removed. The cuttings should be set in 1½ in. apart either way, and ought to be watered with tepid water. Place these shallow boxes inside other larger boxes, and cover the latter over with pieces of glass. The cuttings should be within a few inches of the glass. To keep the glass dry is a very necessary item in the operations connected with striking cuttings. The moisture from the leaves condenses on the glass, which again lets the moisture fall in the form of drips, that will ruin any box of cuttings. Turn the glass twice a day at least, wiping it while doing so. I like to use just a slight amount of bottom heat, as this has been found to insure more ready striking than if the boxes are simply placed upon a cool stage. The amount needed is very little, and if the large box is placed on a wooden stage just over the hot-water pipes quite enough of heat will ascend. Whenever the cuttings are rooted, which will be in three weeks or a month, they should be carefully lifted to be potted into 2-in. pots. A suitable temperature for the Chrysanthemum cutting pits or cases ranges from 55° to 60°.

Hydrangeas.—These popular plants may now have a little more freedom since the Chrysanthemums are gone. Pretty blue trusses of the Hydrangea hortensis are now on sale in the markets, and will continue to come in till Easter and so on till the outdoor plants in favoured situations begin to bloom. Young plants grown as single stemmed specimens may require to be potted on, and large specimens for tubs should also be given ample accommodation. These will come in useful for lawn decoration. A greenhouse temperature with as good a position in the matter of light as can be given will suit them admirably.

Schizanthus in pots should at this stage be on the greenhouse or other cool-house shelves. Their culture is of the very simplest, the chief essentials to be remembered being to ensure sturdiness and robustness in the plants, for long weakly shoots will not provide good flowering stems. The plants may be potted into 5-in. pots; a few may be pinched and confined to the smaller sized pots to be used as edge plants. When those in the larger pots have grown a little more they must be loosely staked. The Schizanthus provides a beautiful and useful subject for the conservatory during February, March, April, and May.

Zonals are having a season to their liking, and the gardener who has a goodly batch of these gay plants cannot be badly off for cut flowers. They will be benefitted by frequent supplies of weak liquid manure. Maintain a temperature of 55° to 65°, the latter being the maximum day temperature. Cyclamens may occupy the same house, and will flower freely if similarly treated. The young Zonals in small pots should be kept slowly moving on. If they are grown hard the dullness and perhaps dampness will have no effect upon them whatever.

Tree and Malmaison Carnations at this time are practically dormant. They do not require much attention so far as watering goes, but they should be immersed or sprayed occasionally with a solution of Gishurst Compound in warm water containing a quantity of dissolved soft soap. This tends largely to check the working of any fungus whose presence gives occasion to disease. Weak solutions of Bordeaux Mixture are also recommended, and a rose-red solution of permanganate of potassium has good results when sprayed. A pinch of sulphate of iron to the water, which is applied to the roots, strengthens the foliage.

Begonias.—The winter flowering section is yearly being increased, and the latest introductions are among the best we have. The double flowered forms that Messrs. Veitch have just sent out are very floriferous, bushy, and bright. They are propagated from cuttings and make fine plants in a very short while. Plants of Gloire de Lorraine, that may be going off after having seen service in dwelling-houses, can either be slightly pinched and restarted; or they can be gradually rested so as to get a batch of stout, early cuttings.

Show Pelargoniums.—These, for a little while yet, should be maintained dry. They can be shaken out and started in heat about the middle of February. Young plants in 4-in. pots should have a warmer temperature than is accorded to the Zonals.

Hard-wooded Plants.—The conservatory hard-wooded plants, including Boroonias, Azaleas, Aotus gracillima, Cytisus, Acacias and Ericas should be kept cool. Many of the Ericas, indeed, are now among the brightest ornaments of the house at this time.

Forcing Plants, which include the numerous list of bulbous plants, Ghent Azaleas and Azalea mollis, Staphylea colchica, Prunus sinensis, Spiraea confusa, Itea virginica and other things should be placed in gentle heat to start with, which may be increased after a week. The Tulips, Roman Hyacinths, Freesias and Snowdrops may be placed in a temperature of 65° straight away. Narcissi of many sorts will flower early if introduced to gentle heat after the pots are full of roots.

The Blue Marguerite (Agathea coelistis) may soon be had in flower. It is one of the prettiest little flowering plants of the year. Plants in 4-in. pots may be placed on the shelves situated in an intermediate house. Successive batches may be kept up till May.

Phrynium variegatum is a stove plant that has come to be grown in even the smallest collections. At the present time and onward for a while yet, it should be kept dry or almost dry so as to rest it. A cooler temperature may at the same time be given. A house suited for Dendrobium nobile during winter, will also answer for the variegated Phrynium. The Dendrobiums, by the way, should receive no water, or, at most, only enough to keep the pseudo-bulbs plump. Other cool house Orchids should be most carefully watered.

While writing of the Phrynium, other popular decorative warm house plants such as Dracaena godseffiana, Aralia gracillima, Marantas, Dieffenbachias, Acalyphas, Panax Victoriae and others of a like nature, should all be "rested" during these shorts days and long dark weeks. Rested is merely a relative term, and implies that no stimulants, and only a moderate supply of water should be given to them. The temperature of the house should be steady, but need not rise higher than 65° by day, and from 5° to 6° lower by night.

After the middle of January a new activity seems to start. They may then be re-potted or top-dressed, as the case may be, and gradually encouraged to make new growth. Cuttings of most of these should be taken about that time too, but nice shapely plants ought not to be spoilt. If they have become too large, skilful pruning can set them right, but small or medium-sized specimens should certainly be left untouched.

Tomatos.—The earliest sowing of Tomatos is usually made about the middle of January in the larger class of gardens. The seeds at least should be ordered at an early date. Plants for placing out-of-doors about the 15th of May should be sown toward the end of February. They should be grown under exceedingly cool conditions, so that plants with a firmly-knit structure may develop.

Early Sowings of Carrots, Turnips, Onions and various vegetables for use when small or for spring planting will be made early in January, so that the season's seeds and requisites must be settled upon and secured. The turn of the New Year finds the gardener exceedingly busy with all his preparations for spring and summer display. Boxes, frames, houses, manure for hot-beds, composts for seeds, cuttings, plants and protective material for the outdoor early sowings and plantings must all be considered. There is such a "choke" to find space and the best place for everything just after the New Year, that only he who makes preparation before hand is likely to find the necessary space and conveniences. —*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Market Varieties of Chrysanthemums.—*S. G.*: Practically any variety that is a free producer of blooms, cuts well, is showy and has lasting qualities, furnishes a good market variety of Chrysanthemum. In Covent Garden we find many of the now old-fashioned varieties such as Val d'Andorre, Le Rhone, Lord Brooke and Mons. William Holmes are very popular. These then may be included. Mdme. C. Desgranges, Mons. Dupuis, Harvest Home, Mdme. Marie Masse, Lady Fitzwygram and Souv. de Mdlle. Menerè are good as early sorts. For mid-season W. H. Lincoln, Souv. d'Une Petite Amie, Mr. Bunn, Source d'Or, Crimson Source d'Or, Lady Selborne and Margot; and for later work use Golden Wreath, Niveus, Mrs. J. H. White, Mdlle. Lacroix, Chas. Davis and Viviand Morel. There are numerous singles that come in late and have all the qualities of good market flowers, yet they are not much grown.

Early Flowering Chrysanthemums.—*S. G.*: The following are early flowering varieties suitable for pot work and those with an asterisk (*) will flower out of doors. Barbara Forbes, Harvest Home*, Henri Yvon, Lady Fitzwygram*, Mdme. C. Desgranges*, Mrs. J. R. Pilcher, M. George Menier, M. G. Grunnerwald, Market White*, Mytchett White*, Pride of Mytchett*, Profusion*, Roi de Precoces*, Ryecroft Glory and White Quintus.

Antirrhinums for Transplanting.—*A. Robertson*: It would be better to wait till March before transplanting the Antirrhinums. Though the season is mild, the warmth has greatly depreciated in the soil and to transplant such as Antirrhinums would be to run risks for no good. In another season you should scatter seeds all over the surface of the bank and among the rocks. These will germinate and stand well through the winter.

Peaches for Outdoors.—*M. R.*: In very few cases are Peach trees successful as bush trees in the open air. When they are grown out of doors they are generally given the sunniest and best wall possible. The borders should be specially prepared, and prepared too, with pains. The following do well in favoured conditions and under proper treatment:—Royal George, Early Alexander, Hale's Early, Bellegarde, Barrington and Sea Eagle.

How to Supply Potash.—*R. Morgan*: Your adviser had not probably studied agricultural chemistry else he should have known that wood ashes *do* furnish potash. Wood ashes and burnt refuse together with soot, lime and muck are all valuable for nourishing fruit trees. What has been tried and proved successful by men who have gone gray and have had undoubted results from their practice is not to be put aside by such persons as those you refer to. Be judicial by all means, but at the same time understand that only good crops of good Apples, &c., can be expected when the trees are well nourished and kept in good condition. When fruit trees are well nourished and receive sunshine they will furnish splendidly coloured fruits. Nitrate of potash, or perhaps better, sulphate of potash, could be applied and would act quicker than potash from wood ashes. The sulphate could be applied at the rate of 1½ lb. per rod. Sulphate of iron at the same rate is also recommended.

Diseased Tulips.—*Market Grower*: Unfortunately, there is no cure for your Tulips now that the disease is in vigour. The conidial form of the fungus (Botyrtis cinerea) must have attacked the leaves and stems of the Tulips last year. At the end of the vegetative season of the Tulip the mycelium of the fungus passes into the tissues of the host plant and forms resting bodies called sclerotia These become active whenever the Tulips start growth in spring, and it is their influence that causes the present rotting.

BEGONIA GLOIRE DE LORRAINE.

Some five photographs of this most popular plant have reached us from different growers in widely separated localities, showing that gardeners have now certainly mastered its cultivation, and are in-

F. T. Blackburn.] [Budleigh Salterton.

Begonia Gloire de Lorraine at Bicton.

different to climate, seeing that they can produce one to suit their requirements under glass at least.

Mr. James Mayne, gardener to the Hon. Mark Rolle, Bicton, Budleigh Salterton, Devon, kindly sends, at our request, some particulars of the plants grown by him, a group of six of which is represented in the accompanying photograph. The single specimen, of which a photograph was sent, measured 27 in. through, any way the rule might have been placed, and was grown in a 6 in. pot, as were all the others. One of the group measured 29 in., but was not quite so well flowered as the single plant This one was put in as a cutting on April 17th of this year. He grew on a few plants of last year, but though a trifle larger, they had not flowered so freely; neither does the foliage present the same rich dark green hue.

The plants should be cut down when past their best, putting in the cuttings at intervals when ready. This will help to continue the floral display through the autumn and winter. Those at Bicton have been gay since the last week in October, when Mr. Mayne took half a dozen to the Chrysanthemum show at Exmouth. If the thrips, or sometimes so-called rust should attack them, dip the plants in a strong solution of sulphur and soft soap made fairly thick.

Mr. Mayne also has a batch in $4\frac{3}{4}$-in. pots, but they are not so fine as those in 6-in. pots, here reproduced. The photographs from Bicton and Broughty Ferry, respectively, do not show the relative sizes of the plants, as the group is on a much smaller scale than the single plant. A fair idea may be gleaned from the fact that the centre plant at the back of Mr. Mayne's group stands against and nearly fills up the doorway, which is 2 ft. 8 in. in the clear. The plants, too, are differently trained, those from Bicton being bushy and round headed, the big plant just mentioned being 29 in. either way. We believe this plant to be the champion of the lot, on account of its bulk, as it spreads in all directions. The specimen from Broughty Ferry is trained pyramidally, so that the measurements would refer to the height and the width at the base. We leave our correspondent to give his own description of the plants at Broughty Ferry, as he has seen them. The growers in either case may be classed in the first order of cultivators.

Mr. A. V. Main, The Gardens, Coltness, Wishaw, also sends a photograph representing a houseful of Begonia Gloire de Lorraine, which must have been fine, but it gives no conception of single plants. It shows a great profusion of bloom, filling one side of a house.

Begonia Gloire de Lorraine at Broughty Ferry.

I have sent by this same post photos of Begonia Gloire de Lorraine, which were awarded first prize at the Dundee Chrysanthemum Show recently. The plants were grown by David Ireland, Esq., 2, Douglas Terrace, Broughty Ferry, and the photos were specially prepared by him for The Gardening World, that is to say, if you considered them worth reproducing on some of its pages. The plants are grown in 6-in. pots, are about $2\frac{1}{2}$ ft. in height, and about the same in diameter, and are splendid examples of good cultivation. In fact, I have not seen finer specimens shown anywhere this season, and to see a house mostly filled with similar specimens during the dull month of December, as I did the other day, was a sight not easily forgotten, and certainly reflected the greatest credit on the gardener, Mr. L. S. Reid.—*J. M., C.*

ON FRAGRANT TREES AND PLANTS.

(Continued from p. 266)

In Modern Times.

You may wonder what association the picture now exhibited has with our subject. I will explain why it seemed to me to be very appropriate. It represents the scattering of sweet flowers in the procession of the Crowned Head on Coronation Day. The occasion is that of King George IV. The figure in front is the king's herb woman; the others are the fair maidens of well-known families, whose names are duly recorded in the original painting. I am enabled to show you this pretty illustration through the kindness of Mr. Welch, the librarian at the Guildhall.

I will now show you a series of pictures, representing the fragrant trees and flowers of to-day—some as cultivated in our glass-houses or gardens for ornament, others as grown in their natural habitats, either for their beauty or commercial value.

You will notice the list is arranged in alphabetical order, according to botanical nomenclature; but I shall not bore you more than can be helped with these scientific names. The first that claims our attention is—

Aesculus Hippocastanum (Horse Chestnut).—Everyone knows this handsome tree, so largely grown in our parks and gardens. Our illustration

represents the splendid avenue at Bushey Park, visited by thousands during the months of May and June. I had the photograph taken this summer.

AGLAIA ODORATA.—A shrubby Asiatic tree, with golden flowers, which are very fragrant when dried, and used in China for scenting Tea and in the composition of the joss stick, a kind of incense used in religious ceremonies in that country. A sample lies on the table.

ALOYSIA CITRIODORA (Sweet-scented Verbena).—A specimen of this popular conservatory plant will be found on the table. In warmer climates it is used for forming hedges.

ANTHOXANTHUM ODORATUM (Sweet Vernal Grass).—This is the grass beyond all others that gives the delightful odour to hay. There is a bunch of it on the table.

BALSAMODENDRON MYRRHA (Myrrh).—A resinous gum, often used in association with Frankincense. A sample is shown on the table.

BEAUMONTIA GRANDIFLORA.—A beautiful sub-tropical shrub, with climbing tendency. Our illustration represents it on a trellis in Queensland. We grow it in our hot-houses here.

BOSWELLIA.—Under this botanical name are known the genera of trees that produce the resinous gum called Frankincense. The real source of this commodity, the special incense of the ancients, was for long a matter of doubt, and the uncertainty was never satisfactorily cleared up until taken in hand some years ago by our distinguished chairman, Sir George Birdwood, who, in an exhaustive paper, read before the Linnaean Society, most effectually settled a controversy of long standing. Sir George traced the origin of this family of trees to some islands in the southern confines of the Red Sea, mostly on the Arabian side.

The offering of incense on altars and in cups and closed censers has been freely represented in paintings, and in sculpture on the monuments of Egypt and Assyria, whilst in later times the Greek and Roman Churches retain its use in their ceremonies. In India it takes an important part in the funeral rites of a wealthy, high-caste Hindoo.

Sir George is of opinion that the use of these sweet odours in religious rites originated in sanitary precautions. They not only mask obnoxious smells but correct them, and they wonderfully refresh the spirits in crowded places.

I am able to illustrate the different species of Boswellias as named and classified by Sir George, and also to show you two pictures illustrating the crude methods employed in collecting the juice from trees in olden times. No. 2 represents the methods employed in olden days in collecting Galbanum from a species of Fennel, in Persia. This gum is also used in incense.

BRUGMANSIA SUAVEOLENS.—A tree in the tropics, but with us it is grown as a conservatory plant. Its enormous trumpet-shaped flowers are very beautiful. Here is an illustration.

CAMPHORA OFFICINARUM (Camphor).—This Eastern tree is one of those from which camphor is obtained. The product consists of crystals condensed in the vapour arising from the distilled wood. The industry has long been a large one in China, Japan and Ceylon. Our illustration portrays a tree in Ceylon, and some of the crystals will be found on the table.

CERASUS (Cherry).

CEREUS GRANDIFLORUS (Night-flowering Cactus).—This is one of the flowers that seems to reverse the common principle under which plants rest, and open their blossoms to the darkness of the night. They mostly agree in the fragrance which they emit. In colour they are usually white, or of some neutral tint, that seems to lack the influence of the sunshine.

The odour of night blooming plants is often intermittent. This Cactus is fragrant only at intervals, but these sudden bursts are exceedingly powerful, and it would seem that when absorbing the sunshine the strongest breath is reserved for a less delightful hour.

CHRYSANTHEMUM SINENSE.—I mention this because of the exhibits here this evening. The leaves of many varieties when bruised give off a peculiar aromatic smell. One of the great feasts in Japan is held in honour of this plant, which is also the emblem and badge of the Mikado.

CINNAMOMUM ZEYLANICUM (Laurus Cinnamomum).—The Cinnamon is largely grown in Ceylon, and in many other British tropical possessions, for its bark. The flowers have a very powerful perfume, and the subtle fragrance wafted from the Cinnamon gardens right out to sea is readily detected long before a ship is near land. All parts are fragrant; even the fruit, if boiled, yields a wax-like substance, used for making candles. These emit an agreeable odour, and are reserved exclusively for use in the establishments of the native princes. Our illustration represents the natives stripping the bark and preparing it for the market.

CISTUS (Rock Rose).—In their native countries, in the south of Spain and the islands of the Mediterranean, the Cistus is one of the most lovely objects that Nature has planted in the woods, rocks and other locations which the plants inhabit. A resinous substance exudes from the leaves of one species; this adheres to the hair of the goats that browse around, and by such means it is collected and sold commercially. A plant is exhibited

CITRUS.—Under the botanical name of Citrus we have the beautiful tribe of fruiting shrubby trees, covering the Orange, Lemon, Citron and Lime fruit, most of which possess fragrant properties well known.

The Orange family were originally natives of the warmer parts of Asia, but now have become naturalised in all sub-tropical countries. It is curious to observe that a healthy tree carries every stage of production, from the flower bud to the ripe fruit. Our illustrations represent a grove in the south of France, where the dainty blossoms are being gathered, and a plant in fruit, as grown under glass in this country, stands on the table.

CUCUMIS MELO.—The Melon is largely grown in our hot-houses, and produces one of the richest fruits brought to table. In warm countries they are grown in the open air, and reach an enormous size. Our illustration give a good idea of a field-crop of the Musk Melon in Central America.

DIANTHUS CARYOPHYLLUS (Carnation, Pink and Picotee).

EUCALYPTUS.—Giant trees of Australia, where they are known as gum trees. The leaves of most species are of leathery texture and the flowers insignificant. E. Globulus is called the fever gum tree from its power to correct malaria through the balsamic emanations from its leaves. In this country they are mostly grown in pots as greenhouse plants, although I have seen them flourishing out-of-doors in Devonshire. Our illustration gives a good idea of the enormous proportions reached in their native habitats in the Antipodes. Plants of two species are exhibited.

EUCHARIS AMAZONICA.

FREESIA.

GARDENIA RADICANS.—A Chinese shrub, well known for its double sweet-scented white flowers, which are in great request for personal decoration and wedding bouquets.

HELIOTROPIUM (Heliotrope, Cherry Pie).

HIBISCUS ABELMOSCHUS (Mallow).—An Indian shrub with large seeds that possess a strong musky odour.

HUMEA ELEGANS.—A plant of this uncommon half-hardy biennial is exhibited.

HYACINTHUS (Hyacinth).—A well known spring flower. Our illustration represents a splendid stretch of bloom that can be seen every year in Hyde Park between the Marble Arch and Hyde Park Corner. Similar displays are also made in Regent's Park, Battersea Park, Victoria Park and in all the smaller open spaces throughout London, whilst its cultivation for conservatory decoration extends in every direction.

IRIS.—A very pretty tribe of flowering plants, found in the swampy parts of all temperate climates. The Orris Root of commerce, used in making violet powder, is derived from one species. Our illustration depicts a scene in Japan, which must have been very lovely, and a sample of the Orris Root is also exhibited.

JASMINUM NUDIFLORUM.—Everyone knows the scent of Jasmine, a shrub that lavishes upon us an abundant harvest of flowers, which perfume, refresh and purify the surroundings. Here is a beautiful picture of a field crop at Grasse, grown for the purposes of scent extraction.

LATHYRUS ODORATUS (Sweet Peas.)—These are deservedly popular annuals. Our illustration depicts the great exhibition held at the Crystal Palace last summer. Here is also a field upon Messrs. Carters' seed farm.

LAVENDULA (Sweet Lavender).—A shrubby plant, cultivated for the valuable essence extracted from its flowers. In the neighbourhood of Croydon, Mitcham, Hitchin and Canterbury, many acres are under cultivation. Our illustration is from a photograph taken last summer upon Miss Sprule's Lavender farm at Wallington.

LAWSONIA INERMIS (Henna).—An Eastern shrubby tree that has been cultivated for ages. The flowers are remarkably fragrant, either fresh or dry, and their influence is most grateful at a distance. The leaves are mixed with dyes into an unctuous compound, and used as a cosmetic by women in India for producing a bright orange hue to the nails and skin. This practice has descended from very remote ages, as proved by the evidence of the Egyptian mummies. Samples of the leaves are shown on the table.

LILIUM.—The Lily is known in all gardens and is one of the most beautiful of plants both in appearance and fragrance. In species and varieties they are innumerable. My illustrations will show you the scenes when grown in large areas. The first is a field of the White Easter Lily growing in Bermuda. No. 2 is a plantation of Lilium longiflorum in Japan. No. 3 shows a magnificent head of bloom of the Golden Rayed Lily of Japan, which comprised nearly two hundred blossoms. The fragrance of this Lily is very powerful, particularly towards evening.

LIQUIDAMBAR.—The chief source of Rose Mallows or incense oil of commerce.

LONICERA (Honeysuckle).—You all know this popular hardy plant, both in the garden and hedgerows.

MAGNOLIA.—A family of noble trees and shrubs found in almost all countries. Our illustration shows an avenue of M. grandiflora in Rochester, U.S.A. The perfume from the blossoms is so powerful that the air is frequently charged for miles.

MELILOTUS ALBA (Bokhara Clover).—A tree-like Clover with leaves smelling of new-mown hay. The seed also bears the same fragrant properties.

MYRTUS COMMUNIS.—The shrubby Myrtle has always been held in high esteem, both for the elegance and fragrance of its shining leaves and white feathery flowers. With the Greeks and Romans it was an emblem of authority and largely employed in forming the crowns of the victors. At the present time in this country it is sought after for decorating bridal bouquets.

Some of you have no doubt read the story of the Roman artist, Pausias, who thought his wife Glycera so clever at making Myrtle and Bay wreaths that he induced her to sit for a painting. Here is an illustration that depicts the scene.

I will now show you a Roman feast. These crowns, I may tell you, were also made of Bay leaves, and were not only worn for pleasure but from a notion that their odours in permeating the atmosphere prevented the wine from having an intoxicating effect.

(*To be continued.*)

AGE OF YEW TREES.

IN a very interesting and instructive paper, read at the last meeting of the Croydon Gardeners' Mutual Improvement Society, Dr. Brook Ridley, gave a pretty safe guide for ascertaining the age of any Yew tree. Measure the diameter and for every foot of its diameter allow seventy-five years. Thus if a tree was three feet in diameter, its age would be 225 years. Now if all Yew trees grew at one uniform rate, and this from official records was found to be correct, the finding the approximate age of any Yew tree would be a simple matter. Now the rate of growth of Yews like other trees is largely influenced by soil and situation; and although at first sight any two Yew trees as respects their foliage and general appearance may not differ very much, they may even be growing side by side yet not at the same ratio. Although so much alike it is comparatively easy to detect seedling variations in them, which sometimes to a greater degree than many suspect influence the development of the tree. So I take it that no hard and fast rule of the kind can be laid down. It would be very interesting if the real history of many of our old trees could be ascertained. There would be good matter for a very interesting volume on the subject.—*W.B.G.*

TRANSATLANTIC "LINERS."

FOLIAGE effects are being aimed at this season in several of the Chicago parks. In Lincoln Park groups have been set out of Birch, Golden Ash, Mountain Ash, and Maples, while vistas are being opened up among older, denser trees and shrubs. A large bed has been arranged in a colour scheme of dwarf foliage shrubs, which promises to be very telling soon. By-the-bye, one of the most effective schemes I remember was Clematis grown as pyramids on lawns. The effect was exceedingly good.

The "lady landscape gardener" at Lincoln Park has been let out, she says, owing to politics. The newspapers say she is independent of the "paltry" salary of 100 dollars a month, and I have no doubt that plenty male artists are not so lofty in their ideas as to profess devotion to art as their sole reason for holding down a fairly good job. I suppose she drew the "contemptible" sum regularly just the same.

A curious advertisement from Kentucky offers for sale, of all things in the world, the "bowels of the earth, containing coal, iron, copper, and fine building stone." Peaches were a very fine crop, and extra fine specimens sold for a dollar a bushel, as fine as you could wish to see, freestones. A man the other day had to cut down his entire orchard on account of "yellows" appearing on his trees. There are great vicissitudes in the Peach grower's life. He is most of his time, like Mahomet's coffin, between heaven and earth, and mostly lands down with a dull thud.—*C Macquarie, Chicago.*

PLANTS RECENTLY CERTIFICATED.

THE awards hereunder mentioned were made by the Royal Horticultural Society on the 18th inst.:—

Orchid Committee.

LAELIA MRS. M. GRATRIX GRANDIS.—This striking hybrid was obtained from L. cinnabarina crossed with the pollen of L. digbyana. The sepals and petals are lanceolate, acuminate, 2½ in. long, and light orange in colour. The three-lobed lip is erect, with triangular side lobes, and a subcordate terminal lobe, all being soft yellow and the three lobes deeply fringed. The lip has been largely influenced by the male parent. (First-class Certificate.) Messrs. J. Veitch & Sons, Ltd, Chelsea.

LAELIOCATTLEYA CASSIOPE MAJOR.—The derivation of this was Laelia pumila × Laeliocattleya exoniensis (male). The sepals and broad, roundly-ovate petals are soft lilac. The lip has a lilac tube and rich purple lamina, while the throat is lined with crimson and orange. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

CATTLEYA DOWIANA ROSITA.—The sepals of this bold and handsome variety are creamy, mottled and shaded pink. The petals, on the contrary, are rich purple, fading to cream in the centre and base. The lip is of huge size, crimson and lined with gold on the lower half. (First-class Certificate.) M. Charles Maron, Brunoy, France.

LAELIOCATTLEYA LUCASIANA.—The parents of this bigeneric hybrid were Cattleya labiata flammea × Laelia grandis tenebrosa (male). The sepals are purple, and the petals of a much deeper hue; while the lip is dark purple, overlaid with crimson. (Award of Merit.) J. Hubert Grogan, Esq., Worthing.

NEOBENTHAMIA GRACILIS.—The long spikes of this species bear numerous small white flowers, with an orange blotch spotted purple on the lip, and aggregated in a dense raceme at the apex.

Floral Committee.

COLEUS THYRSOIDEUS.—The leaves of this species are broadly ovate or subcordate; while the bright blue flowers are borne in verticels at the top forming a narrowly pyramidal thyrse. At a short distance away the plant resembles a blue Salvia. It makes a showy subject for winter-flowering in a warm conservatory and will be valued for its bright blue flowers. (Award of Merit.) Messrs. F. Sander & Co., St. Albans; and Messrs. J. Veitch & Sons, Ltd.

CHRYSANTHEMUM JESSICA.—This Japanese variety comes from America and will be prized as a decorative variety for winter flowering. The flowers are of the purest white and very handsome when grown in bush form for decorative work. The outer florets are spreading, and have a long tube with a short lamina. All the inner florets have a longer lamina, incurved at the tips. (Award of Merit.) Lord Aldenham (gardener, Mr. E. Beckett), Aldenham House, Elstree.

Fruit and Vegetable Committee.

POTATO DUMFRIES MODEL.—The tubers of this variety are variable in form, but the best shape is roundish, and considerably flattened. The skin is white and slightly rough. (Award of Merit. Messrs. Kerr Brothers, Dumfries.

CELERY IVERY'S PINK AND VEITCH'S ROSE come into the group of red varieties, the colour in this case being pale when well blanched. The sticks are solid and of good quality. These, like the others mentioned below, have been tried at Chiswick and considered worthy of an Award of Merit by the committee. Messrs. J. Veitch & Sons, Ltd.

CELERY STANDARD BEARER (large, solid, red, good for exhibition), COVENT GARDEN RED and BIBBY'S DEFIANCE, were also singled out for an Award of Merit. Messrs. Watkins & Simpson, Exeter Street, Strand, London.

CELERY CHAMPION SOLID WHITE produces solid sticks of clean and good appearance. (Award of Merit.) Messrs. Barr & Sons, King Street, Covent Garden, London.

CHRISTMAS FLOWERS AT CHELSEA.

DURING a succession of years it has been our privilege to pay a pre-Christmas call at Messrs. J. Veitch & Sons' Royal Exotic Nursery, off the King's Road, Chelsea. This nursery of six acres, the greater part of which is covered with span-roofed pits and houses, has been the habitation of floral and plant novelties from times now long past, and to-day every up-to-date gardener turns to Chelsea as one of the most fertile centres of plant evolution—if I may put it thus.

It is here that the Messrs. Veitch's foremen have carried through some of those most wonderful processes of selection, hybridising and seed raising with Orchids, Phyllocacti, Rhododendrons, Nepenthes, Begonias, Ferns and many others of the choicest exotic plants. It is satisfactory to know that the labours of the practial experimentalists and cultivators have not been unappreciated nor unhonoured.

Cleanliness is one of the living watchwords in the cultural routine at Chelsea, and after a short acquaintance one understands how methodically strict each several duty is enforced. This is vital, where perfection is aimed at.

Many of the stages at the present time are filled with potfuls of flower and vegetable seeds that are being grown for test purposes. The date on which the seeds were sown, and the number of seeds sown in each pot is written on the labels. When the seeds have germinated, the seedlings are counted, and thus a percentage is struck, and full particulars are entered into books kept for the purpose.

ORCHIDS.

This is not the season to expect luxuriance in what one may term the classical houses of a nursery or garden, viz., the Orchid ranges. And, truth to tell, the darkness of these abrupt December afternoons covered in on us before we had penetrated through one long range of the charge directed by Mr. Harris, who succeeds so well with the Chelsea Orchids. There was time to see and admire some very handsome Cypripediums in flower, namely, C. Prospero, with its bold flowers, having a broad erect standard, much enlivened with white and chastened with that uncommon vaseline and syrup colour. C. Actaeus superbum is a compeer to the foregoing, as is the better known C. Euryades. The plants bearing the blooms were in 4-in. pots, though the bulk of the stock has yet to flower. Other admirable Cypripediums to be seen were C. Leonidas, C. Morganiae, C. oenanthum, C. arthurianum pulchellum, C. leeanum superbum, C. Niobae, C. langleyense and many others. Laelia lindleyana furnished a few good flowers, and Laeliocattleya Cassiope major was also very strong. The numerous forms and varieties of Odontoglossum crispum were resplendent in one of the cool houses. But to do the Orchids justice a visit will have to be made at another time when the days are getting longer and the flowers can be better seen in their wealth of colour.

OTHER FLOWERS.

Few of the forced bulbs are as yet forward, save Roman Hyacinths and some Narcissi. The new Coleus thyrsoides, with long blue racemes, was represented by a number of fine plants. The leaves are very much like those of the Stinging Nettle, though paler. Begonia Gloire de Lorraine was evident, of course; and B. haageana furnished some large specimen plants, with long and strong inflorescences very suitable for cutting. Amasonia punicea was in bloom with its numerous floriferous shoots, bearing the vermilion-scarlet flowers somewhat resembling those of the Honeysuckle. This is a splendid winter-flowering, warm-house plant. Torenias were also in bloom. Daedalacanthus (Eranthemum) nervosus, another plant with sky-blue flowers, is among the better known members of the stove. Clerodendron fragrans fl. pl., with its soft blush-coloured flower heads, was another of the stove occupants deserving attention. Tillandsias in various stages of growth were evident, while some were in flower.

The Rhododendron house with its race of Javanico-jasminiflorum hybrids, can furnish flowers from one year's end to the other. Rhododendrons cannot be pinched and pruned as caprice inclines one, but for all that they are indispensable for warm greenhouse decoration. It is about forty years ago since operations with R. jasminiflorum and an allied species were begun. R. jasminiflorum itself is white and the other species used for the first cross was orange. The result of the fertilisation came forth as a beautiful pink seedling, showing most clearly the effect of the white and the yellow confluence.

Other crosses gave further distinct colours till there were the varieties R.lutea, R.roseum, R.luteo-roseum, and others whose names denote their hues. The list of improved sorts is being yearly augmented, but to appreciate their full charms and value the grower would require to see them in growth. A new departure has been made and now there are the double flowered varieties—the balsaminaeflorum strains, so that progress is being maintained.

Among greenhouse plants in flower were Erica hyemalis, E. h. alba, E. gracilis autumnalis. The Indian Azaleas suitable for early flowering are grown in quantity, most of them being in 6-in. pots. The three earliest varieties in flower were the old Deutsche Perle, Mdme. van den Cruyssen, and Sigismund Rucker. These represent three of the best for early work. The sweetly fragrant Daphne indica alba in pots, was also in season. Richardia aethopica was in flower, and the last of the Chrysanthemums—W. H. Lincoln, L. Canning, Mrs. Barkley, &c.—furnished useful bush plants. L. Canning is a dwarf, pure white variety having a neat and bushy habit. Marguerities from summer cuttings had developed to nice bushy plants; while Cyclamen and Bouvardias each were shown in large and excellent batches. The blooms of the Cyclamen were especially large and handsome. The Bouvardias were extremely well flowered, and absolutely free from pests. Reinwardtia trigyna, one of the best dwarf yellow flowering plants to be had at this time, bore flowers of a rich orange-gold colour; but Reinwardtia tetragyna, which closely resembles it, does not succeed so well at Chelsea. The flowers of the latter are much paler in colour than are those of the foregoing, and the plant in general is more shrubby.

Then there is the new winter flowering race of Begonias which have lately attracted the attention that is their due. They cannot help becoming general favourites for they have all the qualities that the growers want. They are bushy and dwarf, exceedingly free flowering, brightly coloured and seem to be able to stand a good deal of knocking about. Some of the plants that have been shown at the Drill Hall on the last three occasions have undergone the railway journey from Feltham each time, distant about sixteen miles; and they seem little the worse. As the hybrids are the result of crossing the late tuberous varieties with B. socotrana they combine the taller and more graceful habit and characteristics of the latter with the size and showiness of the tuberous Begonias. B. Mrs. Heal was the first of the hybrids to appear, and later there are B. Ensign, John Heal, Adonis, Winter Cheer, Venus, and others. All are distinct when compared, and though Mrs. Heal, Winter Cheer, and Venus are the best so far, yet one could not do wrong to select any of the varieties.

DECORATIVE PLANTS.

The collection of Anthuriums contains some good seedlings judging from a stray spathe or two already open; Alocasias, Dieffanbachias, Dracaena sanderiana, D. goldiana, D. godseffiana, and others of this

class in all stages of growth, occupy suitable houses. The first named of these Dracaenas according to Mr. Tivey is about as hardy as an Aspidistra. There is a splendid collection of the latter, most of which are beautifully variegated. Monstera deliciosa was also spoken of as being serviceable for house decoration along with Palms and Dracaenas. In front of a fireplace during the summer, it answers well.

Curculago recurvata variegata is not frequently met with, yet it is conspicuously ornamental. The best and most up to date of the Crotons are at Chelsea, some as single stemmed specimens, others as well balanced bush plants. The stove Dracaenas or Cordylines in such varieties as Exquisite, Amabilis, Distinction pendula, Doucetti, Jamesii, Lindenii Victoria, norwoodiensis, and Prince Manouk Bey, with many others, are amongst the most beautiful of all exotic foliage plants. Cocos, and all kinds of Palms from small Kentias and Rhapis in 3-in. and 4-in. pots up to those in large tubs are liberally grown and well cared for.

NEPENTHES

A notice of the Chelsea nursery at Christmas time would be incomplete were the Nepenthes omitted. The collection is unique, in that it has at least one variety not to be seen elsewhere, to wit N. Thisleton-Dyer, named after the Director of Kew Gardens. N. Tiveyi is also a novelty of the first rank though the visitor at the present time will not see either of them bearing pitchers. Their "heads" are off for the plants are desired for increase of stock. The other and better known species including N. mixta, N. Burkei and Burkei excellens; N. masteriana, N. dicksoniana, N. Curtisii superba and the smaller N. hookeriana, N. bicalcarata are all in excellent condition. The pitchers on all the plants are well formed and well developed, numbering from twenty to thirty on each plant. That a collection should remain at so high a standard of excellence year after year is good proof that a knowledge of their needs and unceasing care in supplying their demands, is furnished by him who has them under his charge.—*D.*

FLORIST WINDOW DISPLAYS.

So much is written in American and German horticultural trade papers on the art of floral decorating in its many branches, and so little enunciated in our own, that one would think all the skill and enthusiasm lay with *l'étranger*. But anyone who has made a survey of the larger florists' shops in London must have been agreeably impressed with the fact that they at least will compare with the best florists' displays in any of the shops in New York Broadway or the continental capitals.

Messrs. Gerard & Co., Ltd., of 178, Regent's Street, London, W., have very extensive windows and these are always the centre of a bevy of admiring pedestrians. Whether all who gaze can afford to patronise is an open question; but the charms of floral beauty, especially when arranged with the best taste and skill, over all other classes of window displays except the photographers or milliners, is conclusively proved by the appreciation tendered to the florist's efforts against all others except those mentioned. And if it came to a mere question of admiration on esthetic points, and these alone, the florists' dislays would surely win.

During recent years—I think it is recent years—florists in London and elsewhere have abolished the old choke-muddle system of dressing their windows. In all the better-class shops the laws of colour-contrasts, colour-harmony, light and shade, balance and perspective, are put into practice when arranging the daily display. Whereas in the small shops the presentment is very similar to a nurseryman's display of cut flowers at a horticultural exhibition, a sort of *multum in parvo* method, in the first class windows every basket, vase or design has ample freedom and space on all sides. Generally the staging is quite beneath the beholder's eye and a dark ground of velvet is frequently used. The floral receptacles are of diverse forms and colours. The colours are generally of an uncommon shade, rouge, bright-wax red, pale green cream, yellow and green, &c. Pure white and crimson are also frequent.

Sometimes the colours are used to harmonise with the shades of the flowers they contain; anon they contrast with them. Very light and graceful baskets are, of course, much in evidence, and earthenware dishes in a few popular shapes such as that of a swan with half-expanded wings, codfish with twisted bodies and open mouth (in which the flowers are inserted), miniature rounded and square tub-like conveniences and other designs of a similar graceful pattern. Ornamental pedestals are employed for placing the baskets upon, and taller examples are set further back for the larger masses of flowers. While there are always a number of more or less elaborate designs as wreaths crosses, hand-muffs made of flowers, as well as floral fans, and other formal compositions in set places, there are also baskets and dishes of Roses, Carnations, Liliums and Chrysanthemums, either arranged in artistic negligence in profusion by themselves, or interspersed with each other, being further assisted by ribbons and foliage. The reference to ribbons conjures up patterns of stuccoed artificiality, but such impressions are unfair; taste is admirably considered. Festoons of Smilax fall in long links high up, from one side to the other, and are so strung that they form a screening canopy high above the floral arrangements. So that in our best shops no pains or expense are spared to make the window displays attractive. Some of the very elaborate designs have to do service for some days, but the general show is recaste as variedly as possible on each morning. I spoke of the hand-muffs. These are hung from the roof by means of broad soft ribbon.

Messrs. B. S. Williams & Son, 169, Piccadilly, W., had recently a very pretty muff composed of close-set white Chrysanthemums with a loose bouquet of Laelias, pink Rose buds and Lily of the Valley in front. In the same window was an expanded fan. The body of this was composed of intensely deep, glowing yellow Chrysanthemums made up to present an even surface, and around the crescent-edge, where the ribs of the fan projected in spoke fashion, small Chrysanthemum buds were affixed. This latter feature lent to the fan great piquancy and attractiveness. At the lower edge and in the centre of the design was a bouquet of pink Chrysanthemums, Lily of the Valley and Violets. A knot of broad pink ribbon and another of palest blue ribbon, below the central bouquet, completed a charming design.

At Mr. E. Goodyear's, of the Royal Arcade, a handsome basket of exceedingly strong Nerine sarniensis Plantii, with long stout stalks was lately on view. Below the Nerines were placed leaves of Caladium argyrites and Crotons with also green foliage. He also had an effective cross composed of red Ampelopsis leaves. Above the conventional drapery of gray Siberian Moss and above this sort of grounding the various Eucharis and other white flowers were set. But though I should like to describe a few other designs, I must forbear in the meantime, but hope to continue these notes shortly. —*Harrison D.*

NOTICE OF BOOK.

THE SELF-EDUCATOR IN BOTANY, by R. S. Wishart, M.A, Edited by John Adams, M.A, B.Sc., Rector of the Free Church Training College, Glasgow. London: Hodder & Stoughton, 27, Paternoster Row. 1900. Price 2s. 6d.

The young man of the present day who wishes to study botany has now a choice of many books, by different authors, all treated more or less from a different point of view, and no doubt calculated by the authors as set forth in the easiest and most likely way to lead on their readers from point to point till the subject gets a firm hold of them. For some years past the bulk of the text books, elementary and advanced, have dwelt more or less decidedly on the morphology and physiology of plants. Both these branches of botanical science are sufficiently important in themselves to merit a considerable amount of study, but they have been advocated by their teachers with a persistence that has caused systematic botany to suffer a great deal of neglect. The truth of this becomes particularly evident when the teacher takes his students into the field to study the living plants. Morphology and physiology can be studied and a fair knowledge of the science rapidly acquired either in the class-room or at the fireside by daylight or nightlight, and in the course of a couple of winters the student stalks abroad fully equipped as a teacher. The materials for a proper study of the living plants and the natural classification of the same, require longer time to collect and manipulate, hence many of these botanical embryos never reach the stage of being capable of tackling any but the more common flowers of the field.

Mr. Wishart's book is chiefly directed to the teaching of systematic botany in all its varied details of root, stem, branch, leaf, and flowers; so that by the time the student has gone through the book he should be able to take up a flora and proceed to diagnose the plants he meets on every side as soon as he reaches the outskirts of city, town, or village. Nay further, this text book is intended to enable the student to help himself, wherever he may be, without the aid of an instructor. There should be no difficulty in this provided the would-be student is possessed of an ordinary share of intelligence, and the faculty of taking pains If he means to follow up the study sufficiently to make it of some real use he must honestly apply himself to the task and give no heed to the frivolous and ephemeral attractions that so easily upset the youthful mind and lead it away from study.

The author in his introduction shows how many a would-be seeker after information from books is repelled by the pitiless length of the terms used to describe the different parts of a plant, and the labyrinthic systems of classification. This is, indeed, the *pons asinorum* upon which many beginners stumble, but those possessed of determination can get over the difficulty even without such an easy gateway as is here placed before the student, not that the mythical royal road to learning is here presented, but that the uphill path of study has been made easy by the explanation of the various terms used, and without which one can only talk vaguely, unable to explain ourselves to others or comprehend their proffered descriptions. Many Greek and Latin words, the roots of common botanical terms are explained so that they should no longer present the semblance of dry and meaningless jargon, but be pregnant with meaning, suggestive, and obviously teeming with ideas.

The first part of the book deals with germination, the root, stem, minute structure of stem and root, the leaf, plant life, inferences regarding plant nutrition, the inflorescence, the flower, minute structure of the essential organs, conveyance of the pollen and its work, and the fruit and seed. The second part is taken up with systematic classification, finishing up with suggestions for continuing the study. The direction or branch which the student may then take up will depend upon his individual views or taste.

There are numerous sketches and diagrams of a simple kind, interwoven with the text and calculated to make the descriptions more readily obvious. Most of the sketches are evidently new, and though not highly artistic productions, may serve their purpose. The book runs to 226 pages, but though there is a short contents bill, there is no index, which would constitute one drawback to it as a work of reference. The paper and printing are of first-class quality, and the whole bound in cloth boards. Any student who is intent upon his work could acquire or master the information offered during the winter months, and be ready to start with a flora in spring, as the flowers commence to open, and follow this up till the end of the season.

TREATMENT OF TEA ROSE LIBERTY.

WRITING to the *Florists' Review*, E. G. Asmus says of the beautiful new Tea Rose Liberty, of which a stock is being distributed in our own Isles:—"I plant them in good rich loam, or rather sod, mixed with about one-third of good old cow manure, giving them at all times a liberal amount of water. Keep all young buds, as soon as they are about the size of small peas, well nipped out, but be sure, when nipping out the buds, to nip them with about two or three leaves, according to the thickness of shoots. Liberty is a persistent bloomer, and if you only nip the bud alone it will throw other small buds instead of good flowering shoots. The consequence is you will not get any wood, but only small buds without any stem. By nipping them two or three eyes lower, you will avoid that and get good flowering wood

By no means allow your plants to get checked or hard. Do not allow them to flower before they have obtained a good height, say 3 ft. or 4 ft. or more, which you can get only by keeping the buds off before the wood gets hard. This I find is the only secret in growing Liberty. If my advice on this point is strictly followed I do not think anybody need have any fear of Liberty not growing.

Be careful about your details, such as watering and ventilation. They require about the same temperature as Brides and Maids, but can stand a little more water. I give mine a night temperature of 58° to 60° with a 10° increase on bright, sunny days.

Up to this year they have been almost Black Spot proof with me, but the one house I have this year shows me that they are like most hybrid Teas, subject to that dread disease. If attacked, be careful that every spotted leaf is removed at once. As soon as you see a few spots do not wait until your whole plant is infested; then it will be too late to check it. I find by using carbonate of copper dissolved in ammonia and about one gill to a watering can of water, a preventive, but not a cure. It is used by syringing two or three times a week.

In conclusion, I would say, do not look for real good coloured Liberties before the weather gets cool. I have never had good blooms before November, and you will get them a good deal finer in December and January when Liberty is at its best.

BLACK CURRANTS.

Black Currants are popular fruits in any garden, and in all districts market men like Black Currants because the fruits can always be sold, and the private gardener finds always a demand either for jam-making or for tarts. Black Currant wine is also a favourite country tonic or preventive against colds. The Black Currant likes a moderately damp, gravelly loam, though not so gravelly as to be altogether light. Good bushes may be got on light soils by mulchings and waterings, and by the application of rich top-dressing. Heavy soils, too, suit Black Currants when once they have taken hold, and are going ahead. More pains should be taken at the time of planting when one has these less tractable, or less suitable soils to deal with. A sheltered corner, but at the same time bright and airy, should also be chosen. A distance of 6 ft. at least should be allowed each way between the bushes. Black Currants do not call for much pruning. The old wood is merely thinned out each year, and sometimes the young shoots are slightly shortened. The latter ought always to have sufficient space between themselves. This is essential to the fullest development of the wood. Like Gooseberries or Red Currants the Black Currant strikes readily from cuttings. These should be chosen from good long shoots, plump, and having a heel attached.

They should be placed two-thirds their length in firm land, and will make nice plants by the following autumn. As soon as the leaves begin to fall, planting may commence. Feeding may be attempted when the fruits are swelling. The Black Currant will not stand to be spur-pruned, and this constitutes one of the chief differences between its culture and that of the Red and White Currants. Crops that are attacked with the Black Currant Mite may have the swollen buds removed, and this will help them during the following season, but there seems to be no permanent cure. Badly infested bushes are therefore best burned. Cuttings may previously have been struck from clean stock for taking the place of the old bushes or new bushes may be got from the nurserymen. To prevent the Black Currant Moth from doing harm the bushes should be sprayed with a solution of Paris Green, or other matter, each spring.—*D.*

PROFITABLE PLUMS.

At the present time market fruit growers are much inclined to favour dwarf fruit trees, especially dwarf Pears and Apples. And the question may be asked why not have dwarf Plums, even for orchard culture. When trees are easily get-at-able they certainly stand more chance of receiving the necessary cultural treatment, which trees, to be fertile, generally demand. Those who have grown dwarf Plum trees will have found that the fruits are superior compared with the standard Plums. This, of course, results as a consequence of the more favourable circumstances which surround the growth of the trees, the setting, developing, and the finishing of the fruits. Dwarf trees should certainly always be grown by those with smaller sized gardens. The varieties that furnish good dwarf trees and may be relied on in the generality of circumstances, are the well known favourities Victoria, Czar, Pond's Seedling, Monarch, Sultan, and Grand Duke. These come into season almost in the order we name them. Czar is very early, and lasts during August, September, and October. Victoria and Pond's Seedlings are in condition during September, and Grand Duke is fresh in October.

Though a few other varieties could be recommended, the foregoing may, perhaps, suffice for amateur growers and those who would include only the most reliable sorts. The luscious Coe's Golden Drop, Denniston's Superb, Magnum Bonum, Kirke's and others, are best adapted, and always most successful when grown upon south and west walls. The present is a suitable time to plant the trees.—*A. D. R.*

THE ASTRANTIAS.

It is not because they are very showy that the Astrantias have found a place in the plant borders of so many British gardens, but rather because they are peculiarly distinct, and most suitable as an adjunct to the cut flower class. They last an exceedingly long time in bloom, and remain fresh for quite a while when cut. Astrantia major attains over 2 ft. in height, grows erect and is bushy. Each of the stout shoots terminates in a cluster of flowers which in appearance approach to the general likeness of Scabious, though they are of the same order as the Sea Hollies and the Sanicle.

At their best the flowers are flushed with a rose or rose-mauve colour, but they are always dry to appearance, yet never unattractive. The two species best known are A. major and A. helleborifolia, while the pretty little A. minor is frequently grown on rockeries. A. major extends all over the mountainous regions from the Caucasus or beyond to the Pyrenees in the east. The foliage of them all is nicely divided, and adds to the general charm of these valuable hardy border plants. The usual mode of increasing a stock is by division of the plants in spring. A moderately heavy soil is preferable to a light one, and they like plenty of moisture at the roots.—*H.*

POLLINATION IN ORCHARDS.

In the course of an exhaustive article on this subject in the September number of *The Canadian Horticulturist* some facts are brought to notice which are not recognised every day. By means of illustrations the writer in the above journal more aptly than by much argument or statistical data, proves his point that cross-pollination among orchard trees is good from all points of view. Though no one can separate varieties of fruit into two definite classes of self-sterile and self-fertile, there is known to be at the same time varieties which tend to be self-sterile and which it is not wise to plant alone. The writer gives lists of these so-called sterile varieties, but these are sorts not generally grown in this country. He then goes on to discuss whether such varieties as he names should be planted in blocks without having others of a different sort intermingled. "A large block of Kieffer Apple may be productive, but it does not pay to take the risk, particularly since the pollen of other varieties is likely to give better fruit."

In selecting a pollinising variety, two points should be considered. These are simultaneous blooming, and mutual affinity. The comparative blooming of varieties is more or less a local problem.

Differences of latitude, altitude, soil, nearness to large bodies of water, and weather conditions during the blooming season, disturb the order in which the different varieties open. Varieties which bloom together at one place, may not at another. The best that can be done in the way of generalising on the question of simultaneous blooming for cross-pollination is to make a chart for each well-marked geographical district.

Where fruit growing is such an industry as it is in parts of America, we think that the means above recorded are worthy of the united support of all fruit growers whose livelihood depends on their crops. On a lesser scale too, the same rules will apply to British fruit growers, or indeed to pomologists in any quarter of the globe.

Another point, as stated, is the mutual affinity of the varieties which may be chosen for cross-pollination. By affinity is meant the readiness which the pollen from the pollinating sort will act on the stigma of the self-sterile variety. It is fairly well known of course that every and any variety is not so suitable as another or others. But about these matters, at present little of real value is known.

The increase in size and appearance which often follows crossing cannot be called a true immediate influence, for the foreign pollen generally stimulates the fruit to greater growth because it is more acceptable to the pistils, not because it carries over the size—character of the variety from which it came. The best way to determine whether there is an immediate influence of pollen is by hand crossing The influence, however, is said to be much less frequent than is commonly supposed, and the experiments and observations of growers have to be well studied and thoroughly reasoned before reliable opinion can be got from them. But without going further it may be said that cross-pollination gives better results with all varieties, be they self-sterile or self-fertile.

GARDENING MISCELLANY.

CHRYSANTHEMUM WHITE AUSTRALIE

This white sport from the silvery lilac Jap., so well known under the name of Australie, originated with a Dutch florist. The Dutchman offered it to some of the French Chrysanthemists, but either his price was too high, or the Frenchmen did not quite appreciate the value of a white "Australie." Mr. Wells, of Earlswood, saw it this year at the Paris show and made an offer. The amount did not please the possessor of the stock, and the terms were not agreed to. But Mr. Wells thought, and thought again about that "White Australie" till, when he got home from Paris he resolved to have the stock at any price. He wrote, and now he has a fine lot of plants.

SHRUBS FOR FORCING.

Those who intend to force shrubs for Easter use should make the first of their preparations now. Plants well set with buds should be looked out. Spiraea Van Houtei, Deutzia gracilis, D. Lemoinei, Forsythias, Lilacs, Azaleas from the open shrubbery having been carefully lifted should be potted into pots suitable to receive them. Lay the drainage so that water can pass off freely without at the same time bringing down soil to choke up the bottom. Pot the shrubs firmly in good soil and place them in a cool house. The operation can be more successfully performed at this time than during the winter, when the ground is either wet or frozen. Rhododendrons also force well.

"THE GOOD LUCK LILY."

It follows, as a consequence of having once grown the Chinese Sacred Lily, also called the Good Luck Lily and Joss-flower, it will be continuously grown each year afterwards. To those who may not previously have had the pleasure of seeing this Lily grow and bloom we would even at the eleventh hour advise the purchase of a few bulbs. The bulbs have begun to sprout, but in about seven weeks by gentle forcing they can be had in flower. Their beauty is sweet and modest, and the fragrance very pleasant. For the decoration of sitting rooms the Good Luck Lily is eminently suited. The bulbs produce nice spikes when grown in shingle and supplied with water. Fancy bowls are usually chosen for their use.

PLUMBAGO AND PELARGONIUM.

One of the prettiest combinations I have seen is a pyramid formed with Plumbago capensis and a light rose coloured Ivy Pelargonium, trained lightly to Bamboo canes, standing apart on a lawn. I cannot say if the idea is original, but when well done the effect produced is elegant and charming, certainly well worth copying.—*W. B. G.*

DATE PUDDING.

Take ½ lb. stoned Dates, cut each in half, and mix with ¼ lb. each of bread-crumbs, flour and finely-chopped suet; stir in a teaspoonful of baking-powder and a pinch of salt. Whip two eggs till very light, and work into the batter, adding a little milk if necessary. Place in a greased mould, and boil for one hour. Turn out to serve and pour a sweet lemon sauce round.

PARSNIP FRITTERS.

Boil four good-sized Parsnips, and mash in cream; add three well-beaten eggs, two tablespoonfuls of silted flour, a piece of butter the size of an egg, one teacupful of milk, and season with salt and pepper to taste. Drop on a hot buttered griddle and bake as pancakes. Serve hot with syrup or sauce.

A FERTILE APRICOT TREE.

In the year 1838 an Apricot tree in the gardens of Arundel Castle, covering about one thousand superficial feet of wall, bore 3,852 ripe fruits. The unripe fruit gathered for tarts numbered 13,885. It would be interesting to know if a similar record to this can be found in more recent years.—*W.B G.*

COLTSFOOT WINE.

We have Parsley and Vegetable Marrow jelly; and lately Loganberry jam with other additions to our list of fruit preserves. Then the list of wines that the vegetables and fruits of the garden yield is unlimited and is continually being increased. It already includes Black Currant wine, Gooseberry wine, Grape wine, Parsnip wine, Elderberry wine, and so on *ad infinitum*. And now we have a recipe from the *Irish Farming World* on how to use the flowers of the Coltsfoot that are so abundant all over the land in early spring. The recipe runs—"Pour six gallons of boiling water upon two pecks of flowers, let them stand two hours, drain off, and to every gallon add three lb. raw sugar, one Lemon, one Orange, quarter oz. ginger. Boil all together one hour; add, when cool enough, a little yeast. Chop half a pound raisins to every gallon, put them into a cask, and when the liquor has worked enough pour it upon them; let it stand until settled, then bung it up. Bottle in three months with a little brandy."

NOTES ON PRUNING.

Now that the pruning knives and secateurs are being brought out, the subject of pruning is seen to be in the gardener's mind. Young trees are largely planted too, and how to treat these should be well considered. Bush and pyramid trained trees are much in demand, more so than they used to be. When young trees in either of these forms are planted, the leading and main lateral shoots should be headed well back to lay a stout centre. In the after growth they will also require to be repeatedly kept shortened in order to secure thickened and fruitful wood. The position of the buds should be studied when pruning. Prune to a bud that points upward, or in the same direction as the shoot that is being pruned. Avoid as much as possible leaving two buds facing each other, even though they are on opposite shoots. When such buds grow out their twigs shall either cross or grow too close for each other's good. Keep the centres of all trees as open and free to air, sunshine, and rain as the nature of circumstances will allow. The early prunings when the tree is young are more for the purpose of getting a good form and structural foundation laid. When the tree has put on the mould that a good tree should have, the pruning goes more on double lines after that. The first is for fruit, and the second to keep the tree symmetrical, according to rule and reason. Once a tree has become fruitful, it is generally an easy matter to keep it in that state. Its vigour goes to the swelling of fruits and prevents unnecessary luxuriance of wood growth. The shoots that are made are firm and set with fruit buds, and so the fruitful trees remain fruitful. It is therefore well worth while to take pains with a young tree to start with. Do the planting carefully and according to the rules which experience has directed; but do not neglect the roots. Top dress them and encourage fibrous roots to keep near the surface. It is only by the fibrous root system that the fertility of the tree can be maintained; the great, thick roots are mere water pipes that rush up weak sap for the formation of gross, instead of fertile wood. One cannot but regard a fruit tree as a complete entity. No one will succeed in fruit culture who has not a sympathy and some amount of knowledge about the working of roots, stems, and leaves.

So it comes that having got a well balanced tree, the needs in the way of pruning are principally the shortening of the outer shoots, the spurring-in of laterals, and the cutting away of old or of weak wood. The roots should be so treated that good wood becomes a habit of growth. The best time to prune Apples, Pears, and Plums, is soon after the leaves have fallen. Peaches, Apricots, and Figs are usually left till the turn of the year. If root pruning is required, October is a good season to effect this operation. When it is necessary to check over luxuriance, a tree requires to be root pruned. This, however, should be done with caution, and not in the harsh way performed by some growers. We have seen trees so crippled that it took them a whole season to recover. Gooseberries and Currants may now be pruned; Raspberries should always have the old canes removed so soon as the crop is past for the year.—*P.*

LEGAL NOTES.

The Trade Poisons Bill.

In our notice of the above in last week's issue the fourth line beginning: "The Bill seeks to make it lawful for all chemists"—should read: "The Bill seeks to make it lawful for all dealers, including chemists to sell poisons," and so on.

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. W. Waite, Southfields, for his article on "Asparagus Beds," p. 262.

Several very useful and seasonable articles of a high order of merit have overstepped the limits available for securing the prize.

QUESTIONS AND ANSWERS.

*** *Will our friends who send us newspapers be so good as to mark the paragraphs or articles they wish us to see. We shall be greatly obliged by their so doing.*

Protecting Tea Roses in Winter.—*W. D.*: You may at once get material ready for protecting your Tea Roses, but we should advise you not to give any protection until the state of the weather makes it necessary. Newly planted Roses are more liable to be injured at the ground line by hard frost than those that are established. It is a good plan to draw several inches of the soil against the crown of the plant and leave it thus till all danger of hard frost is over. To provide against hard frost get ready some bracken or green Spruce branches. The latter retain their leaves for a considerable time in winter and afford a great amount of protection. They could be stuck into the ground or around the bushes, or if frozen hard, then lay the green branches against the plants, securing the whole with matting or twine. Less work than this would be entailed by laying dry bracken amongst the branches of the Roses. The latter should always be left uncovered during spells of open weather to keep them as hardy as possible.

China Roses for a Hedge on a Terrace.—*G. C. M.*: For a pleasing light coloured hedge you could not do better than plant the common Monthly Rose, which has blush or blush-pink flowers produced in great profusion both during summer and autumn. Laurette Messimy is also a vigorous grower, producing bright rose flowers shaded with coppery yellow. Madame Eugène Resal is a seedling from the previous one and surpasses it, if anything, for its free-flowering propensities. It is also a strong grower, and bears red flowers varying to a paler hue, and more or less tinted with orange-yellow. Should you prefer a dark Rose to either of the above you could not do better than get Cramosie Superieure (also spelt Cramoisi Superieur) which has very rich velvety-crimson flowers, freely produced. The lighter colours are most effective in the dusk of the evening, but the crimson is striking in sunshine. Plant the bushes sufficiently close to touch one another when moderate growth has been made, and trim the hedge with a knife merely cutting in the long shoots to regulate the hedge.

Primula Sieboldi in the open.—*T. W.*: The old or common form at least is hardy, and most of the others would also stand without protection. As the rhizomes and roots are situated near the surface a good plan would be to top dress them with leaf mould fairly well decayed so as to form less inducement to the birds to scatter them about over the place. The leaf mould will be of great service in spring when we are likely to get dry and parching cold east winds.

Temperature for Freesias.—*Enquirer*: It is quite a mistake to keep them too close and warm as it draws up the foliage and stems weakly. A night temperature of 45°, rising to 50° during the day will be quite sufficient. Place the pots on a shelf in some vinery or other house kept at the temperature stated. Being close to the glass will tend to keep the plants dwarf and sturdy with good substance in the foliage. Keep the soil always moderately moist but not sodden. It will depend on the weather as to the amount of water they will require, but keep your eye always upon them.

Clematis Jackmannii for Pillars on the Lawn.—*T. Andrews*: To insure good growth and plenty of bloom you should prepare positions for the plants at any time during winter but the sooner the better, as the soil will get settled. Circular holes, 3 ft. or 4 ft. in diameter, may be taken out where you intend to plant. Chose positions that are naturally well drained or failing that make sure that superfluous water will pass away so as not to drown the soil in winter. The holes should be 2 ft. deep, or even deeper, if necessary, to put in brick rubble for drainage. Loosen up the bottom. If the soil is poor, then get some light sandy loam or mix it with sand so that it may be porous and rich. Fill in with this and allow it to settle. The Clematis may be planted at the end of March or in April. Do not use iron pillars as they get heated with the sun in summer and kill the plants. Wooden pillars are better; and you will get finer effects by having some cross pieces of wood at the top so that you can fix half a dozen wires to them taking the latter to the ground where they may be fastened to strong pegs in the soil. Tie the young shoots to these till they get to the top of the wires after which they will take care of themselves. Mulch the beds in winter.

Single and Double Blooms on a Chrysanthemum.—*John Colley*: You did not state which of the blooms is the ordinary form on the plant, but we should take it that the single crimson one with two or three rows of crimson rays is the type, and that the double flower represents the sport. The double one represents a Japanese variety with crimson florets more or less tinted and tipped with yellow, and has a few unchanged florets in the centre like those of the single variety. Chrysanthemums are very erratic and occasionally behave in the way you mention. As far as we remember, the old variety Bertier Rendatler, used to produce several blooms from the same head like the one you mention. Madame Carnot frequently produces a number of small heads at the base of the big bloom, after the fashion of the old Hen-and-Chickens Daisy. You may be able to fix the sport just in the same way as sports of a new colour are fixed. The plan is to mark the shoot that bore the sport; then cut off the blooms and encourage the stems to grow and throw out side shoots. Take these off as cuttings, and grow them as plants to flower next autumn, when you will be able to see whether the sport is fixed or not. Side shoots do not make good cuttings as a rule, but in trying to fix a sport you will have to be contented with them the first year. Cuttings may also be taken from the base of the stem that bore the double flowers, but they are less certain to give double flowers, if any single ones were on them.

Names of Plants.—*H. J.*: 1, Quercus Ilex; 2, Berberis Aquitolium; 3, Bromus brizaeformis; 4, Antennaria margaritacea; 5, Amobium alatum; 6, Rhodanthe Manglesii.—*T. B.*: 1, Odontoglossum andersonianum; 2, Maxillaria punctata; 3, Oncidium varicosum; 4, Cypripedium Godefroyae.—*A. G. B.*: 1, Onychium japonicum; 2, Pteris quadriaurita argyrea; 3, Adiantum formosum; 4, Adiantum trapeziforme Santae Catherinae; 5, Polystichum vestitum; 6, Hemionitis palmata.—*J. Reid*: 1, Sibthorpia europaea variegata; 2, Othonna crassifolia; 3, Aloe mitraeformis; 4, Oxalis corniculata rubra; 5, Echeveria retusa; 6, Sedum rupestre; 7, Sedum sarmentosum variegatum.—*D. C.*: Pelargonium Radula; 2, Pelargonium tomentosum; 3, Myrtus communis.—*A. K.*: 1, Eranthemum nervosum; 2, Begonia incarnata insignis.—*C. Dixon*: It is a stranger and will have to be flowered before it can be determined.—*Country Reader*: 1, Golden Feather or the Golden Fevertew (Chrysanthemum Parthenium aureum, often named Matricaria Parthenium aureum in gardens); 2, The Navelwort (Cotyledon Umbilicus.)

Communications Received.—S. C.—Orc.—L. Farmar.—R. F.—A. L.—M. D.—C. Macquarie.—R. M.—A. C.—W. D.—Alex. D.—A. J. B.—A.M'K—H. L.

TRADE CATALOGUES RECEIVED.

Dobbie & Co, Rothesay, Scotland.—Dobbies' Catalogue and Competitors' Guide, 34th Annual Edition.

Otto Putz, Erfurt, Germany.—Annual Trade Seed List.

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JANUARY 5th, 1901.

THE HIMALAYAN HOUSE AT KEW.—This structure is the most recently completed wing of the great Winter Garden or Temperate House in the Royal Gardens, Kew. This great palace of glass was designed by Mr. Decimus Burton, and building was commenced by Messrs. Cubitt and Company, in 1860. The two octagons were completed in 1861, but the main or central division was not completed till 1862. It measures 216 ft. long, 140 ft. wide and 60 ft. high. This massive block and the octagons remained in that condition for many years, till in fact the south wing or Mexican House was commenced in 1895 if we remember rightly. In any case this portion was completed in 1897. The north wing or Himalayan House was commenced soon after, and completed in May, 1899. The whole structure, including the central division, with an octagon at either end, and a wing at each of the two extremes, now forms the largest plant house in the world. All these divisions, with the connecting lobbies, have a total length of 628 ft. and a width of 164 ft., the highest portion, the central, being 60 ft., as above stated. The superficial area covered with glass is nearly two acres. The completed building has cost about £60,000. Visitors can enter by the door of the Himalayan House at the extreme northern end, and proceed by a broad, straight path to the southern end of the Mexican House. This latter is filled with such plants as require an intermediate temperature, and is the warmest part of the building. The octagons are filled with Oranges and Bays in tubs, many of the former carrying a good crop of fruit at present. Australian and other greenhouse subjects occupy the central division and the Himalayan House is devoted to plants which come from high elevations on the Himalayas, from New Zealand, &c., so that with the exception of the Mexican House, the whole is filled with greenhouse plants, merely requiring the frost to be kept out. Everything is planted out except in the octagons, and on the shelves round the sides of the great central division.

As might be expected, Rhododendrons form a conspicuous feature of the Himalayan House; and as large plants or trees previously existed in the central division, these have been moved into the previously prepared beds of fresh soil in it. With few exceptions the old trees have taken well and now appear in robust health. Being a cool house the Rhododendrons will not commence flowering till spring, though R. arboreum usually takes the lead very early when well established. There are several varieties 10 ft. to 18 ft. high or more, with long, finger-like leaves, rusty beneath in some cases, and silvery in others. R. niveum, with larger leaves, silvery beneath, forms a fine mass 8 ft. high and as wide. R. grande, often named R. argenteum, is another silvery leaved species of imposing appearance when in bloom. R. formosum, often grown in gardens as a pot plant, under

the name of R. Gibsoni, forms a bush that would be a troublesome subject in pots on account of its size. R. Shilsoni is a garden hybrid of imposing appearance when in bloom. The massive leaves of R. Falconeri are rusty beneath and bolder in effect than any other of the Himalayan species when seen in perfection upon large well established plants. These and many other noble species were first made known by Dr. now Sir Joseph Hooker when travelling in the Himalayas as recorded in his Himalayan *Journals* as well as in his great work, *Rhododendrons of the Sikkim Himalayas.*

Trachycarpus excelsus, a fan Palm from Japan, and standing 20 ft. to 25 ft. high, shows how nearly hardy this species is. Large bushes of Buddleia Colvillei vary from 12 ft. to 20 ft. high. Climbers are more or less a feature of the house and will become more decidedly so as they get established. The recently introduced giant Rose (Rosa gigantea) from Burma, runs up some of the pillars and then extends laterally for a length of 40 ft. Rubus moluccanus, a bramble from India and the Malayan Archipelago, has five-lobed wrinkled leaves resembling those of the Cloudberry, many times magnified. A few Bamboos have already made good growth, to wit, Phyllostachys mitis, 15 ft. to 18 ft. high, and the less hardy Arundinaria nobilis and A. Falconeri. Of these two latter species, A. nobilis is in the finest form, making long arching masses of stems, borne down by an abundance of twiggy growth and foliage. Several large Camellias planted about the beds are laden with buds and will no doubt bloom well in spring, for they seem already to have become firmly established. The leaves of a huge bush of the Loquat (Photinia japonica) rival those of Rhododendron Falconeri in size, and before long the visitors ought to be able to see a crop of fruit on this plant which has long been grown in the open air at Kew but never fruited so far as we know. On a small rootery are several plants of Pentapterygium serpens, a plant with a woody and tuberous-looking rootstock, and which received a certificate from the Royal Horticultural Society recently. The beautifully marked tubular flowers are closely allied to those of the Whortleberry. A rare plant is Coriaria terminalis belonging to an order that is seldom represented in this country. The leaves are arranged in two ranks so that a whole branch is readily mistaken for a leaf by the uninitiated. The leaves of Bucklandia populnea resemble those of a Poplar, but are much larger and more leathery. Magnolia grandiflora should prove a conspicuous object if space is allowed it to develop its best proportions. In the way of leaf production, probably none of the Aralias will beat A. papyrifera, more correctly named Fatsia. Its near relation, F. japonica (Aralia Sieboldi) is practically a cottage plant, being often grown in windows, but the leathery leaves never attain a very great size, and for that reason the plant can easily be accommodated. Its congener (F. papyrifera) is often used in subtropical bedding, and with a free root-run develops leaves of huge proportions. The specimen under notice in the Himalayan House is also planted out, but quite young, yet the blade of the palmately lobed leaves, independently of the stalk, ranges from 2 ft. to 2 ft. 9 in. across either way. Very handsome in its way is Cupressus cashmeriana pendula, more correctly named C. torulosa pendula, and is a picture of grace with its slender drooping, blue twigs and branches, recalling C. arizonica in colour, but more graceful in every way.

During such mild weather as the present, no fire heat is employed, yet several things may be noted in bloom. Several tall plants of Lilium nepalense still carry flowers, varying somewhat in colour, the dark purple in one case occupying the greater part of the flower. Daphne Dauphini, an evergreen bush, is opening its lilac flowers freely. The term Red-hot Poker hardly applies to Kniphofia longicollis, for its slender tubular flowers are yellow and produced in pyramidal racemes. Two plants carry six and seven flower stems respectively, not apparently as a late development, for the flowers are still in their prime, and only half of them are expanded. If some of the orange and red species could be flowered simultaneously with the yellow one a fine contrast would be produced. The large Winter Cherry from Japan, Physalis Francheti, still carries its large orange bladder-like calyxes. The margins of several of the pathways are brightened with Primula obconica, P. floribunda and P. sinensis, in bloom. The first named is most abundant and here represented by several much improved and very beautiful, rose, purple and bluish-purple varieties, a great advance upon the original. Under these conditions it practically blooms perennially, a fact that should act as an incentive to the further development of this beautiful and half hardy species.

The Royal Gardeners' Orphan Fund.—The Hon. W. F. D. Smith, M.P., has kindly consented to preside at the next annual festival of this institution, which will take place at the Hotel Cecil on Tuesday, May 7th.

Sempervivums.—The House Leek is cultivated on the roofs of some of the houses in County Clare, Ireland, it being a common superstition that the house on which it grows cannot be destroyed by fire.

Glasgow Shows.—In connection with the Glasgow International Exhibition to be held this year (1901 the West of Scotland Horticultural Society will hold their annual flower show at the exhibition on the last Wednesday and Thursday of August.

National Dahlia Society.—The annual general meeting of the National Dahlia Society will be held, by kind permission of the Horticultural Club, at the Hotel Windsor, Victoria Street, S.W., on Tuesday, 8th, 1901, at 2 p.m. *Agenda*:—Report of committee for 1900, financial statement, schedule for 1901, and other business. Notice has been given that the following change in Rule XI. will be proposed:—For "compete" read "exhibit."—*J. F. Hudson, Hon. Sec.*

Midlands in Flood.—Much damage has been done throughout the land by the recent gales and the floods which followed them. The rivers Avon and Severn down the Bristol part of the country and along the region of East Wales overflowed their banks, inundating thousands of acres of the bordering land. The sleepers and the permanent way at Stratford-on-Avon were carried away, and train communication was greatly impaired. Landslips occurred in many places. The Birmingham and Warwick Junction Canal burst its banks at Park Mills, and flooded streets and houses. The River Rea, by overflowing its banks, did damage to the extent of £3,000. Snow fell at Blackeney in the Forest of Dean.

Funeral of Edward Pynaert.—The *Revue de L'Horticulture Belge et Etrangere* for December contains the full text of the funeral ovations delivered by the colleagues and friends of the late Monsieur Edward Pynaert, who was one of the editors and manager of the financial interests of the *Revue*, and whose death was announced in THE GARDENING WORLD for November 10th, 1900. Besides his literary connections M. Pynaert was also director of a horticultural college, with which he had been connected since 1861. In his youth he travelled for six years throughout the Continent, and worked during a part of this period in Messrs. James Veitch & Sons' nursery at Chelsea. All of those who gave addresses at his funeral spoke in sincerest praise of M. Pynaert as a talented, active, and kind-hearted gentleman.

Begonia Caledonia is reported in America as furnishing "a good white variety."

Plant Fumigation.—An Australian contemporary says that the fumigation of trees by means of hydrocyanic gas is becoming more popular. "Hundreds of thousands of trees are nowadays fumigated every year." The trees have to be covered by tents during the operation!

Mr. David S. Wright, the founder of the Dunkirk Seed Co., New York State, America, recently died at his home in Dunkirk, aged 76 years. He was born at Cambridge, England, and went to America as a boy, and after obtaining experience in gardening he started business in 1861.

Freesias.—In reading Mr. Mayne's remarks on the above in your issue of the 22nd, I can speak in praise of home-grown bulbs, and find they give a greater percentage of flower spikes to those that are imported. I potted my first batch, viz., F. Leichtlini major, the first week in August; my next batch of F. refracta alba, imported bulbs, was potted the second week in September. They were given the usual treatment, and both batches were housed on the greenhouse shelf at the same time, the temperature being 50° by night, rising to 55° by day. Although there were six weeks difference in time of potting they are both flowering now, but I must give the preference to my own bulbs, which are giving six to eight spikes on each bulb, while the imported batch shows only half the amount of bloom. Perhaps the latter variety may differ. I have never grown it before. Perhaps some other reader could explain if there is any difference in the two varieties.—*J. Ford*, 5, *May's Villas, Sidcup.*

The Gardeners' Royal Benevolent Institution.—Notice is hereby given that the sixty-second (62nd) annual general meeting of the members and subscribers of this institution, will be held at "Simpson's," 101, Strand, London, W.C., on Tuesday, January 22nd, 1901, at 3 p.m., for the purpose of receiving the report of the committee and accounts of the institution (as audited) for the year 1900; electing officers for the year 1901, and for the purpose of placing *seventeen* pensioners on the funds. But in consequence of

1 Isaac Clark, aged 69, 2, Woodgate Cottages, Winchmore Hill, N.W., annual subscriber of £1 1s. for sixteen years.
2 William Cotton, aged 64, 11, Loveridge Road, Kilburn, life member for seventeen years.
3 William Craggs, aged 65, Clyst St. Mary, Exeter, life member for twenty-one years.
4 John Eastwood, aged 74, 57, Granville Road, Blackburn, annual subscriber of £1 1s. for twenty-three years; also a life member.
5 Thomas Gale, aged 69, Snape, Bedale, life member for twenty years.
6 Elizabeth Harris, aged 71, 8, Gordon Terrace, Parkstone, Dorset, widow of annual subscriber of £1 1s. for fifteen years.
7 Samuel Morris, aged 66 years, Burley, Ringwood, life member for nineteen years; also annual subscriber of £1 1s. for fifteen years,

being in distressed circumstances, and having in every way complied with the regulations, the committee, after investigation and careful consideration in each case, recommend that these *seven applicants* be placed on the funds without the trouble or expense of an election, in accordance with the present rules. An election will take place for the remaining *ten* vacancies from the candidates named on the election papers, whose cases have been examined and approved by the committee. The chair will be taken by Harry J. Veitch, Esq., treasurer and chairman of committee, at 3 p.m. The poll will open at 3.15 o'clock, and close at 4.30 o'clock precisely, after which hour no voting papers can be received. During the year 1900 the following widows of pensioners have been placed on the funds without election in accordance with Rule iii, 13:—

1 Maria Webb, aged 80, Kensington.
2 Sarah Dey, aged 78, Teignmouth.
3 Elizabeth M. Wood, aged 60, Tooting.
4 Mary A. Goldsmith, aged 70, Leatherhead.
5 Sarah Smith, aged 66, Temple Combe.

By order of the committee.

George J. Ingram,
Secretary,

December 31st, 1900.

Weather in London.—Saturday was bright, clear, and frosty, hut Sunday was rainy and dull, and so was Monday. New Year's Day was most disagreeable, becoming foggy in the afternoon.

The Orris-root Industry.—The Orris root is used as the basis of many perfumes by manufacturers in England, France, and Germany. At the present time this root is only ohtainahle around Florence and in the neighbourhood of Verona, both in Italy. In these days of rampant speculation it is not surprising to hear of a strong syndicate having made "a corner" in this indispensahle article. In 1891 the price was as much as £120 per ton, but in 1898 it had fallen to £26 a ton. The perfume manufacturers, however, are now feeling uneasy as to what price the syndicate will demand.

Death of Lord Armstrong.—At the age of ninety, Lord Armstrong, the inventor of the Armstrong gun, and patentee of many hydraulic appliances, died at his splendid country home, Craigside, Rothbury, Northumberland. For many years Lord Armstrong has lived the life of a country gentleman. But even in his retirement his engineering talent was employed, for he applied hydraulic power to shift his large conservatory plants! Craigside estate lies in the midst of a wild moorland district, with lofty hills, crowned with beetling crags, on the top of which many entrenchments indicate their occupation by British fighting men. The dale is hemmed in by these great elevations, and the rocky ledges peep out about the richly wooded steeps, while below a river winds over a rocky hed. The scenery is extremely grand, the deep woods giving It a special character.

Beckenham Horticultural Society.—Beckenham gardeners had a very pleasant evening with Mr. Gregory, of Croydon, who gave them an address on "Walks and Talks in Kew Gardens," which was richly illustrated by lantern slides. The pictures shown were taken by Mr. Gregory, who is an old Kewite. They were explained to the members, and some very useful information was obtained. He took the members by the slides through all the houses, also showing the exterior. As the interior was being shown, he explained how various plants were cultivated, also their peculiarities, as the night-flowering Cactus, the cultivation of the Victoria regia, giving illustrations of both varieties. The herhaceous department proved very interesting. For subtropical work the Paulownia can be usefully employed for hold effect if planted out, cut down every year, and trained to one stem. Other plants were spoken upon as the slides were shown. The beauties of the rock garden were shown; also the usefulness with which hulhs can be employed, when planted on grass, and which, judging hy the slides, must have been heautiful. The address was so well illustrated that members could almost fancy themselves walking around the garden with Mr. Gregory as a guide. A hearty votes of thanks was given hy Dr. Stilwell, hon. secretary, seconded by Mr. Barge and Mr. Webster.

Ipswich Horticultural Society.—The annual general meeting of the Ipswich and East of England Horticultural Society was held on Thursday night, Decemher 27th, at the Town Hall, Ipswich, the Mayor of the Borough (Mr. W. F. Paul) presiding. There was a large attendance of memhers. The committee's report for the year, after slight discussion, was adopted on the motion of Mr. A. E. Stubbs, seconded by Mr. Southgate. The shows held in July and Novemher had not been quite so successful this year, yet the society has a balance of £44 15s. 2d. to its credit. The necessity for having an Agricultural Hall was remarked with emphasis. A somewhat vivacious discussion ensued upon the proposition for the adoption of the report, hecause the secretary (Mr. H. E. Archer) had not given the members notice of certain notices, which one of the members (Mr. Close) had proposed to bring up at this meeting. Ultimately an amendment proposed hy Mr. Close, and seconded hy Mr. Cander, was unanimously carried in favour of postponing the annual meeting for a fortnight. The dates fixed for the shows of the coming year were July 3rd for the summer exhibition, and November 12th and 13th for the late autumn show, subject to the proviso that it followed the London N.C.S. show. The officers and committee of the society were then elected, after which the meeting dissolved.

A boa of Carnations and Asparagus.—Florists in America try all sorts of "catchy" designs, and the latest seems to he the making of Carnation boas for ladies' necks, to wear at the opera and suchlike places. Seen upon a well proportioned lady, when massively and loosely arranged, these floral and foliage boas are charming.

Refreshing Brussels Sprouts.—In the streets of London, during the mornings, one may see the greengrocers pouring water over the well-filled baskets of Brussels Sprouts. This has a refreshing influence on the "huttons" or sprouts, after their transit first to Covent Garden Market, and thence to the shops for retail.

Pedigreed Fruit Trees.—In an address before the American Pomological Society, Professor G. H. Hall, of the Delaware Agricultural College, said:—"Three Winesop Apple trees in the same orchard showed a difference of from 30 to 50 per cent. in the yield of Apples. This seems to show that there are strong inherent qualities in fruit trees. I think these strains of light and heavy bearing are generally found in orchards. Are the qualities hereditary, and can they be transmitted through the buds and sclons from the most productive trees? Can we establish pedigree in fruit trees, and ohtain the results of a selection that extends through several generations?" Prof. Hall thinks that individuality can be transmitted, which is surely a very evident fact, and needs no advancing at this time of day. It is well to propagate from the most productive trees.

CALADIUMS.

These fine ornamental foliage plants are some of the most useful we have grown either as tahle plants or for decorative purposes, and no one with a stove should be without a few bulhs. The tubers should he started in February and March, in small pots, in a moist temperature of 60° to 70°. When sufficiently rooted, pot into large 60's, 48's and 32's, for the table; but for other purposes, pot them on as they may require it, into larger sizes. A thorough drainage is necessary as Caladiums require plenty of water during the summer, feeding with weak liquid manure and soot water once or twice weekly, and shading through the brightest hours of the day. In the autumn when the foliage shows signs of fading, less water must be given, gradually lessening it as they die down. After which they should be placed on their sides under the stage in the stove, where they generally get sufficient moisture during the winter to prevent them getting too dry, as sometimes many tubers are lost through this cause. Caladiums succeed well in a mixture of fibrous loam, two parts, one part well-decayed cow-manure, and sufficient sand to keep it porous. There are so many good varieties in commerce that it is useless to put down a lot of names, but for small pots C. argyrites and C. minus erubescens are indispensable. And nothing is much prettier for dot plants on the table than the first named.—*John Botley, Blythewood Gardens, Maidenhead.*

PERNETTYAS.

These very beautiful dwarf evergreens are highly ornamental particularly during the winter and spring months when they are densely covered with berries of various shades and brilliant colours. Alba is a newer variety, with white tinted blush berries; atrococcinea, dark scarlet; atro-lilicina, dark lilac; pallida, light lilac; atro-sanguinea, rich crimson! stricta, light crimson; nana, flesh pink; rosea macrocarpa, bright rose; elegans, light pink; rosea purpurea, rose, shaded purple; rubra purpurea, red-purple; ruhra lilacina, red-lilac; rosea gigantea, rose-purple; purpurea, bright-purple; and the beautiful maroon-black variety, nigra major. There are many others unnamed above, yielding a variety of similar shades and colours. Pernettyas love a light soil, preferably of peaty loam, and seem to thrive best in semi-shade. However, they are not fastidious, often doing well in soil destitute of peat provided it he well drained and shaded from the noonday sun. They are easily propagated by division or raised from seed; the seedlings berry after three or four years, often producing berries of new and distinct shades.—*H. H. Gibson, The Gardens, Glencairn, Belfast.*

EARLY CHRYSANTHEMUMS.

Early or autumn flowering Chrysanthemums are increasing in favour every year, and justly so, as they are very useful for cutting, and almost every shade of colour found in the late varieties can he procured in the early ones. The general idea is that they require to be kept in frames all winter, but this is a mistake, unless where the soil is wet and clayey. If one wishes to multiply them from cuttings it is better, however, to keep the latter free from frost. All that is required with old plants before winter sets in is to make up a mixture of one part lime, one riddled ashes, one sand, and a little soot. Spread a shovelful round each plant, and they will come through the winter months without further trouble. I have strong plants of the leading sorts that have been in the same spot for several years. The light mulching serves to keep the frost from hurting the suckers or young shoots that push up, and the lime and soot in it prevent the slugs from feeding on the young growth. I use this mixture also for several of the choice herbaceous plants, as the snails are very destructive to this class, especially in an open winter. A much lighter covering is all that is needed for them. Chrysanthemums make splendid surface roots and flourish exceedingly well with this dressing. —*John C. Dick, Champfleurie, Linlithgow.*

PRIMULAS.

One of the most effective and profitable is P. stellata. It is invaluable for cutting. It has an advantage over the Chinese Primula by throwing ts petiole or leaf stalk well up above the foliage, with its showers of star-like flowers radiating outwards, hence its name (stellata). To prevent these damping at this time of the year, insert three short stakes at triangles round the hase of the plant; or some fibrous peat round the collar of the plants will act as a damp proof. P. floribunda is a species we rarely see grown. This is what the amateur calls a bit ticklish to grow. A staging under the shade of the Peach house is a very suitable place for this plant while it is making its growth in summer. With a little liquid manure once a week, it will continue to bloom now well on into the spring. Primulas enjoy a temperature of 50° at night. Keep the plants free from decaying leaves, and do not damp the leaves in watering. Where there is space devote a house to stellata alone, or at least the warm side of a greenhouse. P. sinensis and obconica come next for effect and similarity in culture. P. nivalis, a very good white, requires to he kept indoors over winter, in these wet and cold shires of Lanark and Renfrew. These grown to perfection will hold good against the more recent winter flowering plants, as the Bouvardias, Poinsettias, and the seemingly easily grown Begonia Gloire de Lorraine in the south. The photograph, which you will have now, can speak for itself, that it is not a mystery here either.—*Adam V. Main, Coltness Gardens, Wishaw.*

CHIMONANTHUS FRAGRANS.

Athough introduced as far back as 1766 from Japan the above still continues to be one of our most admired plants in the winter, the name Chimonanthus coming from *cheimon*, the winter, and *anthos*, a flower, "The Winter Flower." The flowers commence to open in December and continue well into January, being a pale yellow outside, with a purplish centre. To produce the best results it should he planted against a wall, with a south or west aspect, in some deep, rich sandy soil, and the growths kept neatly trained to the wall. A little pruning annually will be heneficial, leaving the principal branches well clothed with young wood, as the flowers are produced on the former season's growth, the pruning may be done when the flowers are over. In all southern parts of the country it succeeds well grown in bush form, likewise in mild winters in almost any part of the country, hut it should be planted in an open, sheltered part of the shrubbery where every ray of sunshine can reach it, as much depends on the ripening of the wood during the previous summer. As to its free flowering we have here at the present time a large hush profusely flowered, hut we have taken the precaution to afford it some slight protection against frosts and cold winds, by placing round it a temporary framework and covering of canvas when required. — *A. Thatcher, Aldenham, Elstree.*

PANSIES AT THE NEW YEAR.

I ENCLOSE a bloom of a seedling fancy Pansy. I have had similar blooms till the new year for a good many years. As I am always trying to get something new in Pansies, when I see anything in the seedlings worth trying a second year I take off cuttings and strike them in another bed prepared for the purpose. Cuttings struck during the latter part of June and all July make nice plants in the autumn. Some will begin to flower at the end of August, others in September; and others will form flower buds very late, too late to bloom in the open. I lift these with balls and put them in a cold frame, and get a succession of bloom till the new year. I believe if they were grown in pots and placed in a slightly heated greenhouse it might be possible to have Pansy blooms all the year round. Then we could say that Pansies, like the poor, were always with us. If frost sets in I cut off any stems that have flower buds near opening and stick them in bottles of water with a small bit of charcoal to keep the water fresh. I have grown them in this way from the bud to a bloom over 3 in. across in a cool house. In coldish weather they often take nearly a month to grow full size, and if the water is changed the blooms will keep a fresh appearance for at least another two weeks.—*C. Kay, Mill Farm, Gargunnock.*

[The bloom of the seedling sent was only ½ in. short of being 3 in. in diameter, and affords a good instance of the mildness of the weather. The blotches were blackish-maroon, the edges of the petals rich plum purple, and the flower in wonderfully fine form for the season. ED.]

THE GARDENERS' LIBRARY.

THE following list of fifty useful books for the gardener was prepared by Mr. William Watson, A.L.S., Kew; and Mr. John Weathers, of Isleworth, and published in the *Journal of the Kew Guild* for 1899. The compilers say that "although it does not include all, nor, possibly, in every case the best books of the profession, it may be said to cover the whole field." We here publish it in the hope that it will be helpful to those who seek the aid of books, but have no ready means of finding where they are to be had, or their price. As a rule booksellers allow a reduction of twenty-five per cent. on the prices here given.

Natural History of Plants* By Kerner and Oliver.—Blackie Son. £2 10s.

System of Botany. Le Maout and Decaisne.—Longmans & Co.

Sorauer's Physiology of Plants. By F. E. Weiss.—Longmans & Co. 9s.

Structural Botany* (2 vols.). Dr. D. H. Scott.—A. and C. Black. 7s. 6d.

The Treasury of Botany.* J. Lindley and T. Moore (2 vols.). Longmans & Co. 12s.

Cross and Self-fertilisation of Plants* Charles Darwin—J. Murray. 12s.

The Fertilisation of Orchids. C. Darwin.—J. Murray. 7s. 6d.

Animals and Plants under Domestication.* C. Darwin.—J. Murray. 18s.

British Flora.* Bentham and Hooker.—L. Reeve & Co. 18s.

British Forest Trees.* John Nisbet.—Macmillan & Co. 5s. 6d.

Bulbous Irises. Michael Foster.—Royal Horticultural Society. 1s. 6d.

The Bamboo Garden. A. B. Mitford.—Macmillan & Co. 10s.

Amaryllideae. J. G. Baker.—G. Bell & Sons. 5s.

Irideae. J. G. Baker.—G. Bell & Sons. 5s.

Dictionary of Gardening.* Geo. Nicholson (4 vols.). L. Upcott Gill. £3. (Supplementary vols., about £2)

Johnson's Gardeners' Dictionary. C. H. Wright and D. Dewar.—G. Bell & Sons. 9s.

Dictionary of Economic Plants.* J. Smith.—Macmillan & Co. 8s.

The English Flower Garden.* W. Robinson.—J. Murray. 15s.

Cultivated Plants; their Propagation and Improvement. F. W. Burbidge.—Blackwood & Sons. 12s. 6d.

Thompson's Gardeners' Assistant.* Blackie & Son. 35s.

The Vegetable Garden.* Monsieur Vilmorin (English Edition). Office of "Gardening Illustrated." 15s.

The Chemistry of the Garden.* H. Cousins.—Macmillan & Co. 1s.

Text Book of Plant Diseases (Fungoid).* Geo. Massee.—Duckworth & Co. 5s.

Diseases of Plants.* Marshall Ward.—Society P.C.K. 2s. 6d.

Soils and Manures.* J. M. H. Munro.—Cassell & Co. 2s. 6d.

Plant Breeding. L. H. Bailey.—Macmillan & Co. 4s.

Culture of Vegetables and Flowers from Seeds and Roots. Sutton & Sons. 5s.

The Art and Practice of Landscape Gardening.* H. E. Milner. 31s. 6d.

My Gardener. H. W. Ward.—Eyre & Spottiswoode. 2s. 6d.

Fruit Manual.* Dr. Hogg.—12, Mitre Court Chambers, Fleet Street. 16s.

The Forester.* J. Brown & J. Nisbet.—W. Blackwood & Sons. £2 2s.

Gardening in India. Woodrow.—Thacker & Co., Calcutta. 8 rupees.

The Forcing Book. L. H. Bailey.—Macmillan & Co. 4s.

The Nursery Book.* L. H. Bailey.—Macmillan & Co. 4s.

The Art of Grafting and Budding.* C. Baltet; English edition.—Office of "Gardening Illustrated." 2s. 6d.

The Orchid Grower's Manual.* B. S. Williams & Son. 25s.

Amateur Orchid Cultivator's Book.* H. A. Burberry.—Blake & Mackenzie. 5s.

Greenhouse and Stove Plants.* T. Baines.—J. Murray. 2s. 6d.

Select Ferns.* B. S. Williams. 5s.

Cactus Culture for Amateurs.* W. Watson.—L. Upcott Gill. 5s.

Chrysanthemums and their Culture. E. Molyneux. 1s.

The Carnation. E. S. Dodwell. — GARDENING WORLD Office. 1s. 9d. by post.

Vines and Vine Culture.* A. F. Barron.—"Journal of Horticulture" Office. 5s.

Book of the Rose. Rev. A. Foster Melliar.—Macmillan & Co. 8s. 6d.

Fruit Culture for Amateurs.* S. T. Wright.—Upcott Gill. 3s. 6d.

Manual of Coniferae.* J. Veitch & Sons. 7s. 6d.

Heating by Hot-water.* W. Jones.—Jones & Attwood, Stourbridge. 2s. 6d.

Bate's River Amazon. Ward, Lock & Co. 3s. 6d.

Naturalist's Voyage Round the World.* C. Darwin.—Ward, Lock & Co. 3s. 6d.

Himalayan Journals. J. D. Hooker.—Ward, Lock & Co. 3s. 6d.

The above is the list just as it was drawn up, with one or two corrections which the lapse of time had given rise to. Of course, the gardener need not have all of these, but if he can afford those marked with an asterisk (*) he will have a very useful garden library. Books on special subjects can always be had.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

I SHOULD like, in a short note, to draw attention to the good work that this society is doing, as described on part of page 245 of a previous issue. It is worthy of more consideration from those employed in the various branches of horticultural work. I am pleased to note the progress this society is making in its membership; still it ought to increase more rapidly than at present. Thanks to THE GARDENING WORLD the many advantages of this society are put before its readers at various times during the year. As we are about the end of the year, and close of the century, I think many gardeners, especially young men who are in no benefit society, ought seriously to consider this matter and become members of this useful society early in 1901.

In the distant future old age pensions may come to be provided by Government, or even a weekly allowance when off through sickness or accident before reaching old age; but I am of opinion that the present generation of gardeners cannot trust themselves to these far-off probabilities. Therefore, it is the duty of everyone to try and make a little provision for sickness, accident, or old age. Even the strongest of youths is liable to be laid up at any time through ill-health; and when one is a member of a society such as this it lightens the burden considerably. There is no better method of encouraging thrift and making provision for ill-health than by joining this society. I am certain many gardeners in Scotland do not know of the existence of this society nor the principles on which it is founded, or I am sure it would grow in membership faster.

There are two scales that members can pay into, either of which puts members in full benefit of the various funds in connection with the society. It is a splendid investment, and the payments are easily met by any young man. I have advocated the claims of this society in private, and have been the means of getting some to join it. I need not enter into details of rules, &c., here, as a copy of rules and membership can be had from the obliging secretary, Mr. W. Collins, 9, Martindale Road, Balham, S.W. —*Rathonian.*

ORCHID NOTES & GLEANINGS.

BY THE EDITOR.

Cattleya Elizabethae.—This beautiful hybrid has been derived from C. Mossiae, fertilised with the pollen of C. schilleriana, in the establishment of L'Horticole Coloniale, Brussels, Belgium. The cross had previously been by M. Georges Mantin, who exhibited the plant in Paris in October, 1897. An allied hybrid was shown at the Drill Hall, Westminster, in 1899, by C. L. Ingram, Esq., Elstead House, Godalming, under the name of C. elatior. This was the result of crossing C. Mossiae reineckeana with C. schilleriana. The last named shows its effect very strongly in the hybrid under notice, the colour of the sepals and petals and the form of the lip being closely similar to those of C. schilleriana. The sepals, petals, and the tube of the lip are deep purple; but the lamina of the latter is of a rich crimson with deeper veins, and fading to silvery rose at the margin. The lamina of the lip is also broader than long, with a broad claw at the base as in C. schilleriana. There is a coloured plate of it in *Lindenia, Pl.* 721. The new hybrid has been dedicated to Her Royal Highness Princess Elizabeth, whose recent marriage, with Prince Albert of Belgium, gave rise to so splendid manifestations of loyalty and sympathy in that country.

Odontoglossum crispum auriferum.—There seems no limit to the possible variations of O. crispum, which on that account is the most popular species in cultivation. That under notice flowered about the end of October last in L'Horticole Coloniale, Brussels. The flowers are of good form, with broad, overlapping sepals and petals, the latter being pure white without any spots whatever. The ground colour of the sepals is also pure white, but on the centre of each are eight or nine golden-yellow spots of irregular form. The lip also is white, but the disc is yellow, striated with orange lines, and in front of this disc are two deep yellow spots. It rarely happens that the rose, brown, purple, and other colours and markings get entirely washed out of O. crispum, leaving nothing but yellow, as in this instance. Other rare varieties distinguished by yellow markings are O. crispum Razon d'Or, and O. c. xanthotes, the latter of which is in the collection of Baron Schroder, The Dell, Egham, Surrey. The variety above described is figured in *Lindenia, Pl.* 722.

Laeliocattleya Alberti.—The parentage of this bigeneric hybrid was Laelia purpurata and Cattleya velutina. It was raised in the establishment of L'Horticole Coloniale, Brussels, and flowered for the first time in October last in the establishment of Moortebeek in the neighbourhood of that city. The progeny shows that the overlying brown and purple shades seen in C. velutina have here quite disappeared, the sepals and petals of Laeliocattleya Alberti being Naples yellow or pale lemon, as if Laelia grandis had been one of the parents. The margins of the petals are also considerably undulated. The tube of the lip is white, as is the ground colour of the wavy or undulated and elongated lamina of the lip. The latter, however, is furnished with a large, lively rose blotch at the base, striated or rayed with a deeper lively rose; while the throat is very pale yellow. This particular cross has never before been effected, and the result is certainly a striking and distinct production. It has been dedicated to His Royal Highness Prince Albert of Belgium, and has a full page plate in *Lindenia, Pl.* 723.

Cypripedium drapsianum.—The parents of

this hybrid were C. leeanum Burford var., itself a hybrid, and C. villosum, the latter being the pollen bearer. The Burford variety of C. leeanum is a very fine one, the dorsal sepal being as much widened out and displayed as any. The particular hybrid under notice was raised by M. Draps-Dom, after whom it has been named. It is the progeny of three species, including those giving rise to C. leeanum and C. villosum. The effect of the l ter is well seen in the shape and colour of the petals and lip, which are much shaded with brown and edged with yellow. The dorsal sepal appears to lie between C. leeanum and C. insigne, the basal part being pale greenish-yellow and much blotched with rich purple or rosy-violet along the course of the veins, and extending almost to the apex over the white ground of the upper half. On the whole the flower is a bold and showy one as represented by the coloured illustration in *Lindenia, Pl.* 724.

HARDY FRUIT GARDEN.

PLANTING is still being carried on, and so long as the weather and the soil remain in their present states, so long will gardeners, orchardists and experimentalists keep on planting. What with occasional stoppages the work of root pruning or shifting old, or planting new trees, the season of work among the fruit trees is often extended over a long period. Save for the wet weather this, however, has not been put off this year; but then again the openness of the season has allowed many of long-contemplated jobs to be undertaken, and these at the present are being carried through. No doubt a good many gardeners have decided to include some of the newer fruits in their orchards for next season's trial. I refer to the Japanese Wineberry and the Loganberry. These are ornamental at least, but as this is not sought for so much in fruit tree collections, their "berry" bearing qualities must be made the most of. The "berries" are capital for jam-making. The Brambles are a class of plants much neglected considering how much appreciated their distinct flavonr is. Either for tarts or for jam, they are very useful. Elaegnus edulis also produces good jam fruit.

CLEANING THE FRUIT TREES.—Whenever any spare time can be mustered the men should be sanctioned to brush and clean the wall trees and the lower parts of the stems of standard fruit trees. This work is regularly taken in hand by all the best, painstaking fruit growers, and is performed after the pruning is finished. Nearly all trees are now pruned, though a great many growers like to see the new year past before they prune wall Plums, Pears, Cherries, Apricots or Peaches. Steps should be taken to cut out any cankered parts of stems, provided the stems are not too badly attacked. Everything should be done to encourage vigour in such trees so as to make them fit, if this can be, to overcome the mycelium of the fungus that troubles the tissues of the tree and causes the "cankering."

Washing with Bordeaux Mixture and syringing a sulphur solution into all the ruts and cracks and bruises of such infected or infested trees may do something to kill and stamp out these fungus diseases. A solution of caustic soda sprayed upon the trees is beneficial in cleaning them. Where fruit trees are grown by the thousand acres, as in America, Canada, Australia, &c., the spraying bnsiness is becoming an item of necessity in the yearly rontine of culture, and is being greatly perfected. Lime washes are good when trees are moss or lichen covered.—*J. H. D.*

Gleanings from the World of Science.

THE nndermentioned subjects were discussed at the meeting of the Scientific Committee of the Royal Horticultural Society on December 18th.

Quercus sessiliflora.—Mr. Wilks showed leaves with petioles and sessile acorns of this variety, and remarked upon its rarity in the woods near Croydon. He hac only met with two, but very handsome trees, about 100 yds. apart, and probably 150 years old. He observed that this form of the Oak keeps its leaves longer than Q. pedunculata, which is the commoner of the two varieties. The leaves are inclined to be tomentose below, giving a silvery appearance. Sir J. D. Hooker, in "The Student's Flora," records this character as belonging to Q. intermedia, a subspecies with short petioles and peduncles. Dr. Masters remarked upon the scarcity of the tree in Kent, and that it formerly, and perhaps still, grows at Brockley.

Maclura aurantiaca, fruit.—An unripe fruit of this American tree was sent by Mr. Jas. Vert, of The Gardens, Audley End. It is known as the Osage Orange, and is a native of the S.U. States. It is allied to the Mulberry, and, like that, has a compound globular fruit. The tree, being spinescent, is often kept dwarf, and employed as a hedge plant. The golden fruit, about the size of an Orange, is not edible.

Fruit from old Melon Seed.—Mr. Th. Sharp, Westbury, Wilts, describes his experience in raising Melons from old seed as giving better results than from young seed. His observations are as follows, which entirely confirm that of previous observers:—"In a small Melon house I noticed two plants which were very vigorons and survived the first crop. They produced a good second crop of female flowers, but somewhat smaller, as were the male flowers, than usual. In the same house was a batch of young plants, with good male blossoms. I fertilised the females of the older plant with the pollen from the younger. The crop of fruit was nearly double that of the first. The fruits were large and of excellent quality throughout. A year or two afterwards, having to supply ripe Melons in May and onwards, and having noticed that plants from old seed produced a less succulent growth than did those from young seed, for four years I raised my plants from old seed, always growing a few plants from new seed. I then fertilised the female flowers of the older plants with the pollen of the younger, which plants were invariably the more rohust. The resulting fruits were more reliable in good quality, and though the female flowers had been small, the fruits were large, weighing from 3 to 7 lbs." Mr. Henslow has given very similar experiences on the Continent in his "Origin of Floral Structures," p. 247; M. F. Cazzuola, in addition, found that Melon plants raised from fresh seeds bore a larger proportion of male than female flowers; while older seed bore more female flowers than male.

Ornithogalum lacteum.—Mr. Veitch brought a beautiful spike of this plant in full blossom. It was especially interesting as having heen cut in South Africa from Table Mountain on November 27th. It was then put into the refrigerating chamber of a ship on the 28th, and thus has lasted exactly three weeks in a perfectly fresh state, illustrating the possibilities of the transport of cut blossoms from the colonies.

Seakale defective.—Mrs. A. Williams, of Coed-y-Marn, Welsh Pool, sent samples of Seakale; they were thin, and carried numerous buds on the crowns. This was the result of defective soil, described as a stiff one and damp, imperfect nourishment, and neglect in removing the superfluous buds, instead of leaving one only in which the energy should be concentrated.

Elm trees at Bath dying.—Mr. Milburn. superintendent of the Botanical Gardens, Victoria Park, Bath, records the dying of some five Elms:—"The trees were planted between fifty and sixty years ago. They form part of a line which still remain apparently healthy. The trees in question are situated on the base of a sloping bank running E. and W. On the S. side is a stone wall from 6 ft. to 8 ft. in the foundations. The subsoil is blue clay. Consequently, the trees have root room only on one side. Moreover, the last two or three seasons have been very dry. In addition to this a destructor has been erected 200 yards off; also close at hand are the gasworks. Matter is conveyed in the air from both these works, as it is deposited in the form of a black oily scum on the lake situated a little N. of the Elms." As Professor Oliver showed in his paper on "The Effects of Urban Fog upon Cultivated Plants." (Journ. R.H.S., xvi. p. 1), the extremely poisonous nature of vapourised carbonaceous products there would seem to be ample cause of injurious influence upon the trees, apart from the want of freedom in root production.

Double Cyclamen.—Dr. Masters reported as follows upon the specimen sent to the last meeting from Messrs. Ker, of Liverpool: "In these flowers there were five sepals, five distinct petals, no stamens, but several rows of additional petals. The ovary was normal."

Plants from Cambridge Botanic Gardens—Mr. I. Lynch forwarded the following interesting species, for which a unanimous vote of thanks was passed, and to the three first named were awarded Botanical Certificates: Kleinia pendula, with fleshy stems and scarlet heads of flowers, from Somaliland; Kalanchoë marmorata, another fleshy plant; and Nematanthus longipes (Gesneriaceae). A few observations are here added. The genus Kleinia is a Groundsel, or Senecio, with fleshy stems; K. neriifolia, the "Barode," being a native of the Canary Islands; most of the species are S. African. K. pendula has a rod-like fleshy stem the thickness of a a pencil, from which a long pendulous peduncle arises at the apex. The leaves are reduced to minute prickles. Kalanchoë belongs to the Crassulaceae, is from tropical Africa, but has species in Asia and Brazil. It has tubular, greenish-white flowers, nearly 6 in. in length, and fleshy obovate leaves.

Phylica ericoides (Rhamnaceae), called Bruyère du Cop, is a Heath-like plant, with terminal clusters of minute white flowers.

Lindenbergia grandiflora (Scrophularineae), figured in the October number of "Bot. Mag.," is a genus with yellow flowers, and nearly allied to Mimulus. There are eight species in E. Africa, Arabia, E.I., and the Malay Archipelago.

Nematanthus longipes has sub-fleshy lanceolate leaves and long scarlet tubular flowers protruding from one side of the calyx. It belongs to Gesneriaceae. There are only three or four species, all natives of Brazil.

Senecio vulgaris × S. squalidus, a remarkable natural hybrid between these two British plants, the former being the Groundsel and the latter, naturalised on old walls at Oxford and elsewhere. The flowers are small (½ in. from tips of ray florets) with the foliage of Groundsel. It comes perfectly true from seed, and has commenced being a weed in Camb. Bot. Gardens. It is said to grow wild with its parents near Cork.

Cardamine chenopodifolia is remarkable for bearing perfect seed, both above and below ground. Mr. Lynch observes that he has two sets of plants—one always raised from seeds out of the subterranean pods, and another set always raised from the other seeds, in order to see whether in course of time any modification of habit may arise in consequence of growing always from seed produced in the same way. The white flowers are excessively minute, and are fertilised in bud, the anthers being closely adpressed to the globular stigma, the conditions usually prevailing with normally self-fertilising Crucifers. The subterranean pods are white and spindle-shaped, and a quarter of an inch in length. They contain one or two seeds, being separated by a delicate white membranous false dissepiment. They are attached to slender pedicels, 1 in. long, which turn abruptly downwards from their point of insertion in the stem. These are doubtless the result of cleistogamus buds.

Heliamphora nutans.—The flower consists of five or four sepals, no petals, many stamens, the pistil having a long style and truncated apex, not spreading into an umbrella-like expansion as in the allied genus Sarracenia. There is but one species, a native of Venezuela.

Begonia venosa.—This is remarkable on account of its fleshy leaves and large scarious stipules, both features being characteristic of hot and dry climates.

Cecropegia dichotoma, with tubular flowers, the tips only of the corolla remaining coherent. C. stapeliaeformis, C. elegans and C. Woodi, all remarkable fleshy climbers, the last hearing tubers and pendulous. It has been figured from the Cambridge plant in Bot. Mag. of March, 1900.

Bonplandia geminiflora (Polemoniaceae) is remarkable for the corolla being lipped, two upper petals cohering above the tube and provided with a white lined base as a "guide," the three other petals project forward, upon which the subdeclinate stamens rest. The long style with three spreading stigmas project a quarter of an inch beyond the anthers. It is a monotypic genus, of one species only, and a native of Mexico.

Nepenthes Veillardi, a species of Pitcher Plant, with small pitchers 3 in. long, and remarkable for the white border round the incurved red margin. The lid is red, and the under side of the leaves russet but smooth.

HINTS FOR AMATEURS.

Preparing for Seed Sowing, &c.—Every nursery firm is at present finishing off its seed catalogue, if not already finished, and so soon as these are into the hands of the customers the lists of necessary flowers and vegetables, &c., are ticked off, and perhaps a few of the season's novelties. It is well to order early, and everything should be prepared in good time, so as to avoid anything in the nature of a standstill or a block. The principles of seed sowing differ but slightly for all kinds of seeds sown at this time. Avoid too thick or too deep sowing, and thin out the seedlings before they become crowded in the seed pans.

German Irises.—When the German Irises are in bloom and at their best few flowers in the garden approach their standard of beauty and wealth of qualities. The common Iris germanica is grown in nearly all gardens, but there are at least a dozen varieties whose presence would be a source of attraction in any garden. It was more of the pot culture of these Irises, however, that I wished to write. Few gardeners, so far as I have been able to see, have attempted to cultivate the roots in pots; yet they can be had in flower with very little coaxing. The plan is to lift and pot up some of the best rhizomes about the beginning of March or even earlier, and after having allowed the soil to settle the plants may be placed in a temperature of 60°, which may be increased or lowered a few degrees on either side without debilitating the plants. In three weeks' time the growth of the flower spike appears. When the flowers themselves have begun to expand the plants may be conveyed to the greenhouse, where they will remain as objects of interest and admiration. I think that amateur gardeners, even more than the professional members, might make use of this hint, for the smaller greenhouses stand in greater need of having something new than do those of large, well-maintained gardens.

Lilium auratum.—Good bulbs for pot culture should be potted up now. The sooner they are into the soil the better for them, for when long exposed their value somewhat deteriorates.

Lilium longifolium eximium, better known as L. Harrisii, may be kept on the stages of a cool Peach house in the meantime. Where the bulbs are wanted for Easter flowering they will have to be placed on a shelf in an early Peach house, when the latter is started in January. The plants should then be vigorously syringed once or twice a day with chilled water. This will keep them free from greenflies and kindred pests. Feeding and top-dressing should not be forgotten, but these must be judiciously practised, else the plants, being soft, are left open to the diseases which are known to cripple them.

Forced or Forcing Bulbs at present under cover of ashes or fibre must not be neglected too long for fear they may have become etiolated. Those that are in growth (and most of the Hyacinths, Narcissi, Tulips, and smaller bulbs have started) should be taken up, or at least should have the covering removed, but may be left in a cool place till they are taken in to heat. If they are by the side of walls or in cold frames protective material must be always at hand in order to cover them securely against frost.

Fuchsias.—Young plants that have not been potted on since the end of autumn will most likely require a small shift immediately after the New Year. Employ a moderately light compost and pot firmly. The plants will be most serviceable as bush specimens, and must, therefore, be pinched and staked, so as to get this form of development. Overpotting and a higher temperature than 60° by day and 55° by night is certain to result in plants with luxuriant and too sappy shoots. Be generous, but be judicious.

Pentstemons.—The cuttings in the frames must be kept well aired and, so long as the damp weather continues, they must be kept free from anything likely to cause decomposition of the leaves or stems. Fallen leaves that blow in about them should be picked off. Pentstemons are hardy in all ordinary winters in the south, so that the young plants can be planted out early in the spring season. They enjoy a good loamy soil, and where the quality of the land is light steps will need to be taken to enrich it. The Pentstemons are very frequently called Penstemons, the letter "t" being dropped. But when one remembers that the name is derived from the fact that the flowers have five stamens, the presence of the "t" is made evident. The other plants of the same order as the Pentstemon, that is, the Scrophularineae, have generally five stamens, but in this order the stamens of some of the genera are variously modified, and four is often found. The florists' varieties of Pentstemons have descended mainly from two perennial varieties, P. Cohaea and and P. Hartwegi, both of which have reddish-crimson flowers, and hail from the western regions of North America. By selecting from, and crossing with these early introduced species, the present dwarf, bushy, and floriferous plants with bell-mouth flowers have been obtained. Just as in everything else, once a certain degree of progress and development has been attained further advancement goes along quickly, so with Pentstemons. Each year brings some fine new varieties whose merits may lie in their increased brilliancy of colour, larger and better formed, attractive flowers, more persistence, hardiness, or improved habit. The latter, however, is now as fine as one could wish it to be. An inspection of the nurserymen's catalogues will give anyone a good idea of what varieties are popular and advanced. Lists usually appear during the showing season in the reports published in the gardening journals.

Asters. — While the seed orders are being considered the claims of annual Asters may be brought to mind. The genus of the Asters is a very varied one, and is most valuable so far as our gardens are concerned. The Michaelmas Daisies or Starworts and the dwarf, little annuals are grown in every garden, and many small gardens without them would be of little interest. The annual Asters, which include the Victoria, Quilled, Pyramidal, Comet, Dwarf German, Crown or Cockade, and the Empress "types," have originated from the old Chinese annual Aster, Callistephus hortensis (chinensis), introduced 170 years ago. And just as with the Chrysanthemum, so with the allied genus of Aster, each year marks further additions and sees so-called new types. These types, which originate as freaks or sports from pre-existing types, are naturally taken notice of, and eventually after a number of years' selection and improvement the type becomes more or less constant, and so adds one more to the list. For a fuller description of the annual Asters I would refer any who are interested to look up Hints for February 3rd of the past year, vol. xvi. The seeds may be sown during the second week of March on the surface of light soil in pans. These should be covered over with glass to be then placed in a house, frame, or pit having a temperature of 60° off and on. Prick off the seedlings when a couple of seed leaves have appeared, using a light soil containing a goodly percentage of leaf-mould, say, nearly one-half. By the middle or end of May the young plants will be fit for planting in the beds or borders.

Pansies and Violas in beds are doing well this year, which is but natural after such an open season. It is a benefit to them to have the surface soil stirred between them. In case of frost a loose soil is even better than a firm one. Those who have not cuttings or young rooted plants for spring planting, and who may still desire to have Pansies, new or old, should obtain and sow seeds in February in a gentle heat, and these will be fit for planting out in May. They must be transplanted, however, from the seedling stage to frames, after which they will be fit for planting out. The rich colours of the Wallflower strain, sent out by Messrs. Dobbie & Co., should not be forgotten. When planting I think that much the best effects are obtained when the colours are harmonised, that is, all the shades of bronze, red, and brown, even to orange-gold should be kept by themselves.

Everlasting Flowers are always popular because they supply flowers that when properly treated can be had for room decoration in winter. The seeds of Ammobiums, Helicrysiums, Acrocliniums, Rhodanthes, or Helipterums as they are now properly named; Waitzias and various species of Statice as S. latifolia, S. Fortunei and S. Bonduellii, may all be sown along with other flower seeds in frames in March, or outside in May. The Rhodanthes are specially pretty, but most of the other "Immortelles" become too artificial-like to call forth much admiration from me—not that artificial flowers are not sometimes beautiful in their way.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Royal Horticultural Society's Examination.—*Aspirant*: It is true that the holding of a First-class Certificate gained at an examination of the R.H.S. does not secure one distinguished appointments; but on the other hand we never knew a case where the holder of such certificate was not recognised as being at least a more enlightened person than him or her who was not a possessor of one. You will find that as the R.H.S. goes on and on in prosperity and influence the certificates will become more and more valuable, and we expect that a man will in time be duly respected for having secured this proof of his theoretical and practical knowledge. Young gardeners in great numbers complain that though they may be good practical gardeners yet they cannot express themselves well in writing. All the more need, say we, for the younger gardeners to practice writing and composition which is one of the primary essentials towards success in almost any business or profession. Write for particulars to the secretary, R.H.S., 117, Victoria Street, London, S.W.

Books Necessary.—*S. T. W.*: Mr. A. D. Webster's book on "Hardy Ornamental Flowering Trees and Shrubs" price 2s. 3d. post free, is a useful book on this subject. It can be had from the address of this paper. There are a number of good and useful books on fruit culture. "Fruit Culture for Amateurs," by Mr. S. T. Wright, price 3s. 6d., published by L. Upcott Gill, 170, Strand, W.C., treats in a discursive manner about how to grow the various hardy and indoor fruits, and mentions the best varieties and their peculiarities and qualities. "Profitable Fruit growing," price 1s. 2d., from 12, Mitre Court Chambers, Fleet Street, London, E.C.; or "Fruits for Cottagers and Small Holders," 2½d. each from the Royal Horticultural Society's offices, 117, Victoria Street, London, S.W. These are all books or brochures that will be of real service to you.

Hyacinths in Glasses.—*R. M.*: The base of the bulb should not quite be in the water. Fill up the glasses almost to the base of the bulb and then place the glass in a dark cupboard for three weeks. Roots will have been emitted and the glasses may then be placed on the window sill. A few pieces of fresh charcoal in the water preserves the latter in a sweet and healthy state.

Ornamental Plants for a Dwelling House.—*John Baines*: Eurya latifolia variegata, Aspidistra lurida and A. l. variegata; Araucaria excelsa, Kentia fosteriana, Dracaena sanderiana, Rhaphis flabelliformis, Cordyline (Dracaena) indivisa, C. terminalis, C. stricta congesta, Pteris serrulata and its varieties; Cyrtomium falcatum; Ficus elastica, F. e. variegata, Aloysia citriodora, Otaheite Orange, Solanum Capsicastrum, Richardia aethopica and the smaller species of greenhouse Veronicas are all ornamental in their way and will succeed in rooms so long as there is not an excess of gas in the atmosphere.

Propagation of Jasminum nudiflorum.—*L. F.*: In a gravelly porous soil this beautiful winter-flowering plant propagates readily from slips or cuttings. Pieces of firm shoots about 1 ft. or more in length may be cut through below a joint (all the better to have a "heel" of older wood) and should then be inserted by the side of a warm wall. This should be done in early summer.

Cypripedium spectabile.—*J. R.*: The Mocassin flower, as this beautiful hardy Cypripedium is commonly called, enjoys a dampish situation between the shelter of adjacent slopes such as will be furnished by a recess in any ordinary rockery. The soil should be largely composed of pure peat. Plant in April.

Propagating Vines from Eyes.—*R. T.*: Do this early in February. We intend to furnish an article on this subject immediately.

Moss on Lawns.—*R. L. D.*: When the lawns are very bad, raking them with short-teethed iron rakes is resorted to. By this means a very large quantity of the moss is drawn out, leaving the grass. Then by furnishing a rich top-dressing of fine soil and fertilisers the grass is encouraged, and may eventually overcome the moss. Make up a finely sifted compost of good soil, wood ashes, and add 3 lbs. of basic slag per cwt. of the mixture; or bone-flour might take the place of the basic slag. Soot should be scattered over the lawn during showery mornings in April and May. Bad drainage and poor soil are often accountable for moss on lawns.

Begonia Gloire de Lorraine.—*A. V. M.* begs to thank Mr. A. Hemsley for his hints on the propagation of Begonia Gloire de Lorraine and expressed the hope that others may ventilate their views on the same subject.

Pruning Roses.—*J. F., Warwick*: Some Roses yield the best returns when hard pruned, others when less severely operated on. A. K. Williams comes under the former regime, while the popular Mrs. John Laing should be more lightly touched. A practice we have persistently advised is that of bending, in arch fashion, the points of long, strong shoots, and pegging them to the ground. Of course, before doing so you would have to prune back to firm and stout wood. It is often performed where an abundance of moderate sized Roses is wanted. Each bud all along the length of the shoot breaks and produces flowers. Teas should be pruned lightly, but what wood *is* left should be firm, plump, and well ripened. Gloire de Dijon on a wall requires to be spurred in. Climbing Roses in Rose houses need to be shortened back and radically thinned out. China Roses in beds are, somewhat like the Briers, best left alone, or at least only lightly thinned.

PINKHILL NURSERY, MURRAYFIELD.

Taking the advantage of our proximity to the nursery of Messrs. R. B. Laird & Sons, Pinkhill, Murrayfield, Midlothian, one fine afternoon in September last, we paid a hurried visit of inspection to see some of the many things which are grown in that establishment. The large Palm house contained a varied assortment of new and old Palms, some of them of considerable size. For instance, a plant of the relatively new Kentia sanderiana was 3½ ft. to 4 ft. high, very graceful, and furnished with suckers at the base like Areca lutescens, and, therefore, useful for potwork for those who like to have small Palms at the base of a large one. This one supplies the want, without the use of supernumerary specimens. Kentia belmoreana was also of large size, and K. karsteiniana resembled some of the fish-tailed Palms (Caryota). Thrinax elegans is a graceful fan-leaved Palm that ought to be more extensively grown for decorative work in private establishments. Phoenix rupicola has now attained grand dimensions, a specimen here measuring 24 ft. from point to point of the leaves, and standing 14 ft. high. A rare variety is Kentia fosteriana variegata, the leafstalks of which are even more finely variegated with yellow than the leaves. A large specimen of K. belmoreana, 12 to 14 years old, grown in a specially made and deep pot, was in splendid health. The pot being narrow did not take up so much space as an ordinary No. 1 pot would. Large plants of K. fosteriana are kept in small pots, put in a moist atmosphere, and well fed, which proves far more preferable than putting them in big pots. Some of the large specimens even have their roots trimmed down occasionally and put into relatively small pots, giving very satisfactory results. The leaves of Curculigo recurvata were 3 ft. to 4 ft. long, a very unusual size for this plant, which, moreover, is not a Palm.

In the propagating pit was a fine batch of Nerine Fothergillii, whose large scarlet flowers are very handsome. The new Ficus radicans variegata was grown on pieces of virgin cork, stuck into pots. It requires similar treatment to F. repens. The scolloped, palmate leaves of Evodia elegans, a new table plant, is very handsome. Cuttings make the best and most bushy specimens, those obtained from seeds being bushy on the top only. It develops its best form with greenhouse treatment. Even less known is E. formosa, but its broader leaflets make it less graceful than E. elegans. The leaflets of Panax monstrosa aurea (new) are oval and yellow in the centre. Those of P. Balfourii are nearly orbicular and of irregular outline. The long, narrow leaves of Carex Victoria are gracefully recurved, of firm growth, white in the centre, and 12 in. to 15 in. long. About seventy varieties of Crotons are grown on the place, including Golden Ring, Flamingo, and other popular sorts. For the rest the house is occupied with general stock being propagated.

Messrs. R. B. Laird and Sons' Group in the Waverley Market, Edinburgh.

At one time or other many fine varieties of Dracaenas have been raised at Pinkhill. D. Marchioness of Lothian has bronzy-crimson leaves about 2½ ft. long, and very graceful for table work. Those of D. Princess May are also narrow and bronzy purple, with a narrow red margin. The leaves of D. Mrs. D. P. Laird are even narrower, with a bright red eye and very graceful. D. Miss Glendinning has more red colouring on the middle of the leaf. Those of Duchess of York are likewise narrow, but green and bordered with red, while the young leaves are rosy and very pretty. The plant is of vigorous growth and good constitution. There can be no doubt this is a fine strain of crosses and a record for the firm. Other fine foliage stove plants in this house include Alocasia macrorrhiza variegata, A. argyrea, silvery all over; A. thibautiana, with

large shield-like leaves and broad silvery veins; and A. watsoniana, like the previous one, but silvery all over. There seems to be two forms of Schizocasia sanderiana, with silvery nerves, one having the leaves purple beneath, and the other green beneath.

Ferns and Bamboos of a useful decorative character occupy the fernery. Tiles fixed along the eaves of the house are filled with Adiantum for the sake of cut fronds. The finely variegated Abutilon Sawitzii makes a showy plant. Winter flowering Begonias are a new feature here, including the ubiquitous B. Gloire de Lorraine, and the handsome President Carnot. Epiphyllum russellianum Gaertneri, grafted here and there upon the stems of Pereskia, makes a fine pillar plant with its drooping leaf-like shoots and orange-scarlet flowers. Standards of it of two years' growth are also fine. Standards of the better known E. truncatum vary from one to five years old.

Another plant house contains plants of the graceful Delabechia rupestris whose pal mate leaves are made up of finger-like pinnae 6 in. to 9 in. long. A stock of Asparagus plumosus nanus is grown in small 60-sized pots. The beautiful Saxifraga sarmentosa tricolor superba, suspended in pots, also does well here. Another plant suspended in pots is Othonna crassifolia. A fine plant of Kentia fosteriana, raised by Mr. W. C. Craig, the foreman here, about fifteen years ago while at Clovenfords, has passed through many mishaps, but is now a healthy specimen, 16 ft. high. Asparagus Sprengeri, raised from seeds, is grown in quantity and found very useful for a variety of decorative purposes.

The conservatories, on a level with the great western road to Glasgow, are filled with greenhouse subjects in great variety. Tuberous Begonias raised from seeds prove most servicable and now bear large round flowers in all the leading colours, both single and double. They are useful for bedding purposes. Conservatory climbers in great variety are grown, as well as hybrid greenhouse Rhododendrons. The yellow flowered Statice Bonduelli is grown as a biennial. Other plants include Araucaria Bidwillii, Camellias, Lilies, &c. Acaclas, Azalea indica, in variety, Fuchsias, Trachelium caeruleum, and T. c. album, the two latter being used for decorative work instead of Gypsophila, are some of the many things to be seen. In the fourth compartment of this range, a large batch of Indian Azaleas are grown for the sake of cut flowers at Whitsuntide. Though that is a late period, the plants were well set with buds and promising even in September, but they are kept very cool. The cylindrical scarlet flowers of Erica verticillata were bright at that period. Zonal and Ivy-leaved Pelargoniums take up a considerable amount of space.

THE OLD PINKHILL NURSERY.

This portion of the establishment is situated on the more steeply sloping side of the hill on the right-hand side of the Glasgow road, and constitutes the oldest part of the nursery. A considerable extent of glass still occupies the ground. One house contained Tomatos grown in pots for seed, the variety being Laird's Stirling Castle, a free bearer, with moderate-sized fruits. The juvenile form of Retinospora squarrosa (known in the trade as Juniperus bermudiana) raised from cuttings, and grown in small pots, proves very useful for decorative work. A batch of Ficus elastica in 48-sized pots was also in good form.

A houseful of Palms included Kentia belmoreana, K. fosteriana, Livistona rotundifolia, and Chamaerops humilis in plants of useful size. A large, cool house accommodated a great variety of useful subjects such as Fruiting Vines in pots, ripening off their wood, large plants of Areca Verschaffelti, Chamaerops excelsa, Cocos plumosa, 20 ft. high, and standard plants of Robinia Pseudacacia bessoniana. Figs in quantity for stock included Brown Turkey, Castle Kennedy, Bontana, Early Violet, Panachée, Bourgassote Grise, Bonrgassote Blanche, Negro Largo, and many other useful and more or less popular varieties.

There was a houseful of variegated and other Ivies, and alongside of them was the Strawberry-Raspberry. Palms, Coelogynes, grown for the sake of cut flowers, and Pancratiums filled another house; while the propagating house was largely occupied with pot Vines. The frames contained a collection of Pernettyas with fruits ranging from pure white to the deepest purple and crimson; also other choice shrubs such as Bays, Escallonias, Buddleia globosa, Cytisus scoparius andreanus, &c. Laird's Supreme and Laird's Stirling Castle Tomatos, grown for seed, occupied one side of a house, while the other was devoted to Palms, &c. A good strain of seedling Amaryllis and Aralia Sieboldi in quantity filled the most of another house. Large Clivias, Ophiopogon Jaburan variegatus, Ampelopsis Veitchi in pots, Cannas, Cypripediums, Dendrobiums, Clematis indivisa, C. i. lobata, Tea Roses in pots, climbing Niphetos, &c., on the roof, filled the space in several other houses.

OUTDOOR PLANTS.

FLORISTS' flowers receive a considerable amount of attention at Pinkhill, large quantities of Antirrhinums, Pentstemons, Sweet Peas, &c., being showy and floriferous at that time. Good varieties of single Dahlias raised and named here represented many fine types and colours. Cactus Dahlias made another feature. Early-flowering Chrysanthemums were planted out, but the large-flowering forms were extensively grown in pots. The double white Pink Mrs. Sinkins had made remarkable growth here, being 18 in. high, and still in full bloom, though it had been flowering for three months previously. Coreopsis grandiflora often proves perennial here and seeds freely.

TREES, SHRUBS AND CONIFERS.—The double pink flowering Bramble was very showy, giving cause for surprise that it should not be more frequently seen in private establishments. Handsome trees were the Aucuba-leaved Ash and the small-leaved golden Elm. Japanese Maples are grown in great variety. Two very fine Elders are Sambucus racemosa laciniata foliis aureis, with finely cut golden leaves; and S. r. tenuifolia with narrow leaflets and green. Dimorphanthus mandschuricus, fine bushes of Olearia Haastii, Hypericum patulum, the broad-leaved Buxus Wallichi, Menziesias, Heaths, including the white Heather, the golden and oval-leaved Privets, also dwarf bushes of Ligustrum vulgare aureum, Hypericums, variegated Dogwoods (Cornus), Negundo aceroides variegatum, Acanthopanax horrida variegata (or A. pentaphylla variegata), &c., are some of the many choice shrubs noted.

Conifers are equally abundant and varied, including Sequoia sempervirens albo-spica, Cupressus lawsoniana Silver Queen, C. l. albo-spica, C. l. glauca, C. l. Allumi, C. l. Fraseri, C. l. Youngi, C. l. stricta pyramidalis, C. l. erecta viridis, C. l. caerulea compacta, of pyramidal compact habit but vigorous, and seedlings of the same species in considerable variety show what an extremely variable plant it is. Abies kosteriana is more glaucous than A. pungens glauca. A. p. pendula is of drooping habit of growth; and A. parryana argentea is silvery. Salisburia adiantifolia has stood 30° to 40° of frost in the nursery. Fitzroya patagonica is an uncommon Conifer. Other useful things are Thuyopsis borealis, Thuya columbra, Tsuga Sieboldi, T. pattoniana, T. hookeriana, Picea firma, P. Veitchi, P. concolor, Sequoia gigantea, and Abies orientalis are a few of the many Conifers to be seen here.

The accompanying illustration (p. 297) shows a finely-arranged group of plants set up by the firm in the Waverley Market, Edinburgh, on the occasion of the September show.

To Chrysanthemum.

Chrysanthemum fair from a far-away land,
  Where Japs. with great care have long bred thee,
Let us cherish the beauty unfolded so grand,
  In a glorious head that's inspiring to see.

The Occident welcomes thy charming array
  Of form and rich colour so rare and so fine.
The florist's great pride is thy wealth to display,
  Where many can see the flower divine.

In the fullness of time thou comest to bloom,
  And give brightness and blessing to all,
When other fair flowers in absence make room
  To display a perfection so late in the fall.

Let us a lesson receive from thee now:
  A dull and dark month is brightened by thee.
Lateness in life is still early to vow
  A blessing to others—God's servant to be.

Byron D. Halsted, in "Washington Star."

DUNIPACE HOUSE, STIRLINGSHIRE.

DUNIPACE HOUSE, Dunipace, Stirlingshire, the seat of James Harvie Brown, Esq., is situated in the valley drained by the River Carron, to the west of Larbert, and near the main road from this part of Stirlingshire to Glasgow. The valley itself widens out in places to broad stretches of rich corn and meadow land, except those portions occupied with trees, usually in the neighbourhood of residences. The approach to Dunipace House is through a long avenue of splendid Sycamores or Scotch Planes, on which the timber merchant would like to lay his fingers. There are also some grand old Oaks in the vicinity of the gardens as well as plantations of a younger character in the immediate neighbourhood of the mansion and gardens. One patriarchal Oak measured 16 ft. round the trunk, and had a spread of branches equal to 261 ft. in circuit.

The kitchen garden is surrounded by fine brick walls 18 ft. high along the northern end, while the other walls are not much lower. The visit was made in the third week in September, when Peaches were ripening on the walls. Two trees of Royal George, on a south aspect wall, were laden, and the brightly coloured fruits were being gathered daily. They have never missed bearing a crop for the past eighteen years. One of the trees ripened 380 fruits a year or two ago. The walls elsewhere are much utilised for the growth of Pear trees, of which Louise Bonne of Jersey, and Muirfowl's Egg were carrying heavy crops. Catillac and Beurré de Capiaumont Pears grown as cordons, and Jargonelle in vase form, were also laden with good fruits. Kirk's Seedling Plum was remarkably well fruited, but the equally heavy crop of Victoria had just been gathered. On other parts of the walls old trees have been rooted out and their place taken by young ones, some of which are now beginning to bear freely. Apples were represented by fruitful trees of Melon Duchess of Oldenburg as a cordon, also King of the Pippins and Cox's Pomona in other forms. There were also handsome crops of Williams' Bon Chrêtien, Pitmaston Duchess, Clapp's Favourite, and Beurré d'Amanlis Pears, the fruits of which were of handsome size, each according to its kind. Here, too, Pond's Seedling Plum was a picture of fertility. Bramley's Seedling and King of Tomkins County, as well as other varieties of Apples, grown as bush trees round the borders of the vegetable quarters, were also in good bearing. Bushes of Durondeau and Louise Bonne of Jersey Pears were also noteworthy. Green Gage Plums on the walls also ripened nicely. On a piece of ground outside the garden walls is a plantation of old standard Apple trees, which were heavily laden with fruit of smaller size than on the younger trees inside.

Small fruits also do well, Black Currants fruiting heavily, and sometimes carrying as much as 15 lbs. on a bush. Red and White Currants on a north aspect carried heavy crops. Gooseberries carried a tremendous weight of fruit as they often do in cool, moist districts. To keep the birds away a framework is erected over the Gooseberry quarter, and covered with nets. Wire netting is put round the base, by which means the birds so plentiful about here are foiled. There is a plantation of Raspberries, eighteen years old, and still in grand bearing. Like the Gooseberry the Raspberry is at home in the climate of Scotland. One plantation of Strawberry Vicomtesse Hericarte de Thury is twelve years old, and is likely to keep on for some time to come. This plantation fruits better than much younger ones. This may be some surprise to those who treat the Strawberry practically as a biennial, destroying the plantation after it has fruited once. The long continued wet weather during the past season caused much of the fruit to rot on the ground. The whole district lies low, and is, therefore, subject to late spring frosts, but the soil is deep and fertile. As above stated, it is the valley of the Carron; it is likewise the valley for the road, rail, and the Forth and Clyde Canal.

In the kitchen garden is a fine old plantation of Asparagus. The Cabbages planted a year ago past last autumn having yielded a good crop of heads, were left in the ground, and were furnishing a second crop of small-sized heads. The crop for 1901 was just about to be planted. The summer plantation was fresh and good. The same may be said of dwarf and tall Curly Kail, Brussels Sprouts, Leeks, red and white Celery. Onions were of good useful and keeping size. Peas were in full supply during the

third week in September, and gave promise for some time longer, not a special late sowing, but a main crop.

Bush Roses were flowering freely all alongside of the walks in the kitchen garden, mixed with useful herbaceous plants. The grand old Gloire de Dijon was flowering handsomely on an open wall. Sweet Peas, 6 ft. to 8 ft. high, were still flowering most profusely, lasting as they generally do in Scotland till frost cuts them down.

Gros Colman Grape on Lady Downes as a stock carried some grand bunches, beautifully finished, and as black as Sloes. Alicante, Muscat of Alexandria, Foster's Seedling, and Black Hamburgh, each in their way had equally fine bunches and as well coloured. Tomatos were grown in pots, Austin's Eclipse being esteemed for its flavour. Others were being grown at the foot of walls outside to be taken inside later on to finish their fruits and keep up a succession.

Mr. James Menzies, the head gardener, has presided over the destinies of the place for many years past, and is genial and courteous to the stranger within his gates. Though generally or nearly always at home looking after his charge, he nevertheless finds time to run up to the September show at least in Edinburgh, where he secures prizes for his Grapes and other fruits.

COLDRA, CAERLEON, MON.

THE beautifully situated residence of F. L. Davis, Esq., is beautiful even under the conditions which prevailed during the dying days of the nineteenth century. And those conditions were anything but cheerful, as the characteristic signs and popular notions of the days which range round Christmas were almost absent, save and except the leafless trees, the wet woods, the surcharged streamlets, the misty morns, the short days and other matters consequent upon a state of things at once unseasonable and unsound. In fact—

"The landscape sleeps in mist from morn till noon;
And, if the sun looks through, 'tis with a face
Beamless and pale and round, as if the moon,
When done the journey of her nightly race,
Had found him sleeping, and supplied his place."

And so the *fin de siècle* came. There was weeping of rain-clouds when there might have been freshness and frost; there was darkness when streams of light or glittering snow would have been hailed with delight. Such things, however, were not to be, and so we must take Nature as we find her, for she makes no sharp distinctions between days, or seasons, or years, or centuries Still, in all her varying moods and phenomenal phases, there is much to interest and much to learn. And so at Coldra, which is a microcosm in itself, there was much to see in the gardens and the woods when the fogs lifted, the rains ceased and the winds abated.

I have seen Coldra in the sunshine and the shower, but never, perhaps, so picturesque and broken as on the occasion of my recent visit. Even in its barrenness, comparatively, it is highly exhilarating, and there is a quality about it which braces both the mind and the body. The newly-turned brown earth of the kitchen garden, for instance, is indicative of labour; and labour properly directed results in satisfaction. Moreover, garden labour contributes to physical development—the quintessence of health—and is the essential of all good gardening. Mr. J. Fraser seems to realise this, and the results are distinctly pleasing. In addition to a free use of garden implements, much planting has been carried out; fruit trees, especially Apples, have been renewed, wall trees attended to, herbaceous borders overhauled, paths redressed, and sundry other things which go to make a garden what it should be, effective.

Sweet Violets, of the Czar and Marie Louise types, still perfume the ambient, though Scotch-misty, air. Carnations and Roses, pale and wan, refuse to go to their well-earned rest. And so do many other things, for the nightly negus and the daily dousing serve, with a high temperature, to keep them in a state of excitation. Vegetables, too, continue to "blow" and grow; but as Mr. Fraser has to supply large quantities of these they have overflowed the high wall-in garden, and some of them now occupy a field site more elevated still. Here they get more sun and air, and thrive amazingly.

In his cloudy "Kail-yard" Messrs. Sutton & Sons are well represented. Broccoli Winter Mammoth produces fine "flowers" which are self-protecting; Brussels Sprouts Exhibition and Matchless, I can vouch for. They ought to be good, and they are; in fact, some of the specimens come, in point of symmetry and robustness, very near the illustrations in the picture books. Savoy Perfection is doing well, and Kale A1 is crisped and curled and otherwise superlative. Perpetual Spinach is always on hand, and Leeks Musselburgh and Prizetaker are large and luscious-looking. Prizetaker is nearly over, but some "remainders" measured from 7 in. to 9 in. in circumference, and were lengthy in proportion. These were sown on Xmas Day, 1899, but otherwise had received no special culture. Musselburgh was sown outside, and transplanted; it looked in fine heart, and will form a useful succession crop.

The houses were gay with many plants, Primula sinensis in various forms and P. obconica in two or three colours, making a fine display. Hardy Primroses in the garden and the coppice were also coming into bloom, some, indeed, were fully expanded. The Fern house, too, was likewise represented outside, and, if possible, the Ferns outside were brighter and richer in colouration than their congeners under glass. The Adiantums—a very useful class of plant—constitute a feature in the Fernery. A. Capillus-Veneris imbricatum, A. trapeziforme, and A. Williamsii taking my fancy. The former is done well at Coldra, and makes a superb companion to A. tenerum farleyense. Aspleniums are also in request, but their hardy sisters of the wall and hedge bank—A. Trichomanes and A. Adiantum-nigrum—present a deeper and a richer hue. The greenhouse Nephrodiums are not to be despised. The common Male Fern, however, growing in the adjoining wood is a darker green, and seen as we saw it, weighed down with a film of moisture, it rather resembled a Todea than a Lastrea or Nephrodium. Then there were Polypodium (Phlebodium) aureum and Polystichum (Aspidium) angulare proliferum, and many others. On old tree stumps and stone walls the British Polypody (P. vulgare) again presented a depth of colour not seen under glass, and in that respect rivalling its exotic relation of the glaucous hue and golden reverse, while the typical Polystichum angulare, if less proliferous, was more emerald. The common Hart's-tongue (Scolopendrium vulgare), too, was a revelation in quality of colour for the time of year, and served to emphasise very clearly the weather conditions which obtain in southern Monmouthshire. In the flower garden likewise there were presentations of many colours; there were Roses at Xmas and Xmas Roses, a distinction and a difference. There were Periwinkles in full bloom, and Wallflowers in fine foliage and development. Bulbs in variety were making for the dim light of day, while common Snowdrops, minus the snow, were dangling their buoyant bells.

The drive up to the mansion was cheerful and gay with the Laurustinus, bugh bushes of which were resplendent with bloom. The Common and Portugal Laurels were a verdant sight, while the Strawberry trees were as fruitful and full as the birds would permit them to be. The lodge itself was wrapt in colour Jasminum nudiflorum, Cotoneaster buxifolia, and the "Glory" Rose. Araucaria imbricata was a picture of green health, and on one fine specimen was a goodly number of cones as well. Conifers generally seem to thrive famously, Sequoia gigantea towering over all. In the wood above the mansion Euonymus europaeus was a crimson cynosure, while on the margin of this same wood, at an elevation of about 200 ft. above the hedge, Ulex europaeus, the common or much debated Furze, a "golden glory." Anyway, we gathered sprays 18 in. long, with a profusion of fully expanded flowers, and buds in all stages of development. I was glad, therefore, to come across such a cheerful reminder of other times and places. This tendency to flower at all seasons is doubtless due to position and climate. Anyhow, we can ask with Shelley—

"*If* winter comes can spring be far behind?"

—*C. B. G.*

Mariposa Lilies (Calochorti), when skilfully handled, are exceedingly tasty flowers for buttonholes. Use Adiantum cuneatum with them, and employ about three blooms.

ON FRAGRANT TREES AND PLANTS.

(*Concluded from p. 282.*)

NARDOSTACHYS JATAMANSI.—An Indian plant wholly aromatic, which produces the spikenard of the ancients. Apart from its historical associations, the substance made from the root is still largely used by the Jews for anointing the body. In India it is chiefly employed by the ladies to perfume oil for their hair.

NARCISSUS.—A well-known sweetly smelling plant that blooms in the spring. The double flowered type is brought in enormous quantities to London, and frequently sold as Gardenias. Our illustration shows a very large field of one species in Holland the scent from which was very powerful.

The Jonquil is a very dainty type of this family. Here is an illustration representing a plantation at Grasse for the purpose of scent extraction.

NELUMBIUM.—The Egyptian Lotus or Water Lily of the Nile. Many are the curious fables attached to this historical plant. The pure white variety, so sacred to the ancients, was thought to be lost but Sir George Birdwood tells me it has recently been discovered in the Upper Nile whilst cutting the Sudd, a mass of floating vegetation, that hinders navigation beyond Fashoda. Here is an illustration, taken from some old sculpture in the British Museum, which represents Egyptian ladies smelling the flower before prayers. Here also is a photograph of the flower itself.

NERIUM OLEANDER.

NYMPHAEA.—The Water Lily of Europe and other temperate climates. Some species are very fragrant. Here is a flower as it lays on the water.

ORCHIDS.—In such extensive genera of plants there is a surprising range of floral variation in both colour and fragrance. Some possesses the sweetest of odours, whilst others, equally beautiful in appearance, have either no scent, or diffuse the direst obnoxious taints.

Some give off a pleasing fragrance in the morning, and become quite nauseous by evening; others again are just the reverse. The curious way in which very dissimilar odours are generated in vegetation is exemplified by Triteleia uniflora, a tuberous plant from South America, with a delicate odour of Violets in its blossom; this favour, however, when the flower is bruised or plucked, is quite overpowered by the odour of Garlic. As another instance of the singular connection between these odours, it is remarkable that the Cassie flowers (Acacia farnesiana), which possess an odour similar to that of Violets, have the property of imparting a strong smell of Garlic. Our illustration represents a tree in India covered with an Orchid.

A very lengthy list of Orchids possessing odorous properties will be found in my book on Fragrant Plants, published by Messrs. Sampson, Low & Co. (*see end of pages*).

PELARGONIUM (Geranium).—A plant known to every lover of the common things in our gardens. The particular group that falls under our notice is what we know as Scented Leaved Geraniums. There are quite thirty distinct forms, each having its own peculiar odour, which ranges from peppermint to Orange blossoms. Some few specimens are staged on the table.

PINUS.—Including the Scotch Fir, Spruce and Larch, all noted for the health-giving odour they impart to the atmosphere.

POGOSTEMON PATCHOULI.—A herbaceous plant found chiefly in India and other parts of Eastern Asia. An important oil is distilled from the leaves, and is the chief ingredient in the scent called Patchouli. The natives stuff their beds with its leaves, believing that they possess health-giving properties and keep off contagion. The peculiar smell attached to Indian shawls is given by this oil. Some specimen leaves will be found on the table.

POLIANTHES TUBEROSA (Tuberose.)—A bulbous plant grown in our greenhouses for its beautiful flowers, which also yield a rich scent, and large areas are cultivated for this purpose on the shores of the Mediterranean. Our illustrations show a field in Natal, a house of it in this country, whilst our third picture represents it as grown in the south of France for the purpose of scent extraction.

PRUNUS.

RESEDA ODORATA (Mignonette).—Our illustration shows a field crop growing for seed purposes on Messrs. Carter's Seed Farms in Essex.

ROSA.—In all ages the Rose has been held in the

highest esteem, and much time could be spent in discussing its inimitable merits. The early nations have sung to its praises and written of it in their books. Historical and legendary notes in profusion mark the middle ages, and so has this handsome flower been brought down to the present, improved in size, colour, form and fragrance. In our rapturous feelings for the Rose we must not forget the modest attractions of the Sweet Brier.

The culture of Roses for the purpose of extracting the Otto, or essential oil, is quite an important industry both in Europe and India. In the town and district of Kizanlyk in Bulgaria over 5,000 acres of Rose gardens are scattered about, whilst in the neighbourhood of Grasse in the south of France some 350,000 lbs. weight of petals are distilled daily through the month of May. What with the aroma when the flowering season is on, and the gaily attired girls gathering the petals, the scene is delightful. Here are some interesting photographs.

Rosmarinus (Rosemary).—A well known plant cultivated for its perfume, which is largely employed in the scent known as Eau de Cologne.

Salvia rutilans (Apple-scented Salvia).

Santalum album (Sandalwood).—An Eastern tree with fragrant wood, which has largely entered into religious rites in India, and since the introduction of Buddhism into China it is also used there in the fumigation ceremonies in the temples. No one could tell us more about the great values set upon these fragrant substances in India than Sir George Birdwood, whose very name is held in great reverence by the natives of the Bombay Presidency. Sandalwood holds high rank as a sacred substance in their religious duties: pieces of the wood, varying in size according to circumstances, being burned before the idols, and the many thousands of Brahmins and Buddhists, on beholding the smoke incense curling towards the sky, presume they have performed their obligations, and that the perfume smelt by their deity will obtain forgiveness of all their wrong doings. A similar belief exists in China where they burn the joss sticks, the smoke from which wafts the souls of their dead from the wickedness of this world and accompanies them to a better home beyond the skies. Our illustration represents a very handsome cabinet exhibited by the Indian Government at the Paris Exhibition this year, made entirely of this wood, and valued at a large sum of money. This photograph was taken by permission of my friend, Mr. B. J. Rose, Her Majesty's Representative in the Indian Section.

Saussurea hypoleuca (Costus).—The root of this Indian plant, when rubbed, has a strong odour of Violets. Employed by shawl merchants in Kashmir against the attacks of insects, and burned as incense in China.

Styrax Benzoin.—A small tree, native of Palestine. By incision the bark yields the resinous juice known as storax or benzoin, largely used in the Roman Catholic and Mahommedan churches, where it is burned. An example will be found on the table.

Tanacetum (Tansy).—Some flowers attract birds and bees by their nectar, others repel them by their stupefying odour. Both the leaves and flowers of Tansy are said to have this stupefying effect on insects.

Thymus (Thyme).—A well known herb.

Tilia Europoea.—An ornamental tree known as the Lime, and found in all well regulated establishments in this country. Apart from its beauty as an ornament, its flowers are delightfully honey scented, the fullest strength of which is given off on a damp evening in June, when a most subtle perfume permeates the atmosphere. This was the national tree of the old Germans, and at the present time Under de Linden Strasse is an important thoroughfare in Berlin. Here is an illustration of it.

Trigonella Foenum-graecum (Fenugreek).—A clover-like plant with a strong hay scented odour. The seeds are powdered, and used for adding flavour to damaged hay. Some seeds are exhibited.

Victoria regia.—The Royal Water Lily of the Amazon river. My illustration is from the plants in the Royal Botanic Gardens at Regent's Park. Each of these tea-tray-like leaves is sufficiently strong to carry the weight of a man. The flower is pure white when it first appears, and emits a powerful and pleasant odour. It then turns pink and fades away.

Viola odorata.—The sweet Violet of gardens. Allusions to the Violet and its fragrance are common in the literature of all ages, and few flowers enjoy so universal a reputation. On the shores of the Mediterranean the Violet is cultivated on a large scale for the extraction of perfume. Here is a photograph of a plantation at Grasse.

Wistaria sinensis—A Chinese climber, well known here on the fronts of houses. Its beautiful lavender flowers have a sweet honey fragrance. Our illustration shows how much it is appreciated in Japan.

I have only been able to touch upon a very few of the thousands of fragrant things. The subject is a very large and comprehensive one.

The cultivation of plants and flowers in large areas has attained important dimensions in recent years wherever the climate gives them sufficient intensity of odour for profitable extraction. As already stated, in our own country we have the Lavender and Peppermint fields at Wallington, Mitcham, Hitchin, and Canterbury; the herb fields in Cambridgeshire and Lincolnshire. In the south of France many thousands of acres are devoted to flower growing for commercial purposes. You will have gathered from the photographs what an important industry it is there, where the climate is so balmy.

Here is an illustration of one of the distilleries that presses some half million pounds weight of Orange blossoms during the season. There are also made pomades, perfumed oils and waters, alcoholic extracts of flowers, and essences. It would take too long to describe all the successive and minute operations these undergo in their fabrication.

As statistics show what an enormous demand there is for scents and perfumes, attention is directed to the question whether it would not be advantageous to the community in general to develop the production of such of the raw material as can be grown in this country and its colonies. These materials consist mainly of essential oils, extracted as we have already observed from flowers, fruits, herbage, wood, and roots of plants. It would, of course, be very necessary to make experimental tests when trying a new plant in any particular locality, as it has already been found that conditions which favour a good growth do not always secure the best development of the odour.

Whilst our climate would not admit of the cultivation of Orange blossoms as a commercial crop, there is no reason why such things as Lavender, Peppermint, and Chamomile should not be grown on a greatly extended scale, and be much more profitable than are many crops now put on the land.

I should like to add, that for the loan of the fragrant plants and seeds I am indebted to Messrs. Carter & Co., the eminent seedsmen of Holborn, and for the gums and other aromatic substances to Messrs. Horner & Son, Mitre Square, Aldgate; for the various photographs and prints from which my illustrations are taken, beyond those collected by myself, to our chairman, Sir George Birdwood; to the Editor of *The Garden; Gardening; Gardeners' Magazine; Country Life;* Mr. J. H. Maiden, Curator, Botanic Gardens, Sydney; Mr. G. Rogers, of Yokohama; Mr. G. W. James, of Bermuda; and Mr. E. W. Tichener, who obtained for me the interesting photographs of the flower growing industry in the south of France.—*D. McDonald, F.L.S.*

DANDELION SALAD.

In days gone by the old gardeners used to blanch their Dandelions and Nettletops and offer them to the cook as a salad or vegetable much more frequently than nowadays is the case. We have more superior vegetables in their stead; yet as an experiment the Dandelion might be grown to see what demand it meets with. Here is how the leaves should be used:—(1) Gather the leaves when young and tender; wash several times in cold water; bunch the stem ends together in the hand, and with a sharp knife cut very fine; sprinkle with sugar, salt and pepper, and dress with mild vinegar. (2, with Onions). Prepare as above; mixed with sliced green Onions; make a dressing of cold cream with a little vinegar, and salt and pepper to taste."

Cocoanut trees take from ten to twelve years to produce a crop. Many of the nuts come from Ceylon.

THE SPRING CATALOGUES.

Messrs. James Veitch & Sons, Ltd.

The catalogue of seeds, &c., for 1901, sent out by Messrs. James Veitch & Sons, Ltd., Chelsea, ranks as one of the smartest and most reliable publications of the horticultural trade. The get-up of the catalogue is on the same lines as last year, the covers being white, the front being stamped with the representation of a large shield. Every page is illustrated with beautifully finished engravings, while in addition a coloured plate of the varieties of Cineraria polyantha (Cruenta hybrids) is furnished. This latter attraction is about as fine a model of colour printing as we have ever admired, and represents the cut inflorescences as though one had just gleaned a bunch from the plants. Veitch's New Hybrid Streptocarpus are well depicted, as are also Schizanthus retusus albus, the Star Primulas, and Kalanchoe flammea, all of which are conspicuous among the newer meritorious plants or types brought forward during recent years. The new Phyllocacti hybrids are both illustrated and described. It may be noted in passing that many of these new hybrids are becoming much more persistent in bloom, as well as very varied in colour. The Heliotropium New Giant, as this catalogue shows, is a great advance on the older types, and ought to spread rapidly. Gloxinias, Cyclamen, Aquilegias, and Begonias all call for reference. In the vegetable section there are a number of new varieties presented whose presence the vegetable grower will no doubt be quick to notice. The novelties among them will be found summarised on the first leaf inside the front cover. The catalogue is easy to trace through, and with so many illustrations enlivening the clearly printed pages on thick paper the publication is as attractive as it is useful.

Messrs. James Carter & Co.

With so vast a business connection in all domains of gardening and farming it is fit that the spring seed catalogue of Messrs. James Carter & Co., High Holborn, London, should stand amongst the bulkiest and best of those that are now appearing. The compilation for 1901 of the Holborn firm extends to 140 pages, these being 12 in. deep by 10 in. broad, within stout French-white covers, and nowadays, when so many floral and vegetable novelties annually appear, the traders in plants and seeds must needs illustrate these, which again means that the pages of the catalogue present subjects of interest from beginning to end. Parts of the Messrs. Carter's catalogue are, indeed, like a volume of specimen engravings, but each illustration in this "gallery of art" contains something of technical interest that one soon discovers. As a whole this catalogue seems indispensable to the gardener and garden lover, and ought to furnish a volume to which he can refer for much up-to-date knowledge that cannot always be had in real book publications. We notice the Petunias are not forgotten here, and the new strains of the best greenhouse and florists' flowers are both described and shown to view in their proper places. One of the best features of the illustrations is that they are nearly all from life-photographs of the plants as they have been grown. Thus the true character of the subjects is presented in the truest form. The section devoted to grass seeds is very interesting. The vegetables, especially Peas, Potatos, and Onions, are described with characteristic thoroughness, and one has only to use his or her judgment to acknowledge the high standard of quality that is here offered. Where everything is good the puzzle is what to choose and what to discard. One thing is agreed to, however, by most growers that progress is continually being made, and that the new varieties of flowers and vegetables are more likely to be worthy of patronising than some of the past-time favourites. We commend Messrs. Carter's sumptuous catalogue to the notice of any who may not have seen it hitherto.

Messrs. H. Cannell & Sons.

The Swanley firm are out betimes with their seed guide in its bright green covers. We notice on the back cover that the Silver-gilt Knightian Medal has been won three times in succession for a collection of vegetables shown before the Royal Horticultural Society. In the body of the catalogue there are figures of a number of sterling novelties besides of course a liberal selection of various other subjects. We remember how well the Messrs. Cannell showed the annual Asters at some of the summer shows. Among the first blocks that meet one's eyes is that

of a "Ray" Aster, having narrow petals expanding like sun-rays. The Asters are among the best of dwarf summer flowers, and here the grower has the offer of a full and wide selection. Begonias too, of all kinds, including those with frilled petals, B. hybrida marmarata "The Butterfly," and double flowered tuberous varieties, together with winter flowering and evergreen representatives are described, illustrated, and prescribed for, culturally. The pyramidal Forget-me-Nots that were so well shown at the last Temple Show by the Messrs. Cannell, are portrayed in their true character here. The fine illustration of a Hose-in-hose Mimulus ought to inspire some one to try its culture. It is easy to grow and few things are showier for greenhouse or even the open border. The China Primulas are also illustrated in their recent types of development such as the fimbriata strain, "The Lady," "Lady Whitehead," and "Swanley Giant" types. We would also call attention to the Salpiglossis of which there are a number of distinct and beautiful colours. Sweet Peas also obtain a full share of recognition. The paper of Messrs. Cannell's catalogue is rolled so that the 180 pages are compressed within moderate dimensions. There is a tremendous amount of matter between the covers.

MESSRS. DOBBIE & CO.

Messrs. Dobbie & Co., Rothesay, N.B., have a bulkier catalogue than that of last year, and we think that in appearance it is prettier than ever. Half-a-dozen named varieties of Sweet Peas are represented in colours on the front page, while three distinct Cactus Dahlia blooms, also coloured, adorn the back cover. Dahlias take a prominent place in the catalogue, as they do at Rothesay, though due space is given to all the florists' flowers, including Violas, Pansies, Stocks, Fenstemons, Zinnias, Asters, Fuchsias, &c., and many interesting and useful notes accompanying the illustrations. The catalogue all through exhibits proof of a great deal of care and thought having been expended on it. But it is more than a catalogue, it is a guide for competitors, and full cultural directions are provided for all classes of flowering plants or vegetables. On this account it is of especial value and ought to be in the hands of all cultivators.

MESSRS. WEBB & SONS.

The Messrs. Webb & Sons, of Wordsley, Stourbridge, favour their customers with some beautifully clear views of portions of their nurseries. Another feature is the illustrations of their Gold Medal, and other exhibits of vegetables and flowering plants that have appeared before the public up and down the length and breadth of the land. These will speak for themselves, and the idea of thus presenting views of the exhibits to gardeners and others who could have no chance of seeing them in reality, is good. Much is done in this catalogue to bring forward the decorative merits of the hardy perennial and annual plants. We need only refer to this feature; those who would learn what things are chosen may secure the catalogue. It is worth while to call attention to the illustration of a field of Nasturtiums at page 96 of the publication; and to remark that only when these glorious flowered annuals are grown in sheets can their great richness and brilliance be fully comprehended. The season's novelties in the line of Begonias, Streptocarpi, Gloxinias, Primulas, &c., and of vegetables, Potatos very specially, are all included in the issue now sent out. Inside the front cover will be found a record of the numerous honours that have been gained by the Stourbridge seed firm during 1900. The catalogue omits nothing that the gardener might wish to know, and is well printed on good paper. The outside design is very tasty.

MESSRS. TOOGOOD & SONS.

From Southampton comes the Messrs. Toogood & Sons' compilation. It will please and entice would-be competitors to make strenuous endeavours for further prizes when they read at page 83 that "I have won 750 prizes," &c., written by one of the firm's customers. Another correspondent tells how he has won 400 money prizes and silver cups, gold and silver medals, and marble clocks galore. Novelties in the way of dwarf fruits and continental introductions are freely disposed and illustrated in the pages of this up-to-date seed catalogue.

The word **Botany** is derived from a Greek word, *botane*, which means pasture or grass, and that from *bosco*, to feed.

FIGS IN POTS.

AT the Drill Hall meeting, held on Tuesday, October 9th, Mr. James Hudson, V.M.H., head gardener at Gunnersbury, Acton, W., read a paper on the above subject. He said that though Figs in borders were generally satisfactory those grown in pots could be insured to greater fertility, and were portable so that one could shift them about according to caprice or needs. And the pot system perverted the inconvenience of a glut of fruits at any one time. Larger fruits are got from border trees, but quantity and quality combined themselves in pot Figs. Lean-to or three-quarter span houses could be used for Figs, the back wall being devoted to trained trees, and the front to pot specimens. By this means it is possible to have Figs for nine months in the year. St. John was recommended as the best early Fig; Brown Turkey and White Marseilles being advised as successional varieties. The earliest batches could be started about November 20th, and others could be started at intervals till the month of April, when the trained trees would take up the run. A bottom heat of 75° to 80° is needed for the early forced batches. Use the syringe freely, but the young leaves should be dry at night time. Start with a top temperature of 50°, increasing by 10° at the end of the first fortnight, and so on till 70° was gained, or it may go up to over 80° during a sunny day. When the fruits have ripened the trees may be more and more exposed to sun and full air, so that the wood growth may be ripened. The system with late forced Figs is to keep them cool till they start to grow in March, when they may be put into more favourable atmospheric conditions. A place in a cold frame would do well to start with, protection from frost being alone requisite for some weeks at the start. Keep these plants pinched, pinching at the fifth joint. Negro Largo is a variety which has a tendency to split its fruits. To obviate this accord the plants cooler treatment, but don't keep them too dry—only medium. Fire heat should be brought to one's aid in the culture, about the end of September. In the potting of Figs they are treated exactly as for other fruit trees in pots. Mr. Hudson repots his Figs every year, though the same sized pot is generally again used. Late Figs should be potted so soon as they have ripened their fruits. Pot as firmly as possible, and it must be remembered that the balls should not be dry when the potting is done. A calcareous loam should, if possible, be chosen as the compost. Good drainage is very essential. Do not add any artificial manure at this stage, though as a top dressing it is advised when the pots are filled with roots. Figs must be heartily well watered. Six good varieties are St. John, Brown Turkey, White Marseilles, Black and White Ischias, and Negro Largo, are all first rate varieties.

SHRUB PLANTING FOR EFFECT.

THE knowledge of harmony and contrast in form and colour is one of the special qualifications required by the gardener who undertakes to plan and lay out or perform the planting of shrubberies and groups. There are rules to be adhered to and no one should attempt to execute any extensive amount of planting who is unacquainted with the principles which govern this sort of work. In all departments of gardening there has lately been an increased number of trained minds exerting their influence, pointing out that which their better knowledge of science and art qualifies them to say is right and proper. We are told that what is required is more bright shrubs, far more liberal displays of those trees with coloured foliage and a better arrangement of the same. It is true that with the dull skies and paucity of sunshine throughout much of our summers, there is a need for more colour and less sombreness. With a due and fitting unity of form and colour-effect, our gardens at least could be made still more pleasureable.

The Hazels, Sumachs and Dogwoods are not much planted; neither are the Maples (Acers) with their beautiful pendent trusses of fruits. Then the glorious Crabs whose fruits when fully coloured in autumn are more resplendent than almost anything else in the garden should be made more of. If they were planted as they ought to be, and could be planted, they would make many a bare garden a place of interest, affording a larger amount of contentment and satisfaction. The Hawthorns, and the Prunus tribe, each at their season enliven and even glorify the shrubberies and the grounds, wherever they are. Many of the Hawthorns (Crataegus) furnish handsome and specially effective trees when the season has fitted them for fruiting well. The Birch trees are full of grace and though they may truly be termed trees, yet they are of a kind that yearly increase in grace of form and brightness in the colour of their silvery bark. The Guelder Roses, Quinces and Catalpas may also be included among the list of those beautiful trees whose merits do not seem to be often recognised.

People say they are obliged to limit their selection, or to plant this, that, and the other common thing because the finer shrubs do not succeed. In many cases this is the truth, but very frequently such excuses are in the nature of foregone conclusions rather than of practical experiment and careful exhaustive practice. Where "real" gardeners are found, though they are tilling and operating on a barren soil, even the choicest subjects are coaxed and so tended that they cannot help growing. Therefore, it is still within the province of many to make an endeavour to do more than they have done in the past, and to place themselves outside the pale of those who cannot lay claim to the distinction of true or "born" gardeners. Among dwarfer shrubs that can be used effectively in groups and shrubberies are the Berberis, Spiraeas, Hydrangeas, Ribes or flowering Currants, Briers, Itea virginica, Azaleas, Cytisus, Willows and many species of Bamboos.—*J. Harris.*

GARDENING MISCELLANY.

SENECIO PETASITES.

IN the *Revue de L'Horticulture Belge et Etrangère* for January, 1901, just to hand, there is a beautifully coloured plate of Senecio Petasites, D.C., one of the Composites. The *Revue*, in its accompanying letterpress, says the order Compositae is the most numerously represented of any in the vegetable kingdom, and the most liberably disseminated over the face of the globe. In Europe and in parts of North America the Composites form a seventh part of the total phanerogamous or flowering vegetation. In extra or sub-tropical countries in Africa and New Caledonia a fifth and sixth part of the flora of these countries is represented by Compositae. The task of the botanists has by no means been easy in their labours of classifying such a great number of plants from parts so diverse, and belonging to "families" and tribes so distinct and well defined. Bentham and Hooker in their admirable classification of the order, enumerate more than 800 different genera, divided into thirteen tribes. Baillon, in his very remarkable "History of Plants," does not admit more than eight tribes comprised under 403 genera, divided, nevertheless, into sub-genera and divisions. The English and German botanists differ from the French, in this that the latter do not regard the Senecios as a distinct tribe but as one of the under-series (sub-divisions) of Helianthus. The botanists of the old times used to name many distinct genera under Senecio, as for instance Cynara, Cineraria, Emilia, Ligularia and others. Senecio Petasites has often had its name modified since it was first introduced to cultivation from South America. *The Botanical Magazine* described this plant under the name of Cineraria Petasites a few months after the date of its first flowering (Christmas, 1812), in Europe, in the greenhouses of Mr. A. B. Lambert, at Boyton. At first view, the English botanist Brown was struck with the general resemblance of the foliage to that of the Petasites (Tourn.) or Butterbur. Considering this plant (said to be of Mexican origin by the *Revue*) as a Cineraria, and finding it to vary between C. Tussilaginis and C. praecox, he gave it the specific name of C. Petasites. The plant develops a robust stem, somewhat fleshy and branching. It attains 4½ ft. in height. It flowers in autumn under greenhouse treatment, producing a beautiful thyrsoid-panicle of yellow "capitula" which form a splendid contrast to the dark green angular foliage. It is easily propagated from cuttings. We hope to see this plant brought more to the front.

Your share of **Sugar** for a year is 68 lbs.; of coffee, 15 ozs.; and of tea, 72 ozs.

OBITUARY.

MR. PHILIP CROWLEY, F.L.S., F.Z.S., F.R.H.S.

It will come as a surprise to many at a distance to hear of the demise, on the 20th ult., of Mr. Philip Crowley, Waddon House, Croydon, Surrey, so soon after resigning the post of treasurer to the Royal Horticultural Society.

Mr. Crowley was born at Alton, in Hampshire, on August 28th, 1837, so that he had just entered his sixty-fifth year. In private business he was a partner in the firm of Messrs. Crowley, of Alton and Croydon. Besides being treasurer of the R.H.S., he was also chairman of the Fruit and Vegetable Committee, with the members of which he was held in very high estimation. Master of the Worshipful Company of Gardeners in the City of London was another of his many titles showing his connection with a wide circle of gardeners in different parts of the country. His love of natural history brought him in contact with other bodies such as the Linnean and the Zoological Societies He was conversant with all branches of gardening, including fruits, flowers, and vegetables, the cultivation of which he fostered on his estate at Waddon. His ability at the table of the Fruit and Vegetable Committee, and his knowledge of the subjects brought before that body at the fortnightly meetings testified to his familiarity with the same in the cultivated state. He has tried many and varied experiments in the cultivation of fruit, but the dry chalky soil of his district militated against the success at which he aimed. The favourite autumn flower, the Chrysanthemum, was extensively grown at Waddon; while Orchids and foliage plants also took his fancy. From an early

MR. PHILIP CROWLEY.

period of his youth, like many other boys, he took a great fancy to bird's eggs; and had been an ardent collector ever since. His collection of eggs represented nearly 4,000 species of birds, and was reckoned to be unrivalled in extent.

As our readers may remember, when we gave a brief history of the Royal Horticultural Society in our issue for May 28th, 1896, together with portraits of the principal officials, including Mr. Crowley, we then stated that he succeeded Dr. Morris, of Kew, in 1891, as treasurer of the society, when the last named gentleman resigned to take up an important post in the West Indies. Since then till within a short period of his death, Mr. Crowley has given unremitting attention to the finances of the society. Though his post was merely an honorary one, he performed his duties as conscientiously as if paid for his services. He also took an interest in the work, and endeared himself to his fellow workers at the table "by his firm but gentle rule, and his unvarying courtesy and cordiality to all." So regularly did he attend these meetings that many looked upon his resignation with great concern, and now with dismay at the loss of a friend, benefactor, and fellow worker. He also had a seat on the Council of the society

The accompanying portrait was a good likeness of him till quite recently. His remains were interred in Shirley Churchyard, Shirley, near Croydon, on Monday, the 24th December, when those who were able to attend paid their last respects to their departed friend.

MR. WILLIAM HERBERT DUNNETT.

We regret to announce the death of Mr. W. H. Dunnett, a partner of the well known seedhouse of Messrs. J. Carter & Co., High Holborn, London, who died at his residence, Stourhouse, Dedham, Essex, on Saturday, December 29th, in his 74th year. Mr. Dunnett had ceased to take any active share in the management of the London business for many years. He was a large land owner in the Vale of Dedham. He leaves a widow, one son, and two daughters.

MR. SYDNEY COOKE.

It is with much regret that we learn, as we go to press, of the death of Mr. Sydney Cooke, at his residence, Tub's Hill, Sevenoaks, on the 1st inst. He has been gardener for many years past to de Barri Crawshay, Esq., Rosefield, Sevenoaks, Kent. He has been ailing since October last, when he caught a severe cold, but nevertheless stuck to his work till a few weeks ago. That cold he was never able to shake off, and it developed into rheumatic gout in the hands and elsewhere, entirely incapacitating him for work.

As secretary to the Sevenoaks Chrysanthemum Society, he stuck to his work manfully and energetically, even performing his duties on the occasion of the show in November last, although far from well. Amongst gardeners he was best known as an Orchid grower, for which work he had a great enthusiasm, and was proud of the fine collection under his care, and which has been assiduously got together by his employer, who takes, perhaps, a greater personal interest in Orchids than any other collector, having closely studied them for many years past. The cool Odontoglossums, more particularly the many fine varieties of O. crispum, were the favourites. Cattleyas were scarcely less appreciated. In smaller quantity various other genera are grown at Rosefield, and received equally careful attention at the hands of Mr. Cooke. Many of the choice varieties grown at Rosefield have appeared at the Drill Hall meetings of the R.H.S. from time to time, and were admired by visitors. Upon large quantities of imported stuff the cultivator showed his skill in establishing the same, and developing them to fine proportions.

For many years past Mr. Cooke has been a regular correspondent of THE GARDENING WORLD, writing chiefly, though not always, upon Orchids. Personally he was a quiet and retiring man, but frank, courteous, and genial to everybody.

READ THIS.

The prize last week was awarded to Mr. Henry H. Gibson, The Gardens, Glencairn, Belfast, for his article on "The Art of Gardening," p. 278.

QUESTIONS AND ANSWERS.

Flowers to Bloom at Christmas.—*A. H. G.*: As far as we know there is no book with the title you mention, although there is a book on "Stove and Greenhouse Plants," by T. Baines, and published by Mr. John Murray, Albemarle Street, London, price 12s. 6d. It treats of stove and greenhouse plants generally, but not particularly with the view of flowering them at Christmas. Flowers at that season were not such a feature of garden requirements in the days when it was written as they are now. The demand has greatly increased lately. There is nothing exactly in the same style as the Chrysanthemum to take its place after it has gone out of season, but there is no lack of flowers either for cutting or for the adornment of such houses as you keep at a temperature of 55° to 60°. Some of these are Chinese Primulas, also Primula sinensis stellata, P. obconica, Cyclamen, and many Begonias, including B. Gloire de Lorraine, figured in our last week's issue, and now in perfection. A large number of bulbs are easily forced, including Roman Hyacinths, Paper White Narcissus, Daffodils, and Duc Van Thol Tulips, all of which have been in bloom for some weeks past with those who have taken the necessary steps to provide them. Frees as are now gay at many places, and no better flowers could be had for cutting or otherwise. There are also many other winter-flowering Begonias and other subjects, of which, if you desire to know the culture, we should be pleased to give instructions merely by asking.

Apples and Pears in the United Kingdom.—*Omega*: Independently of the Cider Apples and Perry Pears in the United Kingdom, it would be hazardous to give exact figures as to the number of varieties grown even for dessert and cooking purposes, for the simple reason that an unknown number of seedlings, known only locally in different districts, either named or nameless, and of which no one has ever been able to make a record. Many of them turn up from time to time with the desire for a name, but have to be passed as unrecognised. The descriptive list of varieties of Apples compiled by the Royal Horticultural Society, and largely shown at the Apple conferences held at Chiswick in 1883 and 1888, gives 1,648 named varieties, exclusive of synonyms. A national Pear conference was held at Chiswick in 1885, and the *Journal of the Royal Horticultural Society*, in reporting that conference, describes 616 varieties of Pears.

Pamphlet on Sweet Violets.—*Omega*: There is no book or pamphlet specially devoted to the Violet so far as we know; but there is a short chapter on the subject in the book on "Pansies, Violas and Violets," by Messrs. Dobbie & Co., and published by Messrs. Macmillan & Co., Bedford Street, London, and by Messrs. Dobbie & Co., Rothesay. The price is 1s. in paper covers and 1s. 6d. in cloth covers. Postage we believe would be 2d. or 3d. extra.

How to Propagate Erythrina Crista-galli.—*G. D.*: The spring would be the best time to propagate this plant when it has made shoots about 3 in. or 4 in. long. Take these off with a heel and dibble them into very sandy soil round the sides of a pot, standing the latter on a hot bed and covering it with a bell glass in a propagating pit or stove in a moist heat. They would do even better in a propagating case if you have such a thing. They might be dibbled into sand in the case and so would have the benefit of bottom heat. Later in the season you might take off cuttings at a joint from moderately large shoots just getting a little firm.

Holly Trees not Bearing Berries.—*Omega*: The reason why some trees do not bear berries, even when they bloom well, is because the sexes are often upon different trees, or in other words the flowers are imperfect, and require two or more of different sexes to be planted in proximity. Professor Martyn's father was the first to discover this many years ago. If you examine all of your Hollies when they are in bloom you will find that some of them have four stamens and only rudimentary ovaries. Other trees may have large and perfect ovaries, but no stamens. Another set still may have hermaphrodite flowers, that is, with four perfect stamens and a fertile ovary. It depends upon the number of different varieties of Hollies you may have whether you find male trees, female trees and hermaphrodite ones as we have just stated; but male and female trees are very common even when you find them growing in a wild state in woods or on commons. By examining your trees when in bloom you can tell which is capable of bearing berries, so that you could lift a male tree and plant it in proximity to a female or the reverse way, whichever tree is most easily lifted.

Names of Plants.—*S. W.*: 1, Jasminum nudiflorum; 2, Viburnum Tinus; 3, Berberis Aquifolium, otherwise known as Mahonia; 4, Polypodium vulgare cambricum.—*J. Ross*: 1, Peristrophe speciosa; 2, Sericographis Ghiesbreghtii; 3, Libonia penrhosiensis; 4, Daedalacanthus nervosus; 5, Selaginella kraussiana variegata.—*A. C.*: 1, Pteris straminea; 2, Cyrtomium falcatum; 3, Asplenium Belangeri; 4, Doodia aspera; 5, Blechnum occidentale; 6, Polypodium aureum; 7, Adiantum hispidulum.—*W. G.*: 1, Primula floribunda; 2, Senecio Kaempferi aureus maculatus; 3, Helleborus foetidus; 4, Agapanthus umbellatus variegatus; 5, Ornithogalum longibracteatum. *Perplexed*: 1. Schaueria flavicoma (often called Justicia flavicoma); 2, Passiflora racemosa; 3, Campanula Hendersonii, apparently, but it is very much out of character, and flowering a second time; 4, Epacris longiflora (often grown under the name of E. miniata splendens); 5, Sempervivum tortuosum variegatum; 6, Viburnum Tinus.

Communications Received.—D. T.—H. H. G.—F. C.—A. K.—E. T.—H. Ward.—London Etching Co.—James Grieve & Sons.—R. M.—W. A. D.—T. B.—R. Bowsher.

TRADE CATALOGUES RECEIVED.

ED. WEBB & SONS, Wordsley, Stourbridge.—Webbs' Spring Catalogue.

TOOGOOD & SONS, Southampton.—Toogood's Garden Seeds.

DICKSONS, Chester.—Select Vegetable and Flower Seeds, Seed Potatos, Garden Tools, and all Garden Requisites.

METHVEN & SONS, 15, Princes Street and Leith Walk, Edinburgh.—Seed List.

DAVID W. THOMSON, 24, Frederick Street, Edinburgh.—Seed List.

JOHN PEED & SON, Roupell Park Nursery, West Norwood, London, S.E.—Seed Catalogue.

FISHER, SON & SIBRAY, LTD., Royal Nurseries, Handsworth, near Sheffield.—Catalogue of Vegetable and Flower Seeds.

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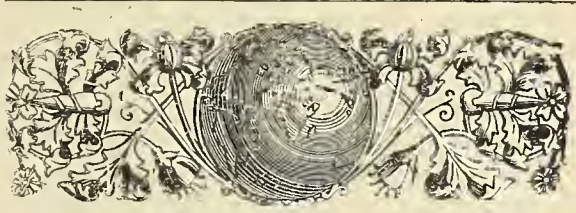

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JANUARY 12th, 1901.

EXPERIMENTAL POT CULTURE AT WOBURN.—The system of experimenting with the cultivation of various agricultural crops in pots in different soils and with various manures, had its origin and rise in Germany, under the guidance of various eminent men; but the system has since been greatly expanded and extended to other continental countries and America. One of the chief advantages of this method of experiment seems to be that if an experiment fails owing to the soil or particular manure used the pots can be emptied at once, refilled, and a different expedient tried. This cannot readily be done in a field, because a particular manure or chemical substance that might have proved injurious to the intended crop, would spoil or poison the soil, so to speak, for some time to come, whereas with pot culture fresh soil may be employed and a different percentage of the same manure or an entirely different one employed directly. Then again, the soil of any given field may vary in quality so greatly that nothing like uniformity in results could be guaranteed or expected. Another point is that in field experiments

any given crop would affect the following one, so that very few trials could be made on any field of limited extent.

The Royal Agricultural Society of England has the credit of being the first to establish a regular pot-culture station in this country; and a record of the experiments already carried out has been given in the *Journal* of that body, *Vol. XI., p.* 553, by Mr. J. Augustus Voelcker, M.A., B.Sc., Ph.D. For convenience this station has been established in connection with the Woburn Experimental Farm, which owed its inception and support to the liberality of successive Dukes of Bedford, who are also and have been noted for the cultivation of various garden crops, grasses, ornamental trees, fruit culture, &c. The inauguration of the Pot-Culture Station was largely due to the bequest by the late Mr. E. H. Hills, of Deptford, to the Royal Agricultural Society for the purpose of experimenting "with the rarer forms of Ash," which were believed to be of more value for the cultivation of certain crops than was generally believed. The Woburn Experimental Farm was established in 1877, while the Pot-Culture Station was started in 1897 and the buildings ready for occupation by the beginning of 1898, that is, three years ago. The station consists of a laboratory, store room, office, glasshouse, and a large erection covered with wire sufficiently close in the mesh to exclude birds. In this structure are several lines of rails on which trucks are placed capable of carrying fourteen to sixteen of the large pots used. There is also a photographic room, for the various cultures or experiments are photographed at different stages for future reference. The rails are continued into the conservatory so that the trucks may be run in there when necessary owing to exigencies of weather; while on the other hand they extend to the soil yard so as to facilitate emptying or refilling.

The pots used are of peculiar pattern and specially made for the purpose, after Wagner's most recent model. One set consists of zinc pots, circular in surficial area, of equal width to the bottom, and 10 in. in diameter. The inside of these pots has been coated with pitch, but for what purpose is not explained. At the base is a false bottom of perforated zinc, and two tubes are carried down the inside for the purpose of conveying the water applied beneath the false bottom, which is meant to allow of the passage of water and air upward. The other pots consist of earthenware, thoroughly glazed inside and out, and 11 in. in diameter. Here again the scientific man seems thoroughly at variance with the bulk of practical and, in many cases, eminent horticulturists. A layer of sifted gravel is put in the bottom, 1½ in. deep, and over this successive layers of soil are placed, each layer being allowed to settle down before another is put in. Here again gardeners will be asking the reasons for such delay in accomplishing the work of filling the pots with the greatest expediency by pressing the soil down and forthwith setting about sowing or planting as the case may be. There is no false bottom to the earthenware pots, but a slightly elevated spout is placed on one side for the escape of superfluous water, and the passage of air, though it would seem that certain quantities of water are given and no waste is desired. The soil in the earthenware pots is watered over the top. Each pot has a given weight of distilled water at starting, this being recorded, and more is added as the plants seem to require it, till the original weight is restored.

Most of the crops under experiment are agricultural, and one thing that may be noted is that Clover requires much more water than either Wheat or Barley, its broad leaves transpiring water or carrying it off into the air at a more rapid rate than the cereals. In the experiments suggested by the late Mr. Hill, Wheat, Barley, Clover, Mustard, Peas, and Mangels, were grown with given quantities of the chemical ingredients which he suggested; but many of these proved failures either through too great quantities being given, or owing to their actually proving injurious to the plants at certain stages of growth. Some of the Peas never even germinated, so that the experiments had to be repeated with smaller percentages of manures, or to be abandoned. One set of experiments is deserving of notice, namely thick *v.* thin sowing of wheat. In the case of thin seeding, the length of the stem and ear of corn was nearly twice as great as that of the thickly sown sets. Another significant point was the respective weights of the produce in four trials. Five seeds per pot, equal to 2·7 pecks per acre, gave 5·6 grammes of corn; ten seeds, or 5·5 pecks per acre, gave 5·9 grammes; fifteen seeds, or 8·3 pecks per acre, gave 4·9 grammes; and twenty seeds, or twelve pecks per acre, gave 4·8 grammes. Here it is evident that ten seeds per pot gave the best weights both in corn and straw, so that in the seeding of a field at the rate of twelve pecks per acre, six and a half pecks of seed or more than half is simply wasted. Of course, if the straw of Oats was given to cattle the quality of it would have to be considered, as strong or coarse straw does not make good fodder.

A summary of the system of pot culture shows that it has many disadvantages, while it cannot supersede field culture but only prove an adjunct to the same for the sake of the various expediencies it affords as above indicated. Here we may state that after the experience of two years, the results have been decidedly in favour of earthenware pots, notwithstanding their peculiar design and their glazed surfaces. Their soil contents are greater and they are not liable to the same excessive fluctuations of temperature as in the case of the zinc pots. The method of watering is simpler, the aeration of the soil more satisfactory, they are handier and less liable to leak, while the crops apparently grow better in them. It seems to us that the pitch with which the interior of the zinc pots is daubed must be injurious to the roots of plants grown in them. With regard to the system generally it can only afford comparative data with regard to plant culture, because to a great extent it is an unnatural system of cultivation. In practical field experiments the physical and mechanical conditions of the soil are altogether different; the soil is much less liable to fluctuations of temperature, and less or more water, as the case may be, would fall upon the field according to the nature of the season; and the exposure to light and air is altogether different, so that the two systems of cultivation cannot fairly be compared. A field of soil would also lose less moisture over a given area than would pots which are exposed on all sides to the influence of sun and wind. The roots of plants in a field would probably get less moisture than those in pots, yet not be in want. Moreover, in pot culture the roots get matted round the sides and bottom of the pots, whereas in field culture they are more evenly distributed over and through the soil, and enjoy a greater equality of heat and moisture. Pot culture should prove serviceable, however, where a great number of trials with different soils and manures or chemical ingredients have to be carried out within a given period for the purpose of determining the more useless or impossible cultures, and selecting those which promise to be more serviceable and deserving of further experiment on the same or different lines.

Mistleto.—More than 100 tons of Mistleto were dispatched from Rouen to British markets during the week preceding December 24th,

Salt and Snow.—Tons of salt were used in London on the principal thoroughfares after the snow had fallen on Monday and Tuesday.

Weather in London.—The past six days have been changeable, disagreeable, and uncertain. On Friday a dense black fog settled over London, and at 1 o'clock the streets were darker than they are at midnight; for though the shops were fully lighted, the street lamps were not. Saturday was brighter and frosty, with a cold wind blowing. Sunday was wretchedly cold, and some snow blew out of the wind. Monday morning presented a very white survey, and again on Tuesday snow fell, the weather being then agreeably cold. Wednesday, as we went to press, was much milder, though still dull and unassuring, the snow in the suburbs being about 3 in. deep.

Scottish Horticultural Association.—The annual general meeting of the above-named society was held in the Society's Rooms, St. Andrew Square, Edinburgh, on Tuesday evening, January 8th, Mr. D. P. Laird. Vice-President, in the chair. The meeting was large and enthusiastic, hearty proof of the whole-hearted interest the members have in the welfare of the society. The treasurer's report was presented, showing for the Chrysanthemum show held in November last a total income of £1,075, expenditure, £1,053 12s. 5d., leaving a balance of £21 7s. 7d. The association's annual income from its 813 ordinary members and six new life members, with interest, &c., amounted to £148, expenditure, £97 5s. 10d. The total accumulated funds amount to the respectable sum of £840 16s. 0d., being an increase on the previous year of £63. The amount paid in prize money during the year just closed was £394 3s. 0d. The meeting expressed much regret at the retiral from the honorary office of secretary of Mr. Robert Laird, who has held the post and fulfilled his duties so ably, as the condition of the society shows, during the last ten years. Mr. Charles Comfort, Vice-President, gardener at Broomfield House, Edinburgh, was appointed to the office of secretary in place of Mr. Laird. The other officers were re-elected.

Beckenham Horticultural Society.—At their meeting on Friday, January 4th, Mr. Wm. Taylor, gardener to C. Bayer, Esq., Tewkesbury Lodge Gardens, gave a paper, "A Year's Work in a Vinery." There was a good audience of gardeners and amateurs interested in Grape growing. In planting Vines they should be 4 ft. 6 in. apart. The border should be wholly inside, 6 in. of rubble for drainage and 2 ft. 6 in. of soil on the top. Top-dress every year with good soil, using some artificial manure, such as mineral superphosphate, nitrate of potash, with gypsum. When Vines are in full growth, a good top-dressing is very beneficial. A good watering is required often, and when watering do it thoroughly. When cleaning Vines be laid great stress upon the usual way you often see Vines rubbed and scraped, denuding them of all their bark. He spoke strongly against the practice. You should only thoroughly scrub with warm water to which bad been added about 2 oz. of soft soap and 4 oz. of sulphur; do with that twice or three times, and then add some clay to make the dressing a little thicker. As the Vines progress give air very carefully, avoid front air till late in season. Vines like plenty of moisture in houses. Syringing is done twice and three times daily, till the Grapes show colour. In keeping Grapes after being cut, place them in a dark room at a temperature of 45° to 50°. Mr. Taylor, who is a well known exhibitor of Grapes, answered the questions, of which there were plenty, with thoroughness, as a gardener who perfectly understood his work. Mr. Price, who was chairman for the evening, gave a vote of thanks for the paper which was thoroughly appreciated by all present. Mr. Taylor exhibited two fine bunches of Grapes. The next paper would be read on January 25th, by Mr. H. J. Chapman, on "Cypripediums."

Croydon and District Horticultural Mutual Improvement Society.—The annual general meeting of members and subscribers will be held in the society's room, at the Sunflower Temperance Hotel, George Street, Croydon, on Tuesday evening, January 15th, 1901, at 8 p.m., for the election of officers for the year, and for other general business. All interested in horticulture are invited to attend.—*John Gregory, hon. secretary, 60, Canterbury Road, Croydon, January 8th.*

A Giant Cedar of Lebanon.—On visiting a few places near Highgate, I came across, what I thought, was one of the finest specimens of Cedrus Libanii that I had met with. The stem, 3 ft. from the ground, measured 24 ft. in circumference, with enormous branches starting about 5 ft. from the ground. The spread of the branches on one side was 75 ft., and on the other about 60 ft. This magnificent tree is situated in the grounds of Thos. Boney, Esq., Southwood House, Highgate, and the measurements taken by Mr. Turk, the gardener.—*W. B.*

Royal Horticultural Society.—The first meeting of the committees of the Royal Horticultural Society in 1901, will be held as usual in the Drill Hall, Buckingham Gate, Westminster, on Tuesday next, January 15th. A paper on "Recent Developments in the Treatment of Diseases and Insects Injurious to Orchard Crops," by Professor Beach, U.S.A., will be read at 3 o'clock. The Scientific Committee will meet at 4 p.m. To prevent misunderstanding it may be mentioned that the committees of 1900 do not vacate office until the date of the annual meeting, 1901, and in like manner all Fellows' tickets of 1900 are available until February 12th, 1901.

The late Mr. Sidney Cooke.—We learn that Mr. S. Cooke, whose untimely death we announced in last week's issue, p. 302, had been gardener for nearly twenty years to de Barri Crawshay, Esq., Rosefield, Sevenoaks, Kent. He was only in his forty-sixth year, and to all appearance had a long lease of life before him to carry on his work. Orchids are the chief feature of the place, but flower and kitchen gardening are also conducted. Eighteen years was the exact time he had been gardener at Rosefield. The deceased was secretary of the Sevenoaks Gardeners' Society, which sends us a communication through one of its members to the effect that Mr. Cooke's abilities were well brought to bear on the manner he carried out his duties, making the society a great success. He was always of a kindly, genial, and courteous disposition, and universally respected. He was buried at Sevenoaks on the 7th inst., the funeral cortege being followed by all the gardeners and the trade representatives in the district, numbering something like 100 people. He leaves a widow and five of a family—three girls and two boys, the eldest of the latter being about 17 years of age—to mourn his untimely decease.

Woolton Gardeners' Society.—The annual meeting of the above was held at the Mechanics' Institute, on Thursday evening of last week, Mr. James Clarke in the chair. The report and balance sheet was read by Mr. R. G. Waterman, hon. treasurer and secretary, which shows that the society has enjoyed a successful year's work. The lectures were varied and interesting. Those outside of practical gardening were delivered by Rev. T. F. Nicholas, F.R.G.S., "Historical account of Paris, bearing specially on its Gardens"; Mr. Ducket Cowan, "Reminiscences of my travels in South America collecting Orchids"; and Mr. R. W. Ker, F.R.H.S., F.A.S., on "The Sweet Pea Conference and my Russian journey"; Mr. Cowan's being illustrated by specimens obtained in South America and Mr. Ker's by some fine lime-light views. The library has been increased by a number of bound volumes of *The Garden* and the *Gardeners' Chronicle*, the gift of Mr. Holbrook Gaskell, the esteemed president of the society, which now numbers nearly 150 volumes, making it the most complete of its kind in the neighbourhood of Liverpool. The balance sheet shows there is £1 19s 1d. in the hands of the treasurer. The only regret in this excellent account is a less number of members, but those present undertook to use their best endeavours to make up the deficiency. The election of officers resulted in the re-election of Mr. R. G. Waterman as hon. treasurer and secretary, and Mr. J. Rae as librarian. The thanks of the meeting tendered to the chairman terminated the proceedings.

Reading and District Gardeners' Mutual Improvement Association.—The annual general meeting of the Reading and District Gardeners' Mutual Improvement Association was held at the Abbey Cafe on Monday, the 7th inst., and notwithstanding the very inclement weather there was a good attendance of members. The president, Mr. C. B. Stevens, occupied the chair for the first part of the meeting, vacating it later for Mr. Leonard G. Sutton, who was elected president for 1901. The other officers elected were:—Chairman, Mr. T. Neve; vice-chairman, Mr. H. Wilson; treasurer, Mr. F. Macdonald; librarian, Mr. E. J. Dore; assistant librarian, Mr. F. W. Exler; auditors, Messrs. Badcock and A. Smith; committee, Messrs. A. W. Blake, F. Bright, R. Chamberlain, C. P. Cretchley, D. Dore, E. Fry, G. Hinton, W. Lees, F. Lever, E. S. Pigg, J. T. Powell, G. Smith, W. Smith, G. Stanton, W. Townsend, and J. Woolford; whilst Mr. H. G. Cox, "Fernlea," Junction Road, Reading, was re-elected hon. secretary. Mr. D. Dore staged three splendid heads of Sutton's Best of All Savoy. Two new members were elected.

Vegetarianism, by Mr. Henry Cannell.—Mr. H. Cannell, head of the well-known nursery firm at Swanley, has very pronounced opinions in favour of vegetarianism. Under the auspices of the Crays and Orpington Cottagers' and Gardeners' Mutual Improvement Association, Mr. Cannell lectured on vegetarianism, though under the title of "The Garden and its Worth," on Wednesday evening, January 2nd. Mr. Cannell recounted his experiences during the six years of his "no-flesh diet"; and what led him first to confine himself to vegetables was the fact that he felt himself losing weight and was not always free from indigestion complaints. After giving the vegetable diet an extended trial he discovered that he had regained his former weight, health, and robustness, and that vegetables were quite sufficient for all the needs of his mind and body. Now, therefore, he wants everybody to try the vegetarian treatment—if it may so be put—when their systems have been over-burdened by flesh, or meat eating. Mr. Cannell's belief is that in time one's bodily flesh becomes similar in nature to the flesh, pork, &c., that one eats, simply from the fact that the building matter for the development of our bodies is transmitted through the blood directly from other animal flesh. The lecturer emphatically denounced the eating of fat or fatty substances, and in conclusion he dwelt upon the importance of fresh air, plenty of exercise, and strict attention to what one drinks.

Sandwich and District Market Growers' Association.—A meeting of the above newly formed society was held at the Lion Inn, Ash, on Monday, January the 10th, at 7 p.m. Fuller particulars of the working of the society have been printed and distributed under the direction of the hon. secretary, Mr. F. Colman, Sandwich. It seems that a society of a kind was formed about six years ago. At that time a few of the leading market growers were of opinion that co operation would place them on a much better footing with both railway companies and salesmen. Interviews were effected, but, after much specious discussion, the association found that sympathy was extended to them, but minus any practical action and aid. So the matter was dropped until Mr. T. Oliver and Mr. T. Farrier, two leading growers, talked the matter over, and it was decided to call together a few more of their friends, and this was done in November. The arrangements were duly made for sending out circulars containing notice of the provisions and aims of the association. These are briefly to get the best terms possible from the railway companies and from the growers' salesmen, and as occasion might arise, to deal with any other matters that would benefit the members of the said association. A committee was appointed; and a *pro. tem.* subscription fee of 2s. 6d. imposed. What the committee now want is to have a good general meeting in January, and to decide on the amount of the annual subscription, which must at least be 10s. per member, otherwise the association cannot go ahead. The association also wants a strong and willing executive committee and an urgent appeal is made to all who have not only their own petty welfare at heart, but that of their county and country. The hon. secretary, as we have said, is Mr. F. Colman, of Sandwich, Kent.

Ghent Horticultural Show.—The Prince and Princess Albert of Belgium will open the Ghent Horticultural Show on the 28th of April next. On this occasion the Belgian horticulturists mean to organise some brilliant fetes.

The Sale of Poisons.—The following letter has been sent out to members of the various trades interested:—

The London Chamber of Commerce,
Botolph House, Eastcheap, E.C.,
3-1-1901.

Dear Sir,

Has your attention been called to a draft Pharmacy Bill which has been adopted at a meeting of the Pharmaceutical Society of Great Britain, on the 5th inst.? In it, it is proposed that the sale of certain so-called poisons which include paint, weed killer, saltpetre, &c., could only be sold by registered persons, a term which I take to mean exclusively chemists. Clause 4 of this Bill would prevent any other than a registered person from acting as a director of a corporate body keeping open shop for the sale of poisons, &c. This, I take it, would prevent stores and similar retail establishments from making up or retailing medicines. This Bill will apparently re-act upon grocers and oilmen as well as upon stores and the large retail houses which have chemists' departments. I am expecting shortly to hear in answer to letters which I am writing, and when this proposal becomes more actively known to all the trades affected, and shall be glad meanwhile if your firm will kindly consider the question and advise me as to the best course to adopt in the matter. If a meeting is considered desirable I shall be glad to hear whether in your opinion a joint meeting of all affected be held, or whether different trades should meet separately.

Yours faithfully,
Kenrick B. Murray, Secretary.

This is the question which caused the formation of "The Traders" in Poisons and Poisonous Compounds Society, mainly in the interest of nurserymen and seedsmen who have large dealings in weed killers, &c.

Liverpool Horticultural Association.—A meeting of this society was held on the 5th inst., Mr. T. Foster presiding over a good attendance of members, when Mr. T. White, formerly chairman of the association, delivered a lecture on "The Progress of Horticulture," and Mr. Jas. Heaton read a paper on "The Japanese Chrysanthemum." Mr. White gave a graphic account of the progress during his own gardening career, covering some sixty years; the structural and heating improvements, the marvellous strides made by the collector and hybridiser in our fruits, vegetables and flowers; the great advances made through the gardening press and of societies similar to their own which brought to the fore greater zeal and intelligence. Mr. Heaton as the winner of the leading prize of the society for cut Chrysanthemums for the past three years was a sufficient introduction for an excellent practical paper on this subject which was commenced from the stage of inserting the cuttings in November up to January according to the variety. Special advice was given not to over water, especially after repotting. The size of the final pot as recommended was 9½ in., keeping the ball well down so as to admit of two top-dressings. The compost for the final potting was given as four parts good loam, one leaf mould, one horse manure (the latter as prepared for Mushrooms), a quarter peck of ½-in. bones, same quantity of broken oyster shells and one pound Ichthemic manure to each barrowful. Pot firmly, using a thick stick for a rammer. Feeding should commence when the pots are fairly filled with roots, first with soot water cleared with a little lime, to be followed with sheep and horse manure without lime. In top-dressing use a similar compost as for the final potting with a little more of Ichthemic. House the plants from September 23rd to 28th, according to the season and the stage of the bud. Avoid sudden changes in the atmosphere, with free ventilation to prevent damping. A long list of varieties was given, with dates to insert cuttings and when to stop in varieties that require that treatment. A discussion followed in which several members took part, and at the conclusion a cordial vote of thanks was given to the lecturers and chairman.

An Orange Peeler.—The young boarding school ladies are adepts at peeling Oranges by the use of a spoon handle; but we learn of a specially made Orange peeler that takes after the form of a spoon, intended for the use of those in polite society to whom the peeling of these fine fruits at table is a source of annoyance.

Lady Warwick Hostel, Reading.—We are glad to know that the appeal made by Lady Warwick for some well-disposed affluent person to financially assist the work that she has so well promoted to the present time has not passed unfruitful. A gentleman has generously offered to contribute £50,000 towards this college and experimental or training ground commenced by Lady Warwick, he having been favourably impressed with the ideals and aims of her ladyship's successful venture.

The Glastonbury Thorn.—As is usual at this time of year references to the traditional Glastonbury Thorn appear in papers of all kinds published in England and Ireland. The story of the Thorn is interesting, and like many other legends it is religiously believed in by many old people in the West of England and other places. At this time of year, when the Glastonbury Thorn (Crataegus Oxacantha praecox) usually begins to flower, mothers or grandmothers will take the children of the household around their knees and impressively tell them how it was that the first tree of this precocious May bush came into existence. The whole story is well told in the *Dublin Daily Express* in a recent issue. This paper says: "This precocious Hawthorn is now in bud and blossom in the University Botanical Gardens, Pembroke Road, Dublin. It is a peculiarly late or early flowering variety of the common 'May bush,' or 'Hawthorn tree,' blooming in December or in January. It seems first to have become popular in England on account of an old tree that existed on Weary-All-Hill, nigh unto Glastonbury Abbey, in Somersetshire. This old tree had two trunks, one of which was destroyed by the Puritans in the time of Queen Elizabeth, and the other shared the same fate during the great rebellion. Those interested may find the above and other particulars of this variety of the Hawthorn in 'British Forest Trees,' by the Rev. C. A. Johns, (S P.C.K., 1847), pp. 184-190. The tradition is that the original stock came as a walking staff in the hand of Joseph of Arimathaea, who, landing in the then Island of Avelon, fixed his staff in the ground and fell asleep. When he awoke, the rod, like Aaron's, had budded and taken root, so he concluded that, as the use of his trusty staff had thus been taken from him, it was ordained that he should begin his work at that place. He accordingly built there the little oratory or chapel, which subsequently grew into the wonderful Abbey of Glastonbury, one of the most magnificent in Britain. Gilpin, in his quaint 'Observations on the Western Parts of England' (1798), gives an account of his visit to the abbey there, and says of the rustic custodian that he was remarkable for his zealous knowledge and piety. Every stone was sacred to him, every legend and tradition true, 'but,' he adds, 'above all the appendages of Glastonbury, he reverenced most the famous Thorn which sprang from St. Joseph's staff, and blossoms at Christmastide.' The actual tree Gilpin saw, however, was not the original one, but doubtless a lineal descendant, of which a stock is still maintained. This legend, old as it is, was doubtless a survival of the still more ancient reverence in which the Hawthorn tree has been held in northern Europe and Africa. The Hawthorn groves in the Phoenix Park at Dublin are to-day the only remains of an ancient forest frequently alluded to in the annals of Ireland, and nowhere else in Europe are there so many and such fine old specimens on so limited an area. Mr. Johns says. 'In Ireland to the present day it is a popular belief that no one will thrive after rooting up an old Thorn.' The tree has from time immemorial been held in the highest reverence, and by the same token we trust the beautiful old Hawthorn groves in our national park, may be carefully fostered and preserved. Seeing that of all the trees in the Phoenix Park the historic Hawthorns are the most remarkable, it might well be suggested to those in authority how much their beauty and interest might be augmented or extended by adding groups of all the other known hardy species of Crataegus from temperate countries. There are many noble species and varieties of Crataegus to be seen in the cemeteries at Glasnevin and at Mount Jerome, as also in the Botanical Gardens at Glasnevin, and elsewhere around Dublin, and the best of these would undoubtedly thrive splendidly in a soil and climate that suit our native species so well. In any case, a bold group of the variety 'praecox' now in bloom would afford much interest to residents, as well as visitors, as seen flowering at this dull time of the year."—*Whitethorn.*

SOLANUMS.

Now is the time to sow the above, choosing the finest berries for seed. Sow in pans filled with a compost of two parts loam, one part leaf soil, one part sand, run through the ½-in. sieve. Press down firmly, covering the seed with a light layer of soil and sand; place in a temperature of about 70° by day and 65° by night. When the seedlings are fit pot them up singly into 60-size pots, using the same compost as before, only a little coarser, and keeping them in the same temperature as before. When well rooted pot into 48-size pots, using a compost of three parts loam, one part leaf soil and sand, with a sprinkling of bone meal mixed with the soil. Gradually harden the plants to a temperature of about 60° by day and 55° by night. Plants treated in this manner will be ready for planting out by the beginning of June. Directly after planting give a good watering, as this encourages the plants to root more readily. As the season advances and the plants need water add a little Clay's Fertiliser to the water. This will be found to help them immensely. On lifting the plants they will easily go into 48 or 32-sized pots. When potted place in a warm pit or frame, and keep close for a day or two, freely using the syringe overhead upon them until well rooted.—*H. Fleming, Junr., Wexham Park, Slough.*

CACTI

Are to many the most interesting of succulent plants, and this is in no way surprising when we think of their diversity of curious shapes. Some are flat or two-edged, others have three edges, and so on up to twenty or more. Others again, such as Epiphyllums, appear masses of articulated, juicy, branch leaves, from which flowers are produced in wondrous quantity. The globe-shaped section look more like exquisite carvings than real living plants. A few are comparatively smooth, but many are carved by Nature to display a series of eye-dotted ribs, while some hide their surface outlines with strong bunches of long, sharp thorns presenting an appearance, which in their native habitat daunts the lion, the Buffalo, and tiger. Others again, like the popular "rat's-tail," throw their numerous, trailing, leafless stems over and below the pots, and give many a beautiful picture when covered with bright rose-coloured flowers. This is a favourite species, and often seen flourishing in a cottage window. There are several species of Cacti which expand their gorgeous blooms at midnight only. The following compost is not the best for all Cacti, but it suits most greenhouse varieties:—Three parts good fibrous loam, two parts leaf soil, one part each mortar rubble, charcoal, and river sand. Pots should be half filled with shreds and not too large. Cacti require plenty of water during active growth, and dryness while resting.—*H. H. Gibson, The Gardens, Glencairn, Belfast.*

JOURNEYMEN.

In following up "Black Watch" on gardeners' grievances, November 3rd, I sympathise most with journeymen gardeners, especially those who are diligent and anxious, and would really turn out good gardeners. The majority of these require to have great patience, as owing to the present arrangements they are almost at middle life before they can get the chance of learning the different branches of their profession. Life is not long enough to allow each one to study all the branches thoroughly. I think it very unfair in many instances, when a vacancy occurs in the houses, that the place is filled by a new comer, when active outside men are doing their utmost to please in the hope of getting inside, but are often disappointed, and consequently leave to try their luck in another place. Unless they are assisted by some special influence, they have to shift about as outside journeymen for years, and for the very large sum of 16s. a week. This is disheartening to the naturally pushing young men. Intelligent labourers seeing this going on try to learn all they can and apply, and are successful in getting good head places before young gardeners who are going over the whole of Britain trying to get inside to get a knowledge of inside work, so that they can honestly put themselves out for experienced gardeners. This is too wide a subject to handle thoroughly in 250 words, but others may perhaps give their views on the matter.—*John C. Dick, The Gardens, Champfleurie, Linlithgow.*

MONTBRETIAS.

For beautifying the garden during summer and autumn, and for general cut flower decoration we have few plants that excel the above. The grassy foliage and graceful flower stems give such a charm to the plants that one cannot fail to admire them. They succeed fairly well for a few years if left out all the winter with a dressing of ashes placed over them, but to obtain the best results they should be taken up after the foliage has become brown and placed in boxes for the winter, using a compost of three parts loam, one part leaf mould, and enough sand to keep the soil in a porous condition. Do not box too thickly, and place in a cold frame, giving a little protection in severe weather. They should be planted out in April in a good-sized bed, which shows their beauty much more than dotting a few about in the borders. Plant in rows 1 ft. apart each way, and water freely in dry weather. By lifting annually the blooms attain to a much larger size, and the bulbs flower far more freely than if left to take care of themselves. A great many varieties are now offered, but the following will be found among the best:—

Crocosmiaeflora, a grand variety, orange and yellow; Etoile de Feu, large bright red; Pottsii grandiflora, large scarlet; Eldorado, very dwarf yellow; Hurore, golden-yellow; Feu d'Artifice, immense spikes of orange-yellow.—*H. Thatcher, Elstree.*

DIELYTRA.

This is what I consider one of our best roots we have for forcing, or making a grand display in our herbaceous borders. Besides being easily grown, few plants are more useful. If you have roots plentiful in the borders get a spade and cut a little bit off each, and pot into 8-in. pots, or rather according to the size of your root. The potting mixture should be turf, leaf mould, and sand, using one part of each—light soil suits. Place in a temperature of 55° to 65° for a few weeks, and after they have grown 1 ft. gradually reduce the heat of your house, as they flower well in a cool greenhouse once they are that length. This is a plant that is not just finished after done flowering, as you can place the pots in any bare part of the stage for the sake of the nice Fern-leaved foliage. The best sorts are spectabilis and s. alba, which is quite new and superior to the older spectabilis. For the front staging of a conservatory, D. eximia comes in very useful, as it only grows about a foot high, and can do with even less heat than spectabilis. The graceful habit of the plant renders it invaluable for decoration. It should certainly be grown more extensively than at present.—*T. S. Dick, Castlemilk, Lockerbie.*

NEW CENTURY THOUGHTS.

Centuries may come and centuries may go, but the gardening world must flourish to-day as it did before the centuries began. No craft can boast of such antiquity. No craftsman can obtain his livelihood with more healthful pleasure or less contamination with sin. True, many tradesmen are better rewarded materially for much less mental exercise; but after all the gardener is as happy at home as any of them. The engines of socialism are discontent, and are they not driven often by sons of those crafts, which the deeper sins of mankind necessitates? Individual equality is impossible, and true happiness is not nourished in the soil of gold alone. When the world becomes a gardening world, and fruits, flowers, and vegetables are produced in abundance of the highest perfection, then will not the vexacious problem of so-called socialism be solved—solved to

the satisfaction of every honest-minded specimen of humanity?

Good garden produce is more appreciated at present than it has been at any previous period of the world's history, excepting, perhaps, those earliest days when our greatest grandfather roamed sinlessly serene in Eden's weedless garden, feasting his eyes on the taintless beauties of a pure creation. Let us not blame the first good gardener that he did sin, while we are immeasurably more sinful with infinitely less temptation. Now those who have £ s. d. as their main hobby cannot embark on a safer craft than gardening.—*Henry H. Gibson, The Gardens, Glencairn, Belfast.*

CALANTHE VEITCHII.

THE above is not grown nearly as much as its merits deserve, considering what a useful subject it is for supplying cut flowers in mid-winter. A house or pit that commands a temperature from 65° to 85° during the early spring and summer months while making its growth and forming its pseudo-bulbs, which yield the flower spikes, will grow it a treat. With us just now they are found most useful, and continue in good condition to the end of the month if kept in a temperature not much below 60°, and dry overhead as well as at that of the root. After passing out of flower the pots can be stacked on their sides or shaken out and the pseudo-bulbs put in boxes with a little leaf soil around them.

They should be potted up before growth has much advanced, or the latter may get crippled in the operation, as they are so tender, using pots from 5½ in. to 7 in. in diameter, half full of clean crocks. The compost they delight in is fibrous loam and peat with a little leaf mould, coarse sand, and dry cow manure finely sifted. One to six bulbs can be placed in the pots, according to size, and should be kept below the rim of the pot, as they delight in abundance of water when once established, and diluted manure water from the cow shed when the pots are filled with roots, lightly shaded from the sun during their growth, say up to early in September, when it should be gradually lessened, and discontinued the third week. Keep near the glass and moist at the roots until a dozen or so flowers are expanded, when treat as indicated above. They are easily increased by choosing the healthiest and finest two-year-old bulbs, placing them in pans or boxes with the potted up stock, potting them into 4-in. pots as soon as you perceive new growth, and treat as before mentioned

We have some carrying as many as twenty-four flowers on a spike from bulbs made from old growths started in March last. We never treated them like this before, but generally put three or four into a 5½-in. pot, when *some* only would carry a flower spike, and have twelve to fifteen blooms on a spike, while all those we potted up singly have flowered, varying from eighteen to twenty-four flowers on each spike.—*J. M., Bicton.*

BEGONIA GLOIRE DE LORRAINE.

I SEND you per post two photographs of Begonia Gloire de Lorraine, just to show how they compare with those figured in last week's issue of THE GARDENING WORLD. Owing to the great want of sun this season the plants generally are far behind those of the season 1899. Mr. Chaplin, St. Leonard's, had the photographs (sent you) taken on December 14th last, and the plants are all from leaves put in some time in January last. The measurements of three which I took are as follows:—Height from top of pot 28 in., breadth through centre of plant 26 in., others 29 × 24 in. and 25 × 27 in. respectively, all grown in 5 in. and 6 in. pots.—*W. Dick.*

[The photograph of the single plant sent showed a healthy and sturdy growth made from a leaf during eleven and a half months as above stated by our correspondent. The flowers were much less numerous, however, than those represented by our illustrations on p. 281. The unusually wet season and lack of sunshine in Scotland last year may account for the smaller quantity of flowers. The plants from Broughty Ferry, in the neighbourhood of Dundee, were well flowered, however. The question arises whether plants raised from cuttings flower more freely than those from leaves. Possibly some of our correspondents might enlighten us on this matter. Some other points would have to be considered as pertinent to the question, namely, whether the manures or manure water supplied the plants have the effect of causing a vigorous growth to the disadvantage of flower production, or whether an excessively high temperature and a small amount of ventilation have contributed to the same cause. It might be that these strongly grown plants would flower more profusely later on when getting more pot bound, and the side branches are more developed. Another photograph represented a houseful of large plants, which appeared profusely bloomed in the mass. For market work in 5-in. and 6-in. pots they are certainly wonderful at this season of the year, and more than anyone could have expected relatively a few years ago.—ED.]

MANIPULATING SOIL FOR PLANTS.

WHEN preparing soil for potting plants it is often recommended by writers to "keep the soil lumpy." In certain cases the advice may be correct enough; but what do we often see after such soil has been some time in the pots? These lumps have become a consolidated mass, through which water can hardly percolate, often sour and injurious to plant life, when the fibre is gone by decay, there being nothing such as sand, charcoal or other material to maintain open healthy matter in which roots can run freely. If soil is thoroughly chopped and separated, allowing all opening material to remain, mixing it thoroughly with sand (if such does not form a component part of the compost), or whatever else is required, the whole can be rammed as firm as desirable with a free course for water remaining.

It is not uncommon to see Orchids suffering, and, when an examination of the roots has been made, they may be found perishing in this "lumpy" soil—soil which appeared to be the right sort when potting was performed, but all fibre gone and the lumps become consolidated. We have seen such with unpleasant effluvia. If the solid part had been removed at first, and the fibre only left, matters would have been very different. How often Heaths and New Holland plants are found suffering in such soil, lumps being left in which there was no sand and all have become close and sour. To illustrate this I might take (from scores) one case which will show the fallacy of "lumps" with fibre but nothing to meet the requirements of the case when fibre was decayed. A nurseryman (now removed from us) could not get his manager to leave the soil in which a choice collection of Heaths were grown, in huge lumps. There was no sand in the soil, but plenty added along with charcoal. The lumps in due time became consolidated, and the plants went wrong. It was found that the roots did not penetrate the unbroken soil. The manager being thwarted, in fact disgraced, left his post, and went where he could manipulate his soil as experience suggested, success became complete. When I lived at Clapton, in Messrs. Low's nurseries, I had a daily duty in preparing soil. The order was chop it thoroughly, and mix it thoroughly.—*M. Temple, Carron, N.B.*

THE PLANT HOUSES.

THE FORCING HOUSE.—Plants that are ordinarily hardy, such as German Irises, Dielytra spectabilis, Moutan and herbaceous Paeonies, Crimson Rambler Roses, Spiraeas, and many other plants that will occur to mind, can be lifted about the end of this month and may be potted. After having become settled in their pots they should be inured to a temperature of 62° or so, and must be allowed abundance of both light and moisture. They will gently start into growth, and if carefully treated they flower by the middle of March, coming in as a very welcome and useful adjunct at that time. The bulbs for forcing must be brought into a temperature of 65° as they are required. Indian Azaleas are also being brought forward.

THE STOVE.—The warm house structures are at this season in a state of confusion, for as a rule it is now that the plants are thoroughly cleansed, top-dressed, or repotted, and the houses have to be washed. As much light as possible must be secured so that the outside of the glass will also be all the better for a washing. Paraffin emulsion should be liberally used when the houses are being washed and syringed. This solution is invaluable as a cheap and effective remedy against bug, red spider, &c., that may be lurking in un-get-at-able places where the brushes do not penetrate. The walls should be lime-washed, and the stages should likewise be washed with hot lime water. The gravel or ashes should be washed and riddled before being again spread upon the stages. No one should use ashes who can possibly get yellow gravel or Derbyshire spar.

The houses themselves should be structures of beauty, and certainly everything within them should add to their effectiveness. Thus the colour of the paint used for the stages should be considered; the stage covering, as I have just hinted, should not be of common refuse like coal ashes, neither should they be bare wooden boards. Nothing beats slate or iron stages covered with small amber or yellow gravel. Then the class of plants ought to be as select, as beautiful, as interesting, and as varied as possible. Too often we see the same old-fashioned plants—and grown anyhow—in places where very much finer plants of a later introduction could very well be substantiated. But old favourites must not all be abolished, even if they do happen to be behind the times. The great thing is to grow them to perfection, and to arrange them with true skill and care.

The watering at this time demands extra thought. Nearly all plants should be kept on the dry side.

The Begonias, Poinsettias, Euphorbia jacquiniaeflora, Daedalacanthus nervosus, Ixoras, Ipomoea Horsfalliae, Reinwardtias, and a few other special plants are the chief of those now in flower. Seeds of the beautiful Exacum macranthum should be ordered.

GREENHOUSE PLANTS demand a deal of attention in the variety of their needs. Where a little heat is kept on the pipes the top ventilators should at least be kept open an inch or two. Cinerarias coming into bloom delight in having nourishment. A handful of any of the well known guanos or fertilisers to a gallon of water should be afforded. They should be worked through the fingers and should not be merely thrown into the water. Carnations are kept on the dry side. They should be occasionally syringed or immersed in a solution as advised at an earlier date. Young Carnations should be grown on in light, cool frames free from draughts, drip, and frost. Border Carnations in pots will require all the air it is possible to give them, so long as the mild weather lasts. Keep fallen leaves removed from around them.

Primulas should be treated the same as Cyclamen, Zonals, and Cinerarias. Sowings may be made of the first and last named. Hard-wooded plants, more especially those in flower, such as Ericas and Epacris, require to be regularly watered. A temperature of 55° up to 60° will suit them well. Carex brunnea variegata, a useful greenhouse Grass, and Scirpus (Isolepis) gracilis, may both be divided for increase of stock. Cyperus alternifolius variegatus is very useful as a decorative plant either for the greenhouse or stove. The greenhouse, however, is the better house, as more refined subjects require the space in the stove. This plant may also be propagated; and this can best be accomplished by using the tassel-like flower heads, pieces of which are cut close off, and are inserted in damp sand, and placed under bell glasses in propagating pits. The Chrysanthemums, one may say, are quite over for another season. A few still remain, but these are also faded. Numbers of the cuttings are rooted and should be potted into thumb pots. Callas may be encouraged to come on by feeding if the pots are filled with roots. Young Abutilons in need of a shift should not be denied it. They should be kept moving, and should not be pinched. They will branch naturally, but may require to be staked.

The Red Currant Tomato is a very ornamental greenhouse subject for the later months of the year. Seeds should not be forgotten when the list is being made out. They may be sown any time from the present. Young Fuchsias must not be topped, but, like the Abutilons, should be grown on, being placed on a high shelf in a house with a temperature ranging between 55° and 60° F. They should be frequently potted. Tuberous Begonias may be sown immediately. The matured tubers should be looked out, and by the end of this month the soundest should be potted up for an immediate start. Marguerites are in flower, but may be left alone till March, when they can be cut back. Seeds of Bouvardias for next season's work will soon have to be sown, or cuttings may be taken in March.—*J. H. D.*

HINTS FOR AMATEURS.

Dahlias.—The time is coming round again when the tubers will be boxed amongst leaf mould to secure cuttings from. In the meantime they should be taken good care of, so that neither dampness nor too great dryness may affect them. The improved varieties of Cactus and single Cactus Dahlias are mostly in demand. Such good sorts as Starfish, Mrs. J. J. Crowe, Island Queen, Magnificent, Mayor Tuppenay, Lucius, Uncle Tom, Capstan, Keynes' White, Harry Stredwick, Red Rover, Matchless, Radiance, Octopus and Stella, furnish a list of diversified first-rate sorts. It is not generally known that Dahlias can be raised successfully from seeds. These may be sown in the usual way, in pans under glass, about the middle of February, and will flower toward autumn. The method does not improve upon the system of cuttings, but there is perhaps more interest attached to the work, and this, of itself, should find favour with amateur gardeners.

Hardy and Half Hardy Annuals.—The treatment for hardy annuals is practically the same in all cases. The seeds may be sown in the open borders or grounds any time after the middle of April, and certainly early in May, when the soil is moderately dry and beginning to get warmed. Or they may be forwarded in boxes by sowing earlier, say March, and allowing them the benefit of a warm greenhouse. When they have been transplanted, the young stock after developing to a decent size may be planted out.

Among the lesser known hardy and half-hardy annuals I would mention the following.—Loasa aurantiaca, a plant with a climbing habit bearing many very curiously formed, brick-red flowers; Argemone grandiflora or Prickly Poppy, which is attractive with its white flowers and glaucous foliage; Bartonia aurea, a very showy dwarf annual; Callirhoe digitata, a small plant suitable for rockeries, but which is only half hardy. The new strains and varieties of Candytufts might be made more of. The Indian Hemp, Cannabis indica, affords us an ornamental foliage plant for the sub-tropical garden. Then the Giant Sweet Sultans that have been lately enormously developed are worthy of more extended culture. The Clarkias are also very beautiful, especially C. elegans alba, C. pulchella, C. elegans Purple King, Salmon Queen and White Prince, C. minima lilacina and others. Then again, both for a light, much-divided foliage annual, having in addition splendid lilac-mauve flowers like those of a Dahlia, what is there to surpass Cosmos bipinnatus? No praise is too great for this stately hardy annual. Cuphea platycentra is a showy and profusely flowered dwarf perennial much used in London parks as an edging to beds. The blue, purple, rose and pink coloured annual Cornflowers are worth their place in the most select gardens, and few things are more suitable for the amateur, either for cut flowers or garden decoration. Love-in-a-Mist or Nigella (also called Devil-in-a-Bush) is more deserving of notice than what it receives; and so with the newer strain of dwarf annual Larkspurs that do well on any soil, and enliven the borders everywhere. Erysimum perowskianum is one of the brightest of the hardy annuals and blooms very freely. These are but a few of the finer border plants worthy of being included in all seed orders; others will be taken notice of next week.

Planting of all classes of fruit trees and bushes, Roses, hardy climbers and shrubs may still be proceeded with. Lawns for sowing should be levelled and prepared. The sowing may be done in March. Dull shrubberies could be greatly enlivened and improved by deleting some of the commoner and less worthy subjects that at present compose them, and placing in their stead some of the shrubs that have been recommended recently in these pages. There are plenty with beautifully coloured foliage for winter, and bright leaves or flowers for summer; these should be considered. The hardy herbaceous border can have additions made to it, although the present is a less suitable time than six weeks ago, when the Asters were in flower and the various heights, &c., of the autumn flowers gave one an idea of how to arrange the border to greatest effectiveness. The presence of bulbs in the herbaceous plant borders prevents one from doing much planting until they have appeared in spring.

Work for January.—By the middle of the month the early preparations are being made for seed sowing; the orders ought, therefore, to be made out as soon as possible.

Hollyhocks.—People nowadays grow many more things as annuals than they did in the days gone by. The Hollyhock is an example. Possibly it was the awful disease which blighted and scourged the Hollyhock about twenty years ago that has caused the growers to frequently change their stock, but the fact that they can be easily and surely raised from seeds is a point in favour of this practice. Very distinct and good varieties should be propagated from cuttings, as seedlings are always more liable to vary. Seeds can be sown now in pans. When the seedlings have appeared prick them off into other pans or boxes. The plants may be potted up a little later, and should be grown on in a cool house till they are hardened off for planting early in April. They enjoy a warm, sunny border, as light and rich as possible, but really any good garden soil will suit them. When the plants die down toward the end of autumn the "crowns" may be protected by covering around them with leaf mould. Where old plants exist at the present time a few cuttings may be struck. I do not advise any coddling system, as that was the ruin of the plants by being weakened, and so were thrown open to the disease which caused the destruction of nearly all these stately old-fashioned plants throughout Europe at the time I just lately mentioned. Yet at the same time a bottom heat of 63° to 65° until the plants are struck and established is advisable. After this give them the cold treatment in cool houses or frames to ensure sturdy plants. The plants will require tall stout stakes when they have developed to half their height, and they grow 6 ft. to 8 ft. high. I am very fond of the old Hollyhock (Althaea rosea), the parent species of the many grand and handsome varieties of the present day. This old friend, however, has single flowers. It may be useful to remark that the Hollyhock disease has in most cases been stamped out. Perfectly clean cuttings and seeds (for disease is said to be transmitted even by seeds) can now be obtained from the nurserymen who make a speciality of hardy plants. Holly Hoke is an old-fashioned method of spelling the popular name. The plant was one of the earliest that found their way to England from China, where so many of our beautiful hardy plants and shrubs hail from. This was in the year 1573.

Petunias.—The Petunia is almost an instance of a neglected plant—a beautiful flowering plant left unappreciated. I say almost, for it does find *some* amount of attention. It is one of the finest of the annual plants, and as such is largely used in bedding, but that is not really culture. The charmingly sweet, double pink, and white varieties are very attractive, and fitted to give a great deal of pleasure to any flower-lover who has a small greenhouse. A sowing may be made now to furnish indoor plants. They must be carefully watched after they have germinated, and should as soon as possible be pricked off into pans filled with turfy soil, having one part each of sand and leaf mould. When they have become well rooted in the pans, and have made ample foliage lift them carefully, and pot them into 5-in. pots, after which they should be grown in a house with a temperature ranging from 55° to 60° or 62°. The air should be moistened. Avoid draughts, and allow the plants as much light as can be had, which means a place on one of the shelves near the glass. Stake the plants neatly, and no pinching should be necessary if the plants are grown firmly. Still, it is the worst practice imaginable to allow the plants to become leggy or straggling. When well treated, and if the seeds or cuttings are from a good strain, nice floriferous plants should only be 15 in. to 18 in. high, and bearing large blooms. I prefer the double varieties to the singles, as the latter seem so ephemeral and unsubstantial, and nowadays we must have substance with grace and beauty. The double mixed selection might be tried, and it will certainly give a great deal of interest to raise and tend them. The double fringed Petunias, with the Grandiflora type of the singles, are specially good for pot work. Messrs. Carter & Co. and Messrs. Sutton & Sons seem to specialise Petunias rather more than other firms.

Amaryllis may be got out now for potting up. After potting in a compost of thoroughly sound loam, leaf soil, and coarse sand, place the bulbs in a house with a temperature of 60° as a minimum. Do not subject them to a dry atmosphere, and, indeed, the less forced they are the better.

Achimenes may also be brought out and prepared for an early start.

Gloxinias are never wearisome. A few sowings from now onward will provide a succession of batches. The best of the rested crowns or tubers may be potted up and started at the end of the month.

Greenhouse Cinerarias should be grown quite cool. Many of them have already come into bloom. A little feeding with Canary Guano or Clay's Fertiliser is advisable where the plants are not yet fully developed.

Cannas may either be sown now or the old tuberous roots may be potted up, starting in an intermediate house. Where seeds are to be sown it will be necessary to steep them for ten hours in water. Their testa or skin is so thick and hard that it requires this length of time.

Grevillea robusta seeds may be sown now, or the plants may be propagated from cuttings. Seeds take a very long while to germinate, and they come very irregularly. Fuchsias may also be pruned and started.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Hippeastrums.—*L. R. T.*: Allow the bulbs to rest till the end of January, when they may be potted up. Good bulbs are being offered now by bulb merchants, but where any bulbs are turned out of the soil or the pots in which they have been growing they should be placed in cocoanut fibre. There is no gain in turning them out of the old soil until they are about to be potted.

Gold Ferns Damping.—*J. T. L.*: Gold and silver-leaved Ferns are at all times liable to damp off from the nature of them. They should never at any time be dewed or syringed, and at this season the least possible amount of moisture should be sprinkled about where they are placed. They may also be kept on the dry side until the time they are top-dressed in spring. The basket treatment answers perfectly well.

Making an Indoor Rockery.—*K. Johnstone*: Elaborate rockwork or grottos require the presence of skilled artisans who work in this special line. But if you only wish to make a small rockery such as one finds where two span-roofed houses are separated internally by only one partition, and which is constructed at the side of the central path where the stage would be, then this is an easy matter to arrange. An iron grating should be laid down first 1 ft. above the hot water pipes. Over this spread stout turves, and immediately proceed to fix up a few of the larger stones. All along the front an iron bar something like a length of railway line should be securely fixed as a substantial edging. The smaller stones for the edge could then be placed into position in such a way as not to appear too formal. The work of fixing in the large stones, and of filling in good soil, and then smaller sized stones, leaving pockets for Dracaenas, Ferns, Sansevieras, Ficus, Strobilanthes, Saintpaulia ionantha, Heliconias, Marantas, &c., should be completed. The larger stones can be put in so as to support each other, or they can be supported by smaller ones around them. By planting surface creeping plants, the rockery will present an effective appearance in the first few months. It must not be made steep else there will be no chance of top-dressing it afterwards, nor of watering it properly.

Gooseberry Planting.—*A. S.*: Plant now in deeply dug and well enriched ground. Gooseberries like an open situation. Allow the bushes 4½ ft. from each other.

To make an Edging-Bridge.—*Arthur*: The edging-bridge to save the boxwood and other kinds of edging in gardens, must be made of stout planks, which should be fitted together with a middle leg. The gradient, however, must be easy to mount. Deal boards about 3 in. in thickness, and from 1½ft. to 2ft.

each in length, should be employed. The top ends must be sawn to fit tightly together, and common sense will point out how to saw and join them. The bottoms of the planks should also be sawn obliquely across, so as to lie flat on the soil and walk. The planks should be 6 in. broad.

When to sow Annuals.—*K., Stourbridge*: Hardy annuals, such as Sweet Peas, Clarkias, Nemophilas, East Lothian Stocks, Mignonette, Marigolds, Whitlavias, Wallflowers, Virginian Stock, &c., may be sown in September. Half hardy annuals are those that are not sufficiently hardy to stand the British winters, but succeed well during spring, summer, and part of autumn. Most of the finer annuals come under the latter class. These are sown sometimes in the open borders during the early days of May, or in boxes and pans indoors about the end of March so as to be fit for planting out when the warmer weather comes along. You will find a list of annuals in the reply to your next question.

Good Annuals for Exhibition.—*K., Stourbridge*: Some of the best varieties of annuals for exhibition are: Alonsoa, Calliopsis, Centaurea, Clarkia, Coreopsis, Cosmos, Gaillardia, Godetia, Gypsophila, Linaria, Lupin (annual), Mimulus, some of the Poppies, Petunias, Phlox Drummondii, Salpiglossis, Salvia Schizanthus, Sweet Peas, Tagetes (French Marigolds), Verbena, and Zinnia. There are others that might be included, but these are all of the larger growing kinds, and therefore more imposing and handsome. The Sweet Sultans have lately been considerably improved, and they too might be included. The best half dozen of these annuals would be Salpiglossis, Sweet Peas, Zinnias, Gaillardias, Calliopsis, and French Marigolds. Then if a dozen were wanted for exhibition we would add Schizanthus, Clarkias, Sweet Sultans, Alonsoa, Centaureas, and Godetias. Many gardeners treat annuals as though they were not worthy of notice; but it is only by preparing the soil well, sowing thinly and at the proper time, and thinning, watering, and even staking and disbudding in the more advanced stages, that the best flowers can be obtained.

DELPHINIUM CARTERS' BLUE BUTTERFLY.

When this annual Larkspur made its appearance at the meeting of the Royal Horticultural Society on the 17th July, last year, it caused quite a sensation amongst lovers of plants that may be made to do service either in the conservatory or greenhouse, or in the open air. The special feature of the plant were its dwarf and branching, bushy habit, and large and handsome, brilliant blue flowers, which have been compared to a combination of those of Gentiana acaulis and Salvia patens. The bushy habit is a feature which distinguishes this Larkspur from the ordinary single and double forms which have been cultivated in gardens for so many years. Very likely we shall have rose, pink, purple, and white varieties of this strain in the near future,

Delphinium Carters' Blue Butterfly.

but none of these shades will equal, far less surpass the blue one. We might, however, have different shades of blue, all distinct and equally beautiful in their way, rivalling even the original blue. The other colours might be useful by way of contrast in bedding arrangements. Some of our correspondents have already spoken of it in glowing terms as a useful bedding plant, so that it is evidently finding its way into gardens. The seeds should be sown in March in heat so as to give the plant an early start in the same way as half hardy annuals are treated. The seedlings should be transplanted when large enough to handle, and finally hardened off and planted out as soon as the weather becomes settled in May. The plants will commence flowering in June, and keep flowering all the summer. In ordinary garden soil they grow 12 in. to 15 in. high, and are very showy. An Award of Merit was granted it by the R.H.S. on the above-mentioned occasion. The accompanying illustration kindly placed at our disposal by Messrs. J. Carter & Co., High Holborn, London, shows the habit of the plant admirably.

TREES AND SHRUBS IN THE LOWFIELD NURSERIES.

By the side of the London and Brighton road are the extensive grounds of Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex, that being the postal address, for the establishment is really in Surrey and well within the southern border. The nurseries are situated on a level plateau at a considerable elevation above the sea, so that Lowfield is not altogether appropriate. The soil is a heavy loam inclined to clay, but just the material to give good crops when well tilled.

Early in October last when everything was still in leaf and Dahlias flowering, we had a hurried run throught several of the departments, including the ornamental trees and shrubs of which there is a rich collection. Many of them, particularly the choicer ones, are planted in wide borders alongside of the main walks. Conifers are well represented, including healthy specimens of Picea nobilis glauca, Juniperus virginiana glauca, Retinospora squarrosa, and Abies alba, all of which are more or less of a decided glaucous or sea-green hue, and very attractive. The same may be said of the Colorado variety of Pseudotsuga Douglassii and Cedrus atlantica glauca, which make a beautiful contrast with the darker hues of other subjects, whether evergreen or deciduous. The Deodar Cedar (Cedrus Deodara) itself is distinctly glaucous when young and growing freely. Koster's variety of Abies pungens glauca is a great improvement upon the original, being more decidedly glaucous and certainly handsome. Juniperus japonica aurea is of slow growth, and therefore well adapted for planting on a rockery. Other golden Conifers include fine samples of Retinospora pisifera aurea, and R. plumosa aurea, the latter being the best known or most frequently planted, but the former is a stronger grower. We also noted Nordmann's Fir (Picea nordmanniana) in fine condition.

Azalea amoena succeeds very well here grown in the open, and has appeared on more than one occasion at the Temple Show from this nursery. Hollies in great variety also find a place in these borders, and are vigorous and healthy. The golden Privet (Ligustrum ovalifolium aureum) is the finest variety of the oval-leaved Privet, and indispensable where hardy shrubs are valued. Caragana gracilis pendula is an uncommon weeping tree; while Cornus brachypoda argentea marginata, raised on a stem 4 ft. high, makes a fine standard. The under surface of the leaves of Acer Pseudoplatanus atropurpureus is darker purple than the old purple variety. One of the most handsome of the small Maples is A. tartaricum Ginnala, the leaves of which become red in the autumn like the Japanese Maples. The tree or large bush is much more robust than any of the Japanese sorts, while the leaf-stalks and ribs are darker even in summer than those of the ordinary form. Other interesting subjects noticed were Chionanthus virginicus (Virginian Fringe Tree) and the Kentucky Coffee Tree (Gymnocladus canadensis). The hugh leaves of this tree are as striking in summer as the tree itself in winter on account of its few stumpy branches. If planted as a town tree it would save the labour of pruning.

In other parts of the grounds deciduous trees and shrubs are to be seen forming plantations of greater or less extent. Very uncommon as yet is Koelreuteria paniculata with its pinnate leaves. Quite of another kind is the cut-leaved Hazel (Corylus Avellana laciniata). Very unlike the ordinary Honeysuckle is Lonicera involucrata (sometimes named L. ledebouriana). It had been flowering all the summer yet was still in bloom in October. It does not climb but forms an upright bush. Very handsome were the standards of Hydrangea paniculata grandiflora, on stems 4 ft. to 5 ft. high. Occasionally one sees Dimorphanthus mandshuricus flowering very late in autumn, but here it must have flowered fairly early, for it was laden with its large starry clusters of black berries, and very striking. Paulownia imperialis is useful in subtropical gardening for the sake of its huge leaves. The leaves of Quercus purpurea are of a rich dark purple. Male and female forms of the Sea Buckthorn have been got together here. Ulmus Dampieri aurea, as bushes and standards, makes a striking object with its golden leaves and upright habit. U. Dovei is another vigorous growing Elm of compact habit, and useful for standards. The Purple Beech and Prunus Pissardi, with purple foliage, are indispensable subjects in the landscape.

Less known is Pyrus prunifolia coccinea with small, scarlet fruits, popularly known as Crimson Siberian Crabs. The collection of Crab Apples is very fully represented here. For instance we noted John Downie, Imperial, Transcendant, and the splendid looking Dartmouth Crab, with large and richly coloured fruits like a Plum. The Yellow Siberian Crab is at the other extreme for size.

Some shrubs are notable for the persistency with which they continue to flower till late in the autumn after they have once made a commencement. In this category we place Weigela candida with pure white flowers, and valuable in association with other varieties. It was in full bloom in October; so was Coronilla Emerus, although it had been flowering all the summer. The Bladder Sennas are likewise persistent bloomers, and that named Colutea purpurea still had a large number of dark buff-orange flowers to open. Acer Pseudoplatanus purpurascens Nizetti has its leaves variegated with creamy white and purple, with the lower surface also purple. A. P. luteo-virescens is another of the many varieties of the Sycamore grown here, the leaves in this case being variegated with creamy-white on a green ground. One of the finest of the autumn-tinted Maples is A. virginicum fulgens, having bright crimson-red foliage. The purple-leaved Almond might more often be seen in collections, as its leaves are darker and more handsome than those of the purple-leaved Peach.

Ornamental Oaks are represented by a great number of useful species and varieties, including Quercus concordia, having uniformly yellow leaves. Those of Q. marmorata are marbled all over with silvery-white blotches. Q. elegantissima has a much bolder, creamy variegation, and is a more vigorous growing tree than the previous two. Quite distinct again is Q. Souvenir de Franz Van der Bom, whose leaves are marbled all over with yellow. Somewhat akin to this kind of variegation is that found in Prunus economica variegata, the variegation of which is so extensive that the leaves may be described as marbled with green on a pure white ground.

False Acacias, otherwise Robinias, are represented by various forms, including R. viscosa (glutinosa), R. Pseudacacia angustifolia, a very light and graceful tree with narrow leaflets; and R. neomexicana, by some considered to be a form of R. Pseudacacia, and by others looked upon as a hybrid between that and R. hispida. Briers are grown in quantity for the budding of Roses.

In passing through the grounds several bold looking grasses were noted, which from their size are suitable for planting in association with shrubs, Bamboos, or on lawns. Of these Eulalia japonica variegata is perfectly hardy, and when planted out makes a large silvery bush. A newer one is Glyceria aquatica variegata, the green form of which is a British grass, but this finely variegated and ornamental variety was picked up by the edge of a canal in Holland. Hydrangea tricolor is variegated with white, yellow, and green. The golden cut-leaved Elder, Sambucus racemosa foliis aureis, is a very ornamental subject. The Strawberry-Raspberry produces crimson-red fruits like a Strawberry and white flowers. For the south at least Ceanothus Gloire de Versailles makes a handsome bush, producing myriads of bright blue flowers. Ulmus Van Houttei is a handsome Elm, having a broad golden edge to its leaves. U. montana variegata, on the contrary, is a variety of the mountain Elm, the leaves of which are edged with silvery-white. Another handsome Sycamore, and very little known, is that named Acer Pseudoplatanus Worleyi, having deep yellow or golden leaves.

GARDENIAS.

Calling in at Frognal, Chislehurst, recently, I noticed a batch of these, so young and thrifty-looking, that I was induced to make enquiries of Mr. Hussey respecting his management of these popular flowering plants. The glasshouses here are not extensive, consisting mostly of rather low-pitched houses. Mr. Hussey is evidently the man to make the most of everything, and his management does him great credit, other things being equally well done as the Gardenias. There are about thirty plants, varying from 2 ft. to 3½ ft. in height. These were propagated last February. He propagates annually, never keeping his plants more than one season. From a similar lot of plants last season he gathered sixteen dozen perfect flowers. He puts the cuttings in early in February, and when rooted they are potted into 60's, then on to 48's, and from these into their flowering pots—Nos. 24 and 16. The compost used is three parts peat to one of loam, with sufficient coarse silver sand to keep it open. He keeps them all through in a moist, genial atmosphere, making a liberal use of the syringe, and likewise syringing them twice a week with a wineglass of paraffin to two gallons of water. By this means they are never troubled with thrips, scale, fly or bug. They never require sponging for the black sooty deposit so frequently seen. For manures they receive, alternately, Thomson's, Clay's, and Ichthemic Guano, but mostly a watering with soot water and fowls' dung combined. It seems a pity that such good plants as these should be consigned to the rubbish heap; but the want of space leaves no choice. Care is taken to never overdose them with manure—weak and often is the motto.—*W. B. G.*

SUTTON'S ANGLING ASSOCIATION.

Twenty-first Annual Meeting and Prize Distribution.

Friday, the 21st ult., was a red-letter day amongst fishermen at the Royal Seed Establishment, when a score of anglers met in the Firm's Reading Room to receive the reward of merit. Under the able chairmanship of Mr. Martin H. F. Sutton, one of the vice-presidents, the usual business was transacted with celerity and dispatch. The balance sheet, with a handsome credit item of £15 from the firm (£4 10s. in excess of last year), proved a sufficient guarantee of the club's solvency; at the same time bearing eloquent testimony to the interest shown by Messrs. Sutton & Sons in angling. That their generosity is duly appreciated will be very apparent from the fact that fifty-seven entries, 73 lbs. were made, an excess of thirteen entries, 18 lbs. (specimen fish), over last season's record, necessitating the unusually large debit of £22 odd for prizes as against £18 in 1899, membership numbering seventy-four. This gratifying document disposed of, the various officers were re-elected, the "Founder of the Firm" still acting with his sons as President and Vice-Presidents respectively—the old committee (with the substitution of Mr. H. Belcher for Mr. Tomkins, a retiring member), together with the Hon. Sec. and Treasurer, Mr. R. Bowsher, being again inducted into office "willy nilly" and, as no proposition was forthcoming in regard to the rules or prize list, which were considered perfect, apparently, the chairman was free to devote all his energies to the dispensing of the formidable array of prizes, both prize and prize-winner affording considerable scope for witticism and good-humoured banter, of which Mr. Sutton was not slow to take advantage. At the conclusion of the annual dispensation Mr. Farmer moved a hearty vote of thanks to Mr. Sutton for presiding and to the Messrs. Sutton for their great interest in the association, which was carried with acclamation. Mr. Sutton in reply assured the meeting that it was a real pleasure to himself and partners to further sport, and angling in particular.

A list of the prize-winners is appended.

W. T. Bartholomew.—1st trout (4 lb. 2 oz.), 1st

pike (6 lb.), 1st pike (Woolhampton), 1st perch (1 lb. 11 oz.), 1st chub (3 lbs.), 1st roach (1 lb. 5 oz.).

S. Warrilow.—3rd roach (1 lb. 3 oz.), 2nd roach (gross 40½ lb.), 2 "firsts" and one "third" matches, 3rd eel.

H. Belcher.—3rd chub, 4th roach (1 lb. 2¾ oz.), 2 "firsts," one "second" matches.

W. R. Smith.—2nd perch (1 lb. 4 ozs.), 5th roach (1 lb. 2 oz.), 4th roach (gross), matches.

W. H. Stacey.—7th roach (1 lb.), 3rd roach (gross weight 35 lb.), 2nd match, 1st chub (Woolhampton).

R. Bowsher.—2nd pike, 2nd match, 4th chub.

C. Cooper.—2nd roach (1 lb. 4 oz.), 2nd chub (2½ lb.).

W. W. Albury.—1st gross weight roach (half-hundred-weight), 1st match.

J. Sadler.—1st eel (3 lb. 2 oz.), 5th chub.

H. Goodhall.—1st perch (juniors'), 3rd roach (juniors'), 3rd match.

H. Swain.—2nd eel (2 lb. 13 oz.), 2nd pike (Woolhampton).

J. T. J. Wicks.—1st roach (juniors'), 2nd perch (ditto).

Mr. F. J. Plumer.—2nd chub (Woolhampton), 2nd match.

A. Knight.—3rd perch (15¾ oz.).

W. H. Chalk.—5th gross weight roach, 3rd match.

H. Church.—4th perch.

C. Goseltine.—Matches.

R. Bryant.—5th perch.

E. Spong.—2nd roach (juniors'), 1st match.

D. Cooper.—6th roach (1 lb. 1 oz.).

KEW NOTES.

Between the presentment of Kew at its best and Kew at its least attractive state, there is a very wide difference. Of course this is common to every garden, but to Kew in particular; for there are exceedingly few gardens throughout the Kingdom that equal or surpass Kew in the beauty and variety of their design and composition.

It is within the houses that the floral wealth lies at present, yet here and there an early flowering hardy shrub enlivens the scene. The Witch Hazel with its curious yellow flowers on the chocolate-brown shoots; the brilliant masses of the naked yellow Jasmine, and the fragrant Chimonanthus, or rather C. fragrans grandiflorus, which is the commoner of the two, are each attractive in their way. The precocious Honeysuckle — Lonicera fragrantissima, which forms a nice bush for a rockery, and L. Standishii are very much alike; and though neither of them are very showy, yet they are favourites for winter. The value of Kadsura chinensis variegata as a wall plant is brought prominently before one at this dull season. Jasminum humile also on a wall, had developed a few odd blossoms. The luxuriant dark green pinnate leaves, however, will be the principal feature of this Indian shrub till the proper flowering season in June and July. Ribes speciosum with its pendent racemes of crimson Fuchsia-like flowers, and its spring growth appears as an anomaly altogether at this mid-winter period. This species was brought from California in 1829.

The difference between Crataegus Pyracantha and its more free-fruiting variety, C. P. Lelandii, seems to be easily detectable in the orange coloured berries of the species, and the scarlet berries of the variety. The latter is a first-rate subject grown as a bush in the shrubbery. There are very finely berried samples of it as a bush in Finsbury Park. C. P. Lelandii also flowers and fruits more freely and earlier than the type. Both shrubs, however, are very useful for garden decoration. Then again when one is on the quest for ornamental subjects for the outdoor garden, what takes the eye sooner than the golden Ivies? Be they conducted upon upright pillars, or on loosely linked chains slightly raised from the ground level, at the edge of terrace slopes, or on the walls of a dwelling house, they have a rich and pleasing colour and appearance. There are quite a number of ornamental trees and shrubs, such as the red-wooded Cornus, the golden Willow, the white barked young Birches, the Buckthorns, especially the Sea Buckthorn when berried; Euonymus sieboldianus with its interesting and beautiful fruits, Rhamnus verniciflua, and the better forms of the golden variegated Elaeagnus, that are all worthy of a few remarks upon their qualities for winter decorative purposes.

Genista sagittalis has been used in one instance as an edging plant at Kew; and it would do if there was nothing better. Among the meritorious hardy shrubs in bloom we must not overlook the remarkable Rhododendron dahuricum, whose fragile lilac-mauve flowers are freely produced at this dreary and cold time of year. It is found all over Northern Europe and Asia, but from its appearance one would never imagine it to be a vigorous and hardy plant. The usual flowering period is March, so that it is really out of season at this time. It has long been known in this country, but why it has not been far more liberally planted is one of the puzzles that at times face one.

The Rock Garden.

Though there is really nothing in the rockery to notice for its attractiveness at the present time, yet a few things may be mentioned now that planting is engaging attention. Veronica Hectorii always catches the eye, and as it is an evergreen it is of perennial value. Schizocodon soldanelloides wherever it is known is appreciated as one of the alpine gems. We do not see it named in either Messrs. Barr & Son's, or Messrs. J. Backhouse & Son's hardy plant catalogues, so that the stock, if in commerce, must be very limited. Shortia galacifolia, however, can be had, and to all lovers of alpines who have not this little prize, we would say "get it." At the present time its leaves shine with a crimson-red glow. It is grown in an open, quite exposed pocket in the Kew rockery, and does not seem to be very difficult to cultivate.

Polygala Chamaebuxus purpurea and P. C. rosea are both doing a little in the way of flowering. One of the earliest of the Snowdrops, Galanthus Fosteri, bedecks one of the brown-earthed slopes, and the flowers are sturdily sprightly. The vigorous, close growing Arabis procurrens from Transylvania, south of Hungary, offers us its cold, white clusters. But the sky-blue "eyes" of Lithospermum prostratum are even yet unabashed by the season, which proves its mildness and the persistence of the flowers, for they still peep out from under the woody growths. Iberis gibraltarica is also in flower; and so with the rather weedy Chrysogonum virginicum, having yellow blooms like a Potentilla, and which would be appreciable in an out-of-the-way place. Selaginella denticulata, which is frequently used to cover indoor borders and pots, and which resembles S. kraussiana, flourishes Ar in the shelter of some of the obliquely disposed stones. It is very interesting to see it doing so well in the open air. The Christmas Roses have begun to flower, and will continue fresh for a few months. The rock garden, however, is taking its nap, and only the whispers of the southern zephyrs can call out the dormant charms.

MULTIFLORA STRAIN OF STREPTOCARPUS.

Some weeks ago we inspected a large batch of this strain of Streptocarpus in full bloom in the nursery of Messrs. J. Laing & Sons, Forest Hill, London. By repeated intercrossing, seed sowing and selection a great deal of variety has now been developed in this particular strain. Some are very nearly pure white, one merely having pink veins on the lower lip, and another a lemon band in the throat with three short violet lines; while a third one was pure white and certainly an acquisition. Equally important in its way was an erect flowered mauve variety, which may possibly be fixed and give rise to a new strain. Very beautiful and distinct was a blue variety with violet veins. The flowers of many of the forms measured 2½ in. across. Darker than either of the above was that having maroon purple flowers; others diverged into clear indigo-blue flowers; intense violet with almost black blotches in the throat; white with pale blue blotches and wavy all round the edges of the broad segments; a very fine white, with violet blotches; light blue; and gloxinioides, a very wide open white flower with radiating violet veins. Another house and a frame were full of resting plants that had been flowering all the summer.

Various winter flowering subjects were gay in other houses, including Calla The Godfrey, which is finding favour with many cultivators. Begonia Gloire de Jouy has silvery spotted leaves and magenta-rose flowers. B. nigra is not unlike B. Gloire de Lorraine in its foliage, but all parts are larger, including the rich rosy-carmine flowers. Bijou des Jardins is a semi-double variety of B. semperflorens, of dwarf habit with deep red flowers. Many other winter flowering Begonias were blooming at the same time. Seeds were being collected every day from the summer flowering tuberous varieties, many of which were carrying large fat pods.

A new variety of Zonal Pelargonium was notable for its large, round, magenta-rose flowers. Very floriferous was Salvia splendens grandiflora, in dwarf plants grown in 48-size pots. Primula sinensis Earl Beaconsfield, with pure white double flowers, is now a rare plant in gardens. The foliage of Cobaea scandens variegata was still bright. Young Abutilons were flowering in pots, as were Bouvardias in the leading and popular varieties.

NEW INVENTION.

The "Strawberry Support" for which a full patent has been applied for by Mr. H. Low, The Gardens, Larbert House, Stirlingshire, is an appliance for keeping the fruit of Strawberries up off the ground, therefore keeping free from earth, worms, snails, &c. It has already been shown at Edinburgh, Glasgow and Dundee, on the occasion of the flower shows at those places.

Mode of Using.

Insert the standard a few inches into the ground, as near the centre of the plant as possible, take a sling in the left hand with the hooks or catches pointing towards the body, then take a truss of fruit in the right hand, work the thick stack into the spiral, and hook up on the ring of the standard to whatever height required. Where there are few fruits on a truss, two or three trusses can be put into one sling if wanted. They will be invaluable for pot work, as they will keep the fruit from being splashed with water, liquid manure, or whatever is used to feed with. They will, practically speaking, last for ever, so that the work entailed every year making birch forks is done away with. They can be used outside after the pot fruit is past, so that they can be made to do two turns in one year.

Uses Outside.

The professional will find that it does all that is claimed for it, that is, keeps the fruit perfectly clean. By being exposed more to the sun it takes on a deeper colour and is better flavoured; it also will ripen a few days earlier to start with, and should the weather be wet and unfavourable the fruit will dry much quicker, avoiding waste through rotting. The appliance should not be fixed until after the fruit is set, as the leaves hanging over the blossom will protect it from frost, should frost happen to come when they are in bloom. After the fruit is all gathered go over all the plants and cut all fruit stalks between the base of the plant and the sling, lift the sling when the old truss will fall out. There should be a few boxes kept for keeping them in when not in use, separate boxes for the standards and slings and all put in with the circle ends in the standard and the spiral ends in the sling altogether.

The amateur gardener will find it as useful for him as it is to the professional, if not more so, as he cannot get straw or hay so easily.

The market grower, especially those who cater for the shops for selling dessert fruit in small baskets, will find it enhances the look and flavour of his fruit a great deal, therefore commanding a higher price.

The first cost, which is the only one, will be made up for in three or four years' time, by the amount of extra fruit got off a given space. The time spent in putting on and lifting after the fruit is gathered (which would only be four or five hours in the season) is compensated for in the gathering, as every fruit is seen at a glance, and can be gathered much quicker; the fruit is also cleaner and better in every way.

Hints for Amateurs on the Cultivation of the Strawberry.

All amateurs, who contemplate going in for Strawberry growing, should procure their plants, if they have to buy them, as near the beginning of August as possible. The piece of ground where it is intended to grow them should be trenched the previous winter, and a liberal supply of farmyard manure worked in. Any light crop that can be got out by the first week in August can be taken off the ground; afterwards hoe and rake off any weeds. The ground should be well firmed by treading, then give it a rake

and put in the young plants at a distance of from 20 to 22 in. between the rows, 15 in. between the plants in the row. If the weather is dry at the time of planting give a good watering. On the approach of hard weather in the winter time, wheel on manure and spread it in between the rows a few inches thick. The winter and spring rains will wash the nutriment into the soil, and enough straw will be left to keep any heavy thunder shower from splashing the soil up on the fruit. If farmyard manure cannot be got, then a little soot and poultry-yard manure, lightly pointed in with a digging fork, is a good thing. No digging between the rows should be practised, as it destroys the most of the fibrous roots. When the fruits are at their final swelling any liquid manure diluted with water will help them greatly. After the fruit is all gathered, and the standards and slings lifted, go over every plant and cut all dead leaves and runners off; then hoe and and rake, and follow the same routine next season. It is a well known fact that all varieties of Strawberries do not do so well in some districts as others, so that they have to be tested often, but two varieties that do well in most districts are Royal Sovereign and Vicomtesse Hericart de Thury.

THE CHRISTMAS FRUIT TRADE.

When Mr. Geo. Monro, V.M.H., delivered his lecture on "The growth of the fruit trade," at the Drill Hall, about a year ago, the figures he quoted to show the extent of the fruit trade during the year, but especially at Christmas, caused many to open their eyes in wonder. The *Standard* in a recent article furnishes some further facts that have been gleaned on this same subject. It deals mostly with the fruit trade at the Christmas season. All the year round the fruit trade in London is prodigious, but at the Christmas season it develops in the most astonishing manner, and necessitates the services of a large staff of workers day and night to grapple with the gigantic shipments which come to hand. Most of the fruit brought to the wharves and docks is sold by public auction at Pudding Lane and Monument yard. Oranges are literally consumed by hundreds of tons. Millions of these fruits are disposed of yearly, and most of them come from Spain. From 1,000,000 to 2,000,000 are imported in December, chiefly for the Christmas trade. Each box is marked with the number of fruits it contains, this being usually 420 or 714. The best are marked with the letter C., signifying that the fruit is sound. The Valencia Oranges have for long held the foremost position for quality, but those now coming from Jaffa, Jamaica, and Denia are catching the popular palate. Lemons, Grapes, Apples, Pears, Bananas, and Nuts, are also sold in large quantities in the city sale rooms.

During late years the arrivals of dried fruits have been exceedingly heavy, and this year the quality has been uniformly good. Dates from the Date Palms of Egypt and the north African States, particularly Tunis, are cheap and sell liberally. The Tunis Dates are now being put up in neat little boxes which seem to attract the public more than the Tafilat's which come in boxes of about 50 lbs. and are sold at the rate of from 60s. to 70s. per cwt. Figs can be had either in the flat, pressed state, or dry, but retaining their natural shape. The latter are dearer, but Figs are said to be plentiful this year, so that prices rule lower. Bosnian, Californian, or French Prunes (Plums) are ample and good.

Some Nuts, such as Barcelona and Spanish, are dearer than usual, and Brazils may even be termed high priced. It is stated by some of the best men in the trade that higher prices did not rule twenty-five years ago. Walnuts from Naples and Grenoble are plentiful. Chestnuts from France and Italy, and also a goodly supply of Almonds, Kent Cob-nuts and Cocoanuts, are offered at moderate prices.

Canadian red skinned Baldwin Apples are popular, as are the Kings and Spys. Prices run from 15s. to 20s. a barrel of three bushels each. New York fruit sells at about the same prices. Apples of all kinds are put up by thousands of barrels, and arrivals come thick and heavy. There are also some fine English Apples on the market, in half bushel packages, and no difficulty is found in selling them at 4s. 6d. per package. Pears from France and California have not been so plentiful; and though there are some mighty fine samples of Glout Morceau from Paris, yet they can only be bought by the well-to-do. The big berried Gros Colman, grown by English producers and turned out of the vineries in huge quantities, are the finest Grapes in the market. They are packed in baby-baskets that hold about 6 lbs. of fruit each. The Alicantes come in goodly quantities from the Channel Islands as well as from the home vineries. Cranberries from Russia are a cheap and appreciable acquisition at this season. They are much like our Red Currants.

There is hardly a shop or fruit store where Bananas are not to be seen. They have sold at two a penny on many occasions, and the importations are still heavy. It is worthy to note that few retailers now buy the fruit green, the supplies being so regular.

Dealers in green fruit, as most of the undried fruits are termed in the trade, agree that the supply will be equal to the demand. All fruits are well represented, but the growing consumption has now assumed such proportions that, though new centres of supply are being opened every year, yet, in time, the demand may exceed the supply, after which values would improve. The development of the fruit trade in the United Kingdom is an excellent sign, for the increased consumption of fresh fruits must tend to the increased health of the community.

MY GARDEN IN PRETORIA.

By Lady Lily Greene.

Now that the Roses have faded from our gardens at home, and the Honeysuckle has disappeared from the hedge-rows, I cannot help thinking, with a certain feeling of "recollection and fond affection," of my beautiful little garden in Pretoria, and contrasting the autumn here with that at the other side of the world, in our newest colony.

Oh, those Roses! How shall I describe the beauty and luxuriance with which they grew? There were masses of them everywhere, though the Rose hedges of long ago that one had heard of and read about have almost disappeared. Still, one's own and one's neighbour's gardens so closely adjoined that they produced the same effect, for every house in Pretoria had its garden, and every householder grew Roses, in greater or lesser degrees certainly, but there they were. The annual Rose show seemed so unnecessary, for all our gardens were Rose shows in themselves twice a year. And not only Roses, but many other home favourites flourished in riotous profusion. Once a free-flowering annual got into the garden it was impossible to get it out again. Little Phlox Drummondi and Petunias kept popping up amongst the grass of the croquet lawn, showing flowers almost as soon as leaf, and making one feel a perfect butcher for allowing them to be mown over. Baby Nicotiana affinis and Violets appeared in all sorts of unexpected and unsuitable places, and it was very hard having to pull them up. The old-fashioned Verbena crawled about everywhere, making lovely patches of colour in out-of-the-way corners, and brilliant Gaillardias were almost too much for one's patience. They *would* grow where they were not wanted. It was not only the flowers that chose their own quarters. My thrifty mind and tidy eye were often much exercised at finding a Cape Gooseberry flourishing in a bed of Cannas, or a Tomato all a-growing and a-blowing amongst the Geraniums, for they really seemed to grow in a night, and to be well established before they were found out. My northern soul rejoiced much over the Gardenias, Tuberoses, Poinsettias and Hibiscus, which all in their turn looked beautiful; to say nothing of the many-shaded Bougainvilleas and quaint Grenadillas which climbed all over the house, or helped the Bignonia venusta and Banksia Roses to cover the arches and summer-houses of my garden. The first two named did full duty in the matter of perfume, which, alas! can be said of very few flowers under the hot African sun, which beats down on them during so many months of the year. The careful gardener used to make little parasols for his Carnations and other treasures in summer, and in winter used to cover up his Norfolk Pines and Palms with no less care; for we had very sharp and cruel frosts sometimes during May and June. But as there was no rain to speak of, and the ground was quite dry, the frost was not so dangerous as one might expect.

During the winter months a very great trouble was the want of water, or, rather, not so much the want of it, for it is all there, as the difficulty there was in getting it. There were artificial furrows running by the side of the roads, down which water was always supposed to flow; but as all garden watering was done by a system of irrigation, the simplest plan was to dam the stream, turning it into my garden, and let it spread through various little water-courses. It was splendid practice for the amateur engineer to plan these streamlets to the best advantage, and so make the most of the supply before a furious neighbour "came along" to know what had happened to prevent his supply coming in. It is true I had standpipes dotted about the garden, and it was the duty of a "boy" to stand at the end of a hose all day long and direct a well-aimed shower over the beds, but we all know of what little use a light shower is on a hot day. Besides, one would do anything to avoid having an untidy Kaffir spoiling the appearance of one's best Cannas and hearing his melancholy drone mingling with the cooing of the ring-doves.

A Kaffir cannot work quietly. If there are two or more "boys" together they will chatter and laugh, like the big babies they are, at the tops of their voices all day long; if one is by himself he will drone a little bar of three notes without, apparently, pausing for one minute, even to take breath. It is useless to try and stop them. They are good-hearted creatures most of them, and mean well, but oh! how stupid!

It is said that the birds in South Africa have no song. One certainly used to miss our lovely home songsters, telling us that "summer is coming, I know it, I know it." But still there was plenty of bird life to speak to us, and tell us how much they were enjoying themselves in their beautiful surroundings. The doves kept up a delicious scolding and cooing from dawn till sundown, besides many other birds of lovely plumage whose names I never fully arrived at; some, I am afraid, with rather a bad reputation, such as the butcher bird, blue jay, and others. The South African domestic cock was a most unorthodox specimen of his kind, for he seemed to prefer crowing from sunset to sunrise, instead of during his legitimate hours; but who could blame him for wishing to join in the chorus of other sounds that came forth at sunset? There were frogs of every species croaking, crickets chirping, beetles humming, etc., to such an extent that "silent night" was an unknown quantity during the summer months. I believe night adders were amongst those who made night hideous. Snakes there were, too, in plenty, though it was my good fortune to come across only a very few. Two found their way actually into the Agency House during the time I was living in it, and one appeared occasionally in the verandah amongst the Palms and Maidenhair Ferns, which I prided myself flourished better with me than with my neighbours. But my friends had many and gruesome tales to tell of their adventures with, and visits from, various unholy reptiles. Lizards we had in plenty, and chameleons; very pretty they looked as they darted about, and proved an endless amusement to the dogs, who persistently hunted and chased them up the tree-stumps, and when they did succeed in catching one, which very rarely happened, seemed to find them a far more succulent morsel than the locusts, which, although nasty and prickly, they were unable to resist.

We were not very well off for trees. I had no satisfactory shady ones in my garden. Three weeping Willows did their best, but they made the place very untidy with their little twigs or tears, which they were always shedding. Blue Gums, of course, there were in abundance, but whoever took a book and "lazed" under a Gum tree? The silver Oaks, as our greenhouse Grevilleas have come down, or grown up, to be called, made a pretty contrast in greens with the Loquats, which, with their sweet flowers, dark leaves, and brilliant fruit, almost rivalled the ever beautiful Orange and Lemon trees, which were never idle, always showing promise of flower and fruit at the same time. The Peach and Pear trees in spring were unspeakably lovely. No English orchard could rival the wealth of blossom they displayed, but the fruit was most disappointing, as is the case with a great deal of the fruit in the Transvaal. I grew Strawberries for the sentiment of it, but they might as well have been coloured Pumpkins for all the flavour they had. Figs and Grapes alone remained a joy, as they could not be surpassed in any climate. It was extraordinary how the butterflies loved their dessert as well as their nosegays. All sorts of these lovely insects of every

hue were to be seen darting about quite as much among the fruit as the flowers, and adding yet one more spot of colour and beauty to my already lovely garden. With what a pang of sorrow I left it! for although I had only lived there a short time, yet everything seemed to have grown up under my eye and to have "done well with me," and I feared that my favourites would fare but badly once my motherly care had been removed far from them. However, I am sure that whoever succeeds me in the tenancy of the British Agency will love the garden quite as much, and extract, perhaps, even more beauty and use from it than I did, though it would be impossible for them to derive more pleasure and amusement, or take greater care of all that grew within its fragrant hedges.—From *The Ladies' Field.*

HURST & SON'S CLOVER AND GRASS SEED CIRCULAR.

January 1st, 1901.

We have pleasure in presenting our annual report upon the Clover and Grass Crops of 1900.

English Red Clover and Cowgrass.—We must expect a restricted supply this season; less than for several years. The acreage of early harvested seed was probably two-thirds of the whole crop, but of this we hear very poor reports, samples are uneven and yields light; in many cases it will not cover the cost of threshing. The later saved lots on the colder lands received the benefit of the bright sun at the end of September, and from these will come the best samples and the largest yields; this applies to the eastern counties chiefly. Some of the few yearling samples remaining over are really bolder and more attractive than any new we have seen.

Single Cut Cowgrass.—Very scarce indeed.

Foreign Red Clover.—American advices have long foretold short yields and reported active demands for their home consumption. The samples we have seen are poor in quality, and up to the present a comparatively small quantity has been shipped to Europe. Whether, as the season advances, they will be able to send increased supplies remains to be seen; at present their market rules firm, and as the Canadian crop is not large, high rates may be maintained. Probably over the half of Europe the smallest crop for some years has been produced, but on the other hand the south-eastern districts of Germany and some parts of Russia have lately been offering large lots of fine quality at rather high prices; these may be justified should the demand of the deficient districts be up to their average consumption.

White Clover.—A rather large English crop is reported, although we cannot say that we have had an abundance of samples at present, probably with cold and dry weather for threshing, offers will increase. We believe Germany has an average crop, but fine samples command high prices.

Alsike.—Possibly the very low prices that prevailed in Canada and the States for several years proved unremunerative to the growers and, therefore, a large decrease in the acreage saved has taken place, for offerings this season are comparatively light, and prices have advanced to a much higher level, and if reports are correct, will continue so, but some parts of Germany have large crops, although samples sadly lack the cleanliness of the American and Canadian seeds.

Trefoil.—A far below average crop in every producing district. Fine samples of English seed are scarce and command high prices.

Lucerne.—A fair crop in France, but a medium one in America.

Sainfoin, Giant and Common.—About an average crop in England of both varieties, and the same conditions have been reported from France.

Italian Ryegrass.—Again a much smaller crop in France than last year's, which was far below the average. Pure French seed is held for extreme rates and will be so throughout the season. The Irish crop was good, and considering the shortage in the French and English, a larger demand will be created for it.

Perennial Ryegrasses.—An advance on last season's prices was established as soon as the markets opened last summer, and has been well maintained.

Natural Grasses.—Are generally scarce and high in price. Cocksfoot is an exception, the crops of this were large and the quality good. Timothy, a strong advance on last season, Meadow Fescue, very scarce. The Poas, with the exception of Poa pratensis, are all scarce. Crested Dogstail dear, and Sheep's and Hard Fescue above last year's values.

White Mustard.—Fine seed, scarce.

Rape.—Very short crops in every district.

Spring Tares.—In short supply up to the present.

Winter Tares.—A considerable lot held over, but prices are high and very firm.

Offices and Sample Rooms, 152, Houndsditch, London, E.

GARDENING MISCELLANY.

NEW ROSE, FLUSH OF DAWN.

American florists have lately given us some very brightly flowered and meritorious hybrid Tea Roses. In the H. T. Flush of Dawn we would seem to have another charming novelty. It was raised by Mr. H. Walsh, of Wood's Holl, Massachusetts. The flowers are a lovely light pink colour, changing to white, and are very fragrant. They are, moreover, large and finely built. They should prove useful for all decorative purposes. The fact that the plants are vigorous, and bear their flowers on long stems, stands well in favour with this new variety. The foliage is said to be dark, glossy, and abundant, and so far the variety has proved a continuous bloomer.

TOMATO SOUP.

A dainty summer soup is made by putting a quart of Tomatos in a saucepan with a quart of white stock. Cook until tender. Mix a tablespoonful of flower with a little milk to a smooth paste, add to the Tomatos, then strain. Return to the fire, season with salt and pepper, and a generous lump of butter. Serve at once, with croutons of bread, or add a little finely-chopped Parsley.

NERTERA DEPRESSA.

This pretty little mossy plant is sometimes used in Germany as a suitable plant for carpet beds and vases. It is also made to take the place of Selaginella on the surface soil of pots, or even on ground under the stages. The idea of employing it in the place of Herniaria, in carpet beds in this country, seems feasible. If its pretty orange-scarlet berries could be got in profusion the plant would be one of the finest we could use. The plants are readily grown from seed, which should be sown in pans in early spring, the soil being composed of equal parts of peat, leaf mould, and sand. Prick out the seedlings into other pans when they are large enough, and grow in frames.

CHOISYA TERNATA AS A POT PLANT.

Those who cannot always hope to be successful with this plant out of doors should raise it to the importance of a pot plant. If there were many times more temperate houses in our gardens than at present is the case, this would be the house in which it could be planted, and in which it would do immensely well. The beautiful white blossoms of the Mexican Orange flower can be had by April when the plant is grown in pots. It is of simple culture, and so long as it is carefully potted in the first instance there are reasonable hopes for its doing well afterwards. After it has done flowering regulate the shoots by pruning, but very little use of the knife is required. The plants may be plunged in the open during the summer.

LEGAL NOTES.

The Agricultural Holdings Act.

The Royal Agricultural Society has just published, through Mr. John Murray, a useful sixpenny pamphlet on the new Agricultural Holdings Act. 1900, which came into force on January 1st, 1901. In addition to the text of the new Act (which is only an amending and not a consolidation Act), the pamphlet contains a summary by Mr. S. B. L. Druce, barrister-at-law, on the whole of the existing statute law on the subject. This should prove very convenient to landlords, farmers, valuers and others who are affected by the present Acts, by saving them the trouble of referring to different volumes of the statistics.—*Irish Farming World.*

OBITUARY.

Mrs. George Field Morris.

We regret to learn of the death of Mrs. George Field Morris, of Madeira, Cambridge Park, Wanstead, Essex, on Wednesday, the 2nd inst. The wide circle of friends of her husband, Mr. George Field Morris (of Messrs. Protheroe & Morris, Cheapside), will sympathise with him in his bereavement.

Mr. George Thomson.

We are sorry to learn of the death of Mr. George Thomson, at his residence, Urtica Villa, Knapp Hill, Woking, on December 31st, aged 77. Few of the present generation of gardeners, probably, will remember him, as he has been practically living in retirement for some years. He was for some years a contributor to our pages, and a reader of The Gardening World to the last. Mr. Thomson was a sturdy Scot who came from the southern end of the "Land of the mountain and the flood."

He first came into prominence in the London district when he left Stanstead Park, Hants, to take up his appointment as garden superintendent at the Crystal Palace in 1873, which he did on the death of his predecessor, Mr. Gordon, in that year. He worthily held this post till May 9th, 1879, when he tendered his resignation to the then Board of Directors. His reason for this step was owing to the desire of the Directors to reduce the working expenses of the Palace by selling surplus cut flowers and plants, a practice which was, probably, much less common than it is at present, and then considered as touching the honour of the profession. Both the gardens and the plants in the Crystal Palace had been vastly improved under Mr. Thomson's care, and the whole establishment brought to the first rank amongst public horticultural establishments in Europe through his skill and energy, though the whole had been effected at a saving of something like £2,000 a year, on the expenditure of his predecessor in office. These facts about his resignation of the superintendentship of the Cyrstal Palace we glean from the pages of our esteemed contemporary, *The Gardeners' Chronicle.* Mr. Thomson was succeeded by the late Mr. Head, whose decease we recorded a few years ago.

Since his resignation he has been living practically in retirement so far as the general public, horticultural, or otherwise, was concerned, and maintained a sturdy independence to the last. So long as he was able, however, he did not allow his energies to rust, but frequently acted as landscape gardener for Mr. Anthony Waterer, of Knapp Hill, Woking, superintending many of the operations he had in hand; and otherwise kept himself in touch with horticulture as we indicated above.

Previous to his coming to the Crystal Palace, in 1866, to wit, he acted as judge at the great International Show of that year at South Kensington. He was also in frequent request as a judge at various leading flower shows all over England. There is something for reflection in the fact that this sturdy Scot weathered out the old century to its very close—the century that has seen such vast improvements and advance in horticulture as in other arts, and men to lead and direct the same.

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. A. Thatcher, Aldenham, Elstree, for his article on "Chimonanthus fragrans," p. 293.

QUESTIONS AND ANSWERS.

**** All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 5 & 6, CLEMENT'S INN, STRAND, LONDON, W.C. *Business communications should be addressed to "The Publisher." Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Preserving Coloured Vine Leaves.—*Avon*: The leaves may not retain the bright colour you desire for any great length of time; but surely it is a mistake to say that they cannot be dried without losing all the bright autumnal tints. Many leaves may be dried retaining red and other hues which they develop in summer, even while still quite young. We have leaves of Liquidambar styraciflua gathered after they acquired their bright red in autumn about eight or ten years ago, and they are not much faded yet. Of course, they have not been exposed to light. Not all leaves may be dried retaining their colours, but we think Vine leaves might be fairly well preserved. Much depends upon the treatment they get during the first two or three days when being dried. The papers should be changed once in twenty-four hours, if not twice, for the first six days, and dry papers substituted for the wet ones. We do not like blotting paper as that retains too much moisture about the leaves and does not part with it readily. Ordinary newspapers would be better, or any brown or white paper that is not glazed but will absorb moisture. Blotting paper if neglected for ever so short a time takes the colour out of many things that may be readily dried, retaining a beautiful green colour for a long time. The plan is to get the moisture removed as quickly as possible before it has time to do harm. There is a way of colouring leaves artificially, but it is a tedious and troublesome method. If you desire it we could give you the general details of the method, which requires some trials and experience to ensure success. You might try the plan we give above or send us some coloured leaves to try.

Position for Greenhouse.—*Florist*: We are not quite sure what you mean by "south wall." If it is at the south end of the garden, then the inside of the wall would face the north. In any case we do not like the direction of the house as marked in your sketch. One end should face the south and the other look towards the north, or nearly so; then you would have the benefit of the sun on one side of the house all the morning and the other all the afternoon. Except for early work that is how you should build the house to get the most advantage of the sun for plant growing. Then again you should consider the surroundings, and ascertain where the house would be most sheltered against the prevailing winds. The south-west winds are not very cold as a rule, but they would serve to keep down the temperature. Shelter from the north and east would be of more importance than almost any other quarter, as the wind from those quarters is always cold, even in summer; and it would take a deal of fireheat to keep up the temperature. The heating of a house the size you mention could be effected by means of hot water pipes, heated by a paraffin stove. When ordering the same, however, you would have to state the length, breadth, and height of your house, and whether span-roofed, so as to get the proper amount of piping and lamps of sufficient heating power to guard against severe frost. When the weather is relatively mild, then the lamps could be kept burning low. The stove had better be placed outside so as to get rid of the fumes, but you would have to build a little shed over it to save waste of heat. In case you want much fire heat for early work, a small saddle boiler we think would give most satisfaction in the end. If you get good pipes to begin with, the saddle boiler could be fitted to them afterwards, so that you should make provision for that by having a joint just outside the house. Heating apparatus would be an advantage in enabling you to commence raising seeds by the beginning of March, so as to get all the advantage of the season, unless you can raise young plants elsewhere. See that no part of the house is shaded either by the walls or hedges of the garden you mention.

Aspidium or Lastrea.—*A. C.*: The first name is not intended to include the second, even by those botanists who use it. Aspidium is meant to include all those having the round clusters of spore cases covered by an orbicular indusium or covering fixed by a stalk in the centre like a very minute Japanese umbrella or parasol. The name Aspidium is meant to include Polystichum, Cyrtomium, Cyclodium, and Aspidium proper. All have this umbrella-shaped covering. Lastrea belongs to another group having a kidney-shaped covering to the round clusters of spore cases, and this induslum is fixed to the frond by a short stalk in the notch. Nephrodium is generally employed for this group, but you can continue to use Lastrea if you like. There is a growing tendency amongst botanists to use the name Lastrea again.

How to make a Greenhouse Pay.—*Florist*: The plan you propose to adopt is a very good one; but we would like to qualify one statement you make, namely, the filling it with "choice bedding plants." It would be a mistake to fill it with Coleus, Celosias, Cockscombs, and similar choice things, if the people in your neighbourhood only want Pelargoniums, tuberous Begonias, Calceolarias, Violas, Pansies, &c. You can make them as choice as you like, provided you can sell them when grown. You will have to study the wants of your neighbourhood, or the market you are going to supply. By finding out this you will be most likely to succeed; and as you go on experience may enable you to go one better each time.

Good Cropping Tomatos.—*Florist*: Chemin, Ham Green Favourite and Conference are smooth fruited and good looking varieties that would take well in the market, and as a rule they crop well. Many other and newer varieties in the trade would no doubt answer your purpose quite well. A change of seed now and again would be an advantage, unless you take particular care to select seed from vigorous plants, as they are liable to degenerate under the same conditions year after year. As you intend growing them in boxes, however, that would ensure fresh soil every year. Old soil under glass is often subject to harbouring disease when too often cropped with Tomatos. Boxes of any size would do, provided they hold a depth of 8 in. or 9 in. of soil. For convenience you might make them 1 ft. wide, 9 in. deep, and 18 in. long. They would be easier to move about than if made larger. You could put two plants in each, and stand the boxes in rows the long way of the house, so that each plant would be 15 in. apart from every other in the row, and kept to a single stem. By putting one row against the glass on either side of the house you could put five rows along the body of the same. The house at that rate would hold seven rows, or fifty-six plants in all. To avoid crowding, however, you would do better to have only six rows, three on either side of a central pathway.

Chrysanthemums, Potatos, and Strawberries.—*Florist*: Bush Chrysanthemums for the sake of cut flowers would be a good catch crop, so to speak, because you can grow them outside till the end of September. Late flowering varieties would be best. Potatos grown in boxes would hardly pay, unless you can have them ready very early so as to command a good price. See also whether you have any competition in your district with Potatos from the Channel Islands. You could grow Strawberries on light shelves hung up to the roof of the house so as to get all the advantage of light. Here again you would require plenty of heat to get ripe fruit some considerable time in advance of those from the open air. The other plants in the house would have to be of kinds that would be benefited by the heat used to bring forward the Strawberries. The heat need not be very high, however, as that required for forcing Peaches would suit them. The house should be kept fairly dry during the ripening period to avoid mildew.

Rats in a Vinery.—*J. Ward*: Setting iron traps is a good plan, and covering the same with chaff containing a little corn amongst it. You must be careful not to touch the trap with your naked hands, otherwise they are liable to "smell a rat," so to speak. When setting the trap put on your pruning gloves, and that will keep off the scent of the hand to some extent. The trap should be set close to the hole where the rats come in, taking out a little soil so that the trap when set will be on a level with the hole, and hidden by the chaff. If you intend to try poison you should put phosphorus paste or Battle's Vermin Killer on narrow slices of buttered bread. After scattering or distributing the poison over the butter put the buttered faces of two pieces together, and place this into the hole or holes. Cut the bread with a knife, and do not touch it with the hand. Place a board against the holes overnight and examine the bait every morning to see whether it has been taken. Guard against the rats getting in while this baiting process is going on if you can

Names of Plants.—*A. M.*: 1, Euonymus japonicus latifolius aureus; 2, Euonymus japonicus latifolius albus; 3, Euonymus radicans.—*R. M.*: 1, Pelargonium tomentosum; 2, Mentha Requieni (the two have a somewhat similar smell, both recalling the odour of some of the Mints, and of course one of them is a Mint, not a Thyme).—*W. A. R.*: 1, Adiantum assimile; 2, Adiantum Capillus-Veneris; 3, Adiantum Fergusoni; 4, Othonna crassifolia.—*H. D.*: Aloe mitraeformis; 2, Aloe serra.—*T. J.*: 1 Cpyripedium callosum; 2, Maxillaria picta.—*D. C.*: 1, Salvia rutilans; 2, Ophiopogon japonicus; 3, Carex brunnea variegata.—*R. M.*: Nephrodium molle corymbiferum; 2, Asplenium bulbiferum minus, often called A. Collensoi; 3, Begonia semperflorens var.; 4, Ilex Aquifolium Silver Queen.

Communications Received.—A. Hope (we shall bear it in mind).—M. Todd.—Alfd. Hoadley.—J. M.—A. S.—H. D.—J. R.—H. R. W.—A. D. W.

TRADE CATALOGUES RECEIVED.

ROBERT VEITCH & SON, 54, High Street, Exeter.—Catalogue of Flower and Vegetable Seeds.

WILLIAM CUTBUSH & SON, Highgate Nursery, Highgate, London.—Descriptive Catalogue of Flower, Vegetable, Farm Seeds, &c.

DICKSONS & CO, 1, Waterloo Place, Edinburgh.—Dicksons' Garden Seeds.

W. J. GODFREY, Exmouth, Devon.—Guide and Descriptive Catalogue of New and Select Chrysanthemums.

GEORGE BUNYARD & CO., The Royal Nurseries, Maidstone,—General Seed List.

JOHN FORBES, Buccleuch Nurseries, Hawick, Scotland.—Select List of Vegetable and Flower Seeds, Garden Requisites, &c.

DANIELS BROS., LTD, Royal Norfolk Seed Establishment, Norwich.—Illustrated Guide for Amateur Gardeners.

HOWDEN & CO., Old Post Office Buildings, Inverness.—Howden's Garden Seeds.

SAMUEL DOBIE & SON, Heathfield Gardens, near Chester.—The Amateur's Garden Annual.

LITTLE AND BALLANTYNE, Carlisle.—Garden Seeds.

ALBERT F. UPSTONE, 35, Church Street, and 1, Market Street, Rotherham, Yorks.—Seed Catalogue.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

JANUARY.

15.—Royal Horticultural Society's Committees, in Drill Hall, Buckingham Gate, Westminster.
25.—Blackheath Horticultural Society Meeting.
29.—R.H.S. Committees.

FEBRUARY.

4.—Wimbledon Horticultural Society Meeting.
12.—R.H.S Committees.
15.—Gardeners' Orphan Fund (Annual Meeting and Election).
26.—R.H.S. Committees.
28.—Kew Guild Annual Meeting.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Secretary, GEO. J. INGRAM, 175, Victoria Street, S.W.

ROYAL GARDENERS' ORPHAN Fund.—Secretary, B. WYNNE, 8 Danes Inn, W.C.

UNITED HORTICULTURAL PROVIDENT and BENEFIT SOCIETY.—Secretary, WILLIAM COLLINS, 9, Martindale Road, Balham, S.W.

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containing names and descriptions of the best New Chrysanthemums for 1901, and a select list of the best **Begonias, Caladiums, Cannas, Carnations, Dahlias, Gloxinias, Fuchsias, Heliotropiums, Pelargoniums, &c.**

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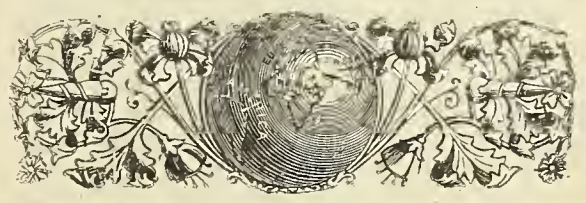

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JANUARY 19th, 1901.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, January 22nd.—Gardeners' Royal Benevolent Institution Annual Meeting and Election of 17 Pensioners, at "Simpson's," 101, Strand, W.C., at 3 p.m.

FRIDAY, January 25th.—Blackheath Horticultural Society Meeting.

THE JOURNAL OF THE KEW GUILD.—The appearance of this hardy annual from Kew is a little later than usual, but has not lost anything of its former interest on that account. There is an expressed desire on the part of many members that the annual general meeting, hitherto held in February, should be deferred till the time of the annual dinner on the eve of the Temple Show, with the object of securing the presence of a greater number of past Kewites at the meeting; and if this desire should be carried out the publication of the *Journal* would have to be deferred till the end of the year. The most notable home event of 1900 was the inauguration of the Kew Guild dinner on the eve of the Temple Show, when 100 of the present and past Kewites sat down together in the Holborn Restaurant, London. In one of the speeches at the dinner a classified list of past and present Kewites was revealed. The total

number at the date in question was 580, of whom 89 were in Kew, 345 in Europe, 42 in Asia, 26 in Africa, 52 in America and the West Indies, and 16 in Australia and New Zealand. They were also to be found in various isolated islands and other parts of the world where Britons congregate. Of the total number 8[illegible] were curators or superintendents of botanical and other stations; 100 were nurserymen or florists; 125 head gardeners, and 8 journalists connected with the horticultural press, by no means a small percentage of the total number. Herr Hermann Wendland, the Director of the Royal Gardens at Herrenhausen, Hanover, and the great living authority on Palms, has the distinguished position of being represented by the frontispiece of the *Journal* on this occasion. Bearing all of the above facts in mind it will readily be conceived that Kew has pretty well planted a man on every important piece of the globe, with the exception of the North and South Poles. With such an extensive membership it is needless to say that the affairs of the Guild are in a flourishing state financially and otherwise, there being a handsome sum invested to meet the requirements of a rainy day, which may never come so long as Kew acquires so much fresh blood, so to speak, annually.

Nor is it forgotten by past Kewites as the numerous letters show. The Mutual Improvement Society also had a distinguished session last winter and spring judging from the list of papers from members as well as others. Mr. J. G. Baker, F.R.S., F.L.S., late Keeper of the Herbarium, Royal Gardens, Kew, was at home on the "Botany of the Rose," a subject in which he may well be regarded as the high priest, for he has laboured in that field for many a year and day, commencing with the collection of British Roses in his native county and the north of England generally. Notwithstanding the fact that he had predecessors in the subject both in this country and on the Continent, he named and described a large number of varieties of British Roses, of which he is accepted as the authority for at least twenty-five of such forms at the present day. We note also from the *Journal* that he still continues his labour of "love" as of yore, and has written a monograph of the genus Rosa to form part of a larger work in process of collaboration. Of his older handiwork we have evidence in his "Review of the British Roses, especially those of the North of England," 1864, and his "Monograph of the British Roses" in the Journal of the Linnean Society, Vol. xi., p. 197, and read at a meeting of the Society, March 18th, 1869. The second work was an improvement upon the first by reason of greater experience, while many of the hints then thrown out have been adopted by the authors of the most recent edition of "The London Catalogue of British Plants"; while the principal British floras are guided by him entirely for Roses. As the Guild includes all the botanists at present on the staff, the institution should in time serve as a powerful means in bringing about something like the desired unanimity in the nomenclature of plants so far as the botany of the subject is concerned. Mere garden names for the infinitesimal variations of plants under cultivation is a thing apart from botany, and horticulturists themselves should unite to set their house in order. The portrait of Sir Joseph Hooker, now hung in the room of the Linnean Society, and the Gold Medal presented him by that body last May, also recall a past Kewite, eminent for his labours in many parts of the globe. All branches of botany, down to fungi amongst living plants, are represented at Kew; but fossil botany, or the study of the past vegetable life of the earth, is an innovation for which Dr. D. Scott, F.R.S., keeper of the Jodrell Laboratory, is responsible, and one that ought to be sustained in the interest of the science.

In the way of illustrations, other than portraits, those of a view in the Mexican House, and another in the Rhododendron Dell are of great excellence, and we had no difficulty in recognising both of them without the names. An extract from an introduction (by the Director) to a book of photographic views of Kew Gardens will be interesting reading to those of an antiquarian turn of mind, and who like to dive into the origin of things. This is practically the beginning of Kew as a garden: "Lord Capel of Tewkesbury inhabited Kew House, south of the present palace. Evelyn speaks with praise in 1688 of his 'Orangery and Myrtetum.'" Kew House is no more, but the ground forms part of Kew Gardens to-day, and is now extended to nearly 300 acres.

Letters from old Kewites in various parts of the world still continue to be a leading feature of the *Journal*, and we hope will always continue to be. An account of the experiences of other members of the confraternity is the next best thing to being in the swim one's-self, and better in some instances. A very interesting account is given by Mr. E. H. Wilson, collector in China for Messrs. Veitch & Sons. Evidently we are on the eve of a sensation in Jasminum primulinum, having yellow flowers the size of a crown piece, produced in great profusion. It seems that he has been climbing mountains by hanging on to a mule's tail, which speaks of the utility of that equine mountaineer. Szemao, in the province of Yunnan, from whence so many new plants have been sent recently, he describes as "the most God-forsaken place imaginable." Our recently-acquired territory of Kowloon he describes as a "barren place apparently," but he admits it wants searching first. Another writer describes the "Heathen Chinese" as very good gardeners, but lazy, which may mean that what they do, they do well, but take a long time to it. Mr. W. Trotter had not seen a European lady for eight months, and the only male European, his doctor, once a month, yet he is "happy as a king." That is at Alipur, the new habitation of this "Mark Tapley." The Arabic copyright of "Gardening in Egypt," written by Mr. W. Draper, has been acquired by the Egyptian Government, and will soon be in three languages. He expects it will find its way into "Gordon's College," at Khartoum. A large number of other letters are as interesting as the above, but the space at our command would hardly serve to give an adequate idea of their contents, so that Kewites may reserve the pleasure of reading them in the original. In Africa alone Kewites now form a cordon all round the dark continent, and keep penetrating it everywhere, bringing the dessert in and helping to build up empire. In Monsieur Lévêque's letter we can almost hear his foreign accent and his construction of Queen's English. The previous blanks in the addresses of past Kewites have now been largely filled up, although not very fully in cases for postal purposes. A very useful "general index" for the eight numbers of the *Journal*, namely from 1893 to 1900, occupies the last four pages of the present issue, so that the whole may be bound up in volume form. In future it is proposed to issue an index decennially, so that ten numbers will form the volume.

Lily of the Valley is said, by the market growers, to be ousting the flowers of Roman Hyacinths from the sale rooms.

Roots of Dielytra, or properly Dicentra spectabilis, should be sought out for early and gentle forcing in pots.

Paeonies make fine objects for the greenhouse in March and April. In large houses they are ornamental and suitable to a very high degree. P. officinalis rubra plena, P. alba pl., and P. tenuifolia fl. pl., are used.

Rosa ciphiana or more correctly R. spinosissima ciphiana is the parent of many of the garden varieties of Scotch Roses. The ordinary R. spinosissima has white flowers with a yellow throat. The flowers of the variety under notice are variegated with red.

Miss A. M. Gulvin, the lady gardener who took the Gold Medal at the R.H.S. some years ago, has terminated that career by taking unto herself a husband. *The Journal of the Kew Guild* says, "We can wish no better finish to a lady gardener's career than that accepted by Miss Gulvin." "And so say all of us, for she's, &c."

Cyclamens from Cuttings.—Old Donald Beaton, one of the best and most pushing of the florists of half a century ago, used to propagate his Cyclamen largely by division of the corm. Seeds then were untried. But whether he raised Cyclamens from leaf cuttings, I do not know. The *Revue de L'Horticulture Belge*, however, describes, in a footnote, how leaves with stout stalks and having a heel or small "bulb" of the corm attached can be struck successfully under a bell-glass if a little warmth is given. The practice is scarcely ever attempted in this country, though I daresay it may have been practised. A sharp pen-knife should be used to cut out a little portion of the corm.—*D.*

The "Daffodil King" still enthusiastic.—Mr. Peter Barr, V.M.H., continues to explore the cities and towns along the south of the Australian continent and was recently at Bendigo, Victoria, where the inevitable interview was sought by the reporters there Mr. Barr says he has started the growers of Sydney and Melbourne to apply themselves to Daffodil culture and advocates the merits of his chosen flower wherever he calls. The veteran has further written essays on the history, selection and cultural needs of the Daffodil, and these are being published by the Melbourne and New South Wales gardeners' associations. These will be widely circulated. Bendigo as a city seems to have caught the fancy of Mr. Barr, and over its great fernery with the majestic Australian Tree Ferns, &c., he waxed eloquently enthusiastic. From this Australian mining city Mr. Barr meant to direct his indefatigable footsteps to South Africa and up to Khartoum. What a wonderful old Scotchman—quite the type of a true Britisher.

The Gardeners' Royal Benevolent Institution.—Notice is hereby given that the sixty-second annual general meeting of the members and subscribers of this institution will be held at "Simpson's," 101, Strand, London, W.C., on Tuesday, January 22nd, 1901, at 3 p.m., for the purpose of receiving the report of the committee, and the accounts of the institution (as audited) for the year 1900; electing officers for the year 1901, and for the purpose of placing seventeen pensioners on the funds. The chair will be taken by Harry J. Veitch, Esq., treasurer and chairman of the committee, at 3 o'clock. The poll will open at 3.15 o'clock, and close at 4.30 o'clock precisely, after which hour no voting papers can be received. All the voting papers have been issued. Any subscriber who has not received a copy is requested to communicate with the secretary at the office, 175, Victoria Street, Westminster. The committee have the pleasure to announce that the annual friendly supper will take place, after the annual general meeting, on Tuesday evening, January 22nd, 1901, at "Simpson's," 101, Strand, London, at 6 p.m., when Alderman Robert Piper, of Worthing (Country Member of Committee of Management), will preside. As the accommodation is limited the stewards for the evening, Messrs. Geo. Munro, W. Y. Baker, and Owen Thomas will be greatly obliged by an early intimation being sent to the secretary at the office from those friends who desire to be present on the occasion, in order that proper arrangements may be made.

Mr. Baxter, from Dean Cemetery, Edinburgh, has been appointed Superintendent of the Wellogate Cemetery, Hawick.

A Border Counties Chrysanthemum Society has been formed, the first show of which will be held at Galashiels in the autumn.

Mr. Machie, of the Orchid houses, Kew, has been appointed as Orchid grower at Highbury, Birmingham, the residence of the Rt. Hon. Joseph Chamberlain.

Mr. William Doggrell, for the past three years gardener to Mrs. Stephen, Elenslea, Broughty Ferry, has been appointed gardener to ex-Sheriff Robertson, Burnside, Forfar.—*A. D.*

Gardening Appointment.—Mr. J. Sweeney, who has acted for some time to James Albert Power, Esq., D.L., at Leopardstown Park, Stillorgan, has received a good appointment as head gardener to Mrs. Moore, Phoenix Park, Dublin.

Mr. John Bell, for the past ten years gardener to Sheriff Robertson, Burnside, Forfar, has been appointed gardener to Robert Mudie, Esq, Corona, Broughty Ferry, on Mr. J. Macher retiring after eighteen years' service at Corona. Mr. Bell enters his new duties on January 25th.—*A. D.*

Weather in London.—Thursday and Friday of last week were cold and dull; Saturday brought a thick black fog; Sunday was very agreeable, while Monday, Tuesday, and Wednesday have continued equally fine. Twelve degrees of frost were registered in parts of Surrey on Tuesday, the 15th inst.

Mr. David Airdrie, for over ten years gardener to J. N. H. Graham, Esq., Larbert House, Falkirk, Stirlingshire, has resigned his position there, and leaves on the 26th of this month. The climate of the district has been trying to the health of his family. He leaves with the perfect good will of his employer. Mr. Airdrie is a good all-round gardener, and is particularly successful with Grapes and other fruits, so that he should not be long in finding an employer.

Scottish Horticultural Association.—In our report of the annual general meeting of this association, held on the 8th inst., a clerical oversight led us into the error of stating (p. 308) that Mr. Charles Comfort, gardener, Broomfield House, was appointed to the office of secretary in place of Mr. Laird. To put the matter straight we now give a list of the officials. President. Mr. Charles Comfort; vice-presidents, Messrs. M. Todd, Mackenzie, T. Fortune, G. Wood, and R. Laird; secretary, Mr. P. Loney; treasurer, Mr. W. Mackinnon. In addition to the above there are fifteen gentlemen on the council, all of whom take an active share in the direction and management of the association, which in the past has done much excellent educational work for horticulture in Scotland. The monthly meetings, at which papers are read and discussed, are much appreciated by the members in and around Edinburgh. Mr. Peter Lorey, who is now hon. secretary, had previously been one of the vice-presidents, as well as a member of the finance committee. His address is 6, Carlton Street, Edinburgh.

Bristol and District Gardeners' Mutual Improvement Association.—The usual fortnightly meeting of this society was held at St. John's Parish Room, Redland, on Thursday, the 10th inst., Mr. G. Brook presiding. The subject for the evening was "Six good vegetables and their cultivation," opened by Mr. W. J. Hockey, of Yatton The vegetables under consideration were Beans, Cauliflower, Celery, Onions, Peas and Potatos, the subject being dealt with in the able manner to be expected from such an expert as the lecturer undoubtedly is. He gave very clear directions as to preparation of ground, times of sowing seed, method of planting, and after-treatment in each case, urging the frequent use of the hoe amongst the crops and careful attention to insect pests. Mr. Hockey also advised the judicious use of chemical manures in nearly all vegetable culture, giving details as to kinds and quantities suitable. A short but interesting discussion followed the lecture, and the lecturer was cordially thanked for his attendance. Prizes for six crowns of Seakale were awarded Messrs. Binfield, Gardner, and Shaddick. Certificates of Merit went to Mr. Frampton for a Cymbidium giganteum; and Mr. A. Murrell for an exhibit of Cypripedium leeanum blooms.

"My Garden Diary for 1901."—Prompt with the introduction of the new year comes the beautiful and most useful little brochure from Messrs. Sutton & Sons, the Royal Seedsmen, of Reading, entitled "My Garden Diary for 1901." We know that this tasty little publication finds its way to the desks and benches of gardeners and garden lovers all over the kingdom, for the intelligence imprinted is both very pithy and practical. A spray of Sutton's Nemeslas is figured on the back cover, the presentment of which ought to induce a very large circle to become growers of this easily grown and pretty half hardy annual. The diary of garden work for each month, together with numerous useful notes about instituted events are furnished, and each page has in addition a calendar and space for odd memoranda notes.

Messrs. Barr & Sons' Seed Guide.—The catalogue of this well-known house (King Street, Covent Garden, E.C.), has now been posted to customers. At p. 25 the novelties and specialities for the coming season will be found. In a cursory survey we are pleased to notice that the long-spurred Aquilegias which can be so successfully raised from seeds find a fitting notice. These long-spurred Aquilegias have been bred and selected in the Long Ditton nurseries and so are constituted to do well in warm and dry soils, equally, of course, in gardens favoured with a steady supply of moisture. The plants are naturally more or less upland in their habitats, so that it is a worthy task to breed a strain suitable for the lowland strath. Carthamus tinctorius, whose beautiful flowers are used for a dye extract, ought to be in every garden. We would also refer very specially to Kalanchoe flammea, a grand new succulent that requires to be carefully watered in the early stages of growth; the Scotch Exhibition strain of Pansies, Poppies in every strain and section, Salvia splendens Glory of Stuttgart, Streptosolen Jamesoni, Sweet Peas, Lathyrus latifolius Pink Beauty, a beautiful new Everlasting Pea; together with the new additions to Cyclamen, to wit, C. Papilio; to Primulas, as the Star types; and to Cinerarias, of which the new Cruenta hybrids deserve the attention of all. The lists of novelties, however, are easily traced as they are printed on blue paper. The catalogue is arranged alphabetically and no detail or piece of information that would be of interest to the grower, is withheld, the whole book being handsomely got up. The novelties include new varieties of Antirrhinum, China Asters, Aquilegias, Carnations, Cosmos, Delphinium, Dianthus, Sunflowers, Hollyhocks, Lathyrus, Mignonette, Forget-me-Not and many others.

United Horticultural Benefit and Provident Society.—The monthly committee meeting of the above society was held on Monday evening last at the Caledonian Hotel, Adelphi Terrace, Strand, W.C.; Mr. C. H. Curtis in the chair. Respecting the secretary's salary it was proposed by Mr. Winter, and seconded by Mr. Hudson (as a recommendation to the general meeting which was about to take place), that £70 be paid him for the year 1900, with an annual increment of £5 until £100 is reached. This was carried by the majority. Nine new members were fully elected, and three others subject to production of birth certificates. Six others were nominated. Mr. G. Moreland, having received twelve months' sick pay, was granted half pay for a few weeks until he reaches 70 years of age. A member was granted six months' subscription to assist him over a difficulty. The actuary's report was produced, and was ordered to be read at the next meeting. A cheque for £12 12s. was passed for the actuary's services. The secretary was instructed to pay Messrs. Polletts' account, and a cordial vote of thanks to the chairman ended the meeting. A special general meeting was also held for the purpose of taking into consideration the recommendation of the committee that the secretary's salary be adequately increased. The chair was taken by W. Roupell, Esq. After a few vrey appropriate remarks by the chairman, it was proposed by Mr. Winter, and seconded by Mr. Hudson, that the secretary's salary be £70 for the year ending January 14th, 1901, with an annual increment of £5 till the maximum of £100 is reached, the said salary to be paid quarterly and Rule 8 to be altered accordingly. An amendment was made by Mr. Burge, but there being no seconder, the original motion was put to the meeting (forty-seven members being present), and carried unanimously. A very hearty vote of thanks to the chairman ended the meeting.—*W. Collins.*

Fourth Annual Social Evening of the Gardeners in the Royal Gardens, Kew.—This function took place on January 10th, in the Gymnasium, Kew, when past and present Kewites and their lady friends numbering about 120, enjoyed a very pleasant evening. The gymnasium was tastefully decorated for the occasion. Dancing formed the principal item of the programme. Songs and recitations were rendered by the following Kewites:—Messrs. Mackay, E. Horton, Heath, McAllister, Miller, Housego, Dawe and Haskings; violin selections by Messrs. Dalgarno and Duncan. A character sketch, entitled "The Geese," by the lady gardeners (Misses E. M. Powell and Edna M. Gunnell), was much appreciated. The proceedings terminated with the singing of "Auld Lang Syne" and "God Save the Queen." Mr. E. Horton acted as M.C. and Mr. W. C. Smith as hon. secretary.

The Sale of Poisons and Poisonous Compounds.—At a meeting of the Coal Tar Distillers' Association, held at the London Chamber of Commerce on Tuesday, the 8th instant, Mr. S. B. Boulton presiding, the following resolution, proposed by the Chairman and seconded by Mr. C. D. T. Bushell, was carried unanimously:—

Resolved: "That the Draft Bill fomulated by the Traders in Poisons Protection Society with the alterations suggested and adopted by this meeting receive the support of the Coal Tar Distillers' Association."

At a meeting of the Inverness Chamber of Commerce, held at Inverness on the 8th inst., the subjoined motion was moved by Mr Donald Murray and seconded by Mr. J. A. Gossip (Messrs. Howden & Co., Nurserymen):—

"That the Chamber resolve to petition Parliament in favour of the proposed Bill to alter and amend the law relating to the sale of poisons and poisonous compounds for agricultural and trade purposes."

The motion was unanimously adopted.

City of Edinburgh Gardenership.—Under remit, the Public Parks Committee of Edinburgh City submitted, as a short leet of applicants for the appointment of head city gardener, the following:—Robert Bell, Demesne Office, Baron's Court, Newton-Stuart, Ireland; Thomas H. Cook, Gosford Gardens, Longniddry; John W. M'Hattie, The Gardens, Lea Park, Milford, Surrey; A. D. Richardson, Royal Botanic Gardens, Edinburgh. Introducing the subject, the convener (Bailie Forbes Mackay) said that any one of twelve or fourteen of the gentlemen who came forward might have very well filled the office. Nominations were made as follows:—Mr. Bell, Bailies Mackay and Murray; Mr. Cook, Mr. Clark and Bailie Grieve; Mr. M'Hattie, Mr. Harrison and Bailie Gibson; Mr. Richardson, Messrs. Cameron and Stark. The first vote resulted:—M'Hattie, 20; Bell and Richardson, 9 each; and Cook, 8; and the final and deciding vote was:—M'Hattie, 25; Bell, 12; Richardson, 9.—*The Edinburgh Evening News.* As will be seen above Mr. John W. M'Hattie has been appointed to the responsible position of head gardener to the City of Edinburgh. The position is one of the prizes of the gardening profession in the United Kingdom, bringing, as it does, a salary of £250 up to £280. One hundred and thirty eight applications were made, but these were speedily reduced to twelve or fourteen, and again to a short leet of four, upon whom the final vote was made. Mr. J. W. M'Hattie is a native of Morayshire, and served his apprenticeship at Moy Hall, Inverness-shire, the seat of the Macintosh, of Macintosh, and subsequently was employed in the gardens at Cantray House, Inverness; Altyre House, Forres; Raith, Fifeshire; Knightshayes Court, Devonshire; and Oxenford Castle, Midlothian. He was for a good many years head gardener to the late Marquis of Lothian, at Newbattle Abbey, near Dalkeith, where his success in fruit exhibiting, particularly Grapes, and of Chrysanthemums is well known amongst gardeners and others. He has won a great number of highly prized medals, cups and monetary awards, all of which prove the new Edinburgh City gardener to be an all-round first-class cultivator. But he is equally as great in landscape gardening, at which he has had wide practice. From Newbattle Abbey he came south again to superintend the gardens and pleasure grounds at Strathfieldsaye, belonging to the Duke of Wellington. He only recently became gardener to Whitaker Wright, Esq, Lea Park, Milford, Surrey. He has also been forming the beautiful gardens at Tlyney Hall, the seat of Lionel Phillips, Esq., the millionaire. His portrait appeared in THE GARDENING WORLD for November 10th, 1900.

Canada has 900,000,000 acres of forest and cuts to the value of £12,000,000 annually.

Bird-Love.—"Although the season of nidification is the time when birds seem the most erotic, there is no little evidence that a degree of mutual affection between birds of opposite sex often exists at other periods of the year," remarks Mr. C. A. Witchell in the current number of *Knowledge*, and he gives the following instance, amongst others:—"Friendly hawks not only tolerate each other's presence in autumn and winter, but sometimes indulge in bye-play suggestive of at least a kindly interest in each other. In October last, one breezy day on the Cotteswolds, a male and female kestrel came into view flying lazily. They soared and drifted somewhat, and then swooped at each other more than once, obviously in play; and then drifted on as before. At the end of November I was watching a pretty male kestrel searching a hillside. Presently across the valley came another kestrel, a female bird, going directly towards him. She passed in full view, and it was noticeable that she was not flying quite in the usual way, but with very rapid and ceaseless beat of wing, and yet not travelling at a great pace. She did not alter or stay her course; but the other did not seem to fear her at all, and let her stoop full at him, as though he knew she would not hurt him. As a fact, she seemed to lessen her speed when approaching him; for she spread her wings, and swung at him like that; and both birds soon afterwards settled in a tree. It seemed that by this mode of approach she was showing a kindly interest in her mate—six months before nesting-time. Her flight reminded me of that of an amorous lark or chaffinch."

Information for Emigrants.—The January circulars of the Emigrants' Information Office, and the annual editions of the "Penny Handbooks" show the present prospects of emigration. Revised pamphlets on Ceylon and the United States have been issued. The notice boards are now exhibited, and the circulars may be obtained free of charge at about 600 public libraries and institutions throughout the country. There is no demand in Canada during the winter season for any class of emigrants, except female servants. In New South Wales the break up of the drought last year has much improved the prospects of all kinds of labour. In country districts there is plenty of farm labour of all kinds, but there is a considerable demand for skilled hands; farmers, however, as a rule, do not offer permanent employment, but only during the busy seasons. There is demand for skilled coal miners, turners, blacksmiths, fitters, iron-moulders, carpenters, &c. In Victoria there is no demand for mechanics or labourers, unless they are specially skilled, and bring a little money with them. Many unemployed have been provided with work during the last few months on railway construction, &c. In the country districts of South Australia there is good employment for agricultural labourers, for men able to work binders and strippers, for boundary riders and for married couples without children for stations, but the local supply of labour is generally sufficient. Owing to drought and scarcity of employment in Queensland, emigrants, other than female servants, are not recommended to go there at present, unless they receive assisted or nominated passages or take a little money with them. Free passages have recently been stopped. With regard to Western Australia, it should be remembered that the population of the Colony is still small and the demand for all kinds of labour is necessarily limited. Farm labour is wanted at Toodyay, Geraldton, Katanning, York and Beverley; good unskilled labourers are wanted at Perth, Katanning, York, Beverley, and female servants are in demand in nearly all districts. Free farms are given to settlers. There is a good general demand for farm labourers in Tasmania and also in New Zealand. Persons are warned against going to South Africa at present in search of professional or manual work. Recruiting for the Cape Mounted Riflemen has been resumed. Candidates must address a letter endorsed "Riflemen," to the Agent-General for Cape Colony, at 112, Victoria Street, S.W. Candidates for the new South African Constabulary should apply to the Recruiting Officer, 1, Chapel Place, Delahay Street, Westminster, S.W. Anyone wishing to have further particulars about emigration should write to the Emigrants' Information Office, 31, Broadway, Westminster, S.W.

Newcastle-upon-Tyne Flower Show.—The show of the Durham, Northumberland and Newcastle-upon-Tyne Incorporated Botanical and Horticultural Society, is said to be the oldest in England, having run successively each year since 1824. The spring show this year takes place on Easter Tuesday and Wednesday, April 9th and 10th, 1901. The summer show has been arranged for Tuesday and Wednesday, July 23rd and 24th, to be held at Leazes Park. H. Crawford Smith, Esq., M.P., High Cross House, Newcastle, is again president, with Ald. Jos. Baxter Ellis, J.P., as chairman. Councillor John A. Baty is hon treasurer, and Mr. I. B. Reid, of Mosley Chambers, 30, Mosley Street, Newcastle, is again secretary.

Dundee Horticultural Association.—The syllabus of the above association for the session 1901 is in the hands of its members. The patron is again J. Martin White, Esq., of Balruddery, the hon. president being Prof. E. Waymouth Reid, Conway, West Newport. The president elect is Mr. David Croll, 63, Commercial Street, Dundee, while Messrs. Wm. Kennedy, Ardarroch Gardens; A. C. Cameron, Binrock Gardens; R. Cairns, Balruddery Gardens; Wm. Christison, Brackenbrae Gardens; and J. Reid, of Dudhope Gardens, fill the office of vice-presidents. Mr. Thos. Butchart, Elmslea Gardens, Dundee, occupies the position of hon. secretary; Mr. D. C. Hutcheson, 22, Seagate, Dundee, that of treasurer; and Mr. Thos. Brown, Balcairn Gardens, Dundee, is the librarian. There is a committee of fifteen, all of whom are more or less well known in or around Dundee. The meetings, as will be seen, are held once a month:—January 8th, "The Trials of an Amateur Gardener" (with lantern illustrations), by Prof. E. Waymouth Reid; February 5th, "Demonstration in Floral Work," by Mr. Geo. Spence, Florist, Union Street; March 5th, "An Evening with the Microscope," by Mr. J. B. Core, Naturalist, Dundee; April 2nd, "Economic Bacteria," by Mr. T. T. Watson, Roseley Cottage, Carnoustie; May 7th, "Conference on Narcissi and other Spring Flowers," to be opened by Mr. R. Cairns, Balruddery Gardens, and exhibits are requested at this and all the succeeding monthly meetings. On June 4th comes "Hat Night"; July 2nd, "The Culture of Peaches Under Glass," by Mr. Little, Ballindreck Gardens, Bridge of Earn; August 6th, "Inter-Association Meeting and Conference on Small Fruits," to be taken part in by members from Dundee, Broughty Ferry, and Newport associations. Full representative collections are wanted. The syllabus further continues—September 3rd, "Notes on Flower Shows and Judging," by Mr. W. Kennedy, Ardarroch Gardens, Dundee; October 1st, "Conference on Early Flowering Chrysanthemums," to be opened by Mr. D. C. Hutcheson, 22 and 24, Seagate; November 5th, "Apples, as grown at Brechin Castle Gardens," by Mr. W. McDowall, the gardener there; and the annual general meeting comes off on December 3rd. It will be admitted that the syllabus is of a high order of merit, and breaks away from the more or less restricted lines to which so many horticultural societies restrict themselves. We are very pleased to see signs of so encouraging a nature as are shown by the members of this Dundee horticultural association. Our Dundee friends are amongst the comparatively few who have the advantage of an ample and highly useful horticultural library in connection with their association. The Scottish Horticultural Association at Edinburgh has not even got so far, although the desire has long been with them. The more expensive books might be left over for a while, and a nucleus could be collected out of which the greater library would evolve. The Dundee collection numbers altogether 156 books and treatises—a very respectable amount. It includes a great variety of technical subjects, and books of special value to Scottish gardeners are largely included.

GARDENERS' GRIEVANCES.

I THINK Mr. Dick's suggestion that we should thoroughly discuss this matter in the columns of THE GARDENING WORLD is an excellent one. I can endorse every word he says anent journeymen; but at the same time think that bad as their condition is, that of the married gardener is even less satisfactory. I speak principally of men compelled by circumstances to live in small places; and I think it will be admitted that they are the majority. The large places with good pay are like "angel's visits." There is one great mistake made by the majority of young gardeners, and that is the anxiety to get into large establishments. This, I hold, is a mistake, for in these large places a man is placed in a certain department if he proves himself to be reliable and an adept at that particular work; ten chances to one he is kept there as long as he stays on the place. Even if he does get shifted to another department, the hunt for knowledge is a slow process. On the other hand young men in smaller places get their share of all the different work on the place, and can therefore much sooner claim a fair general knowledge of the profession. I think if it were possible for us to have registration like some of the trades, such as the plumbers, there would be a great improvement in our condition. What does my fellow readers think about that suggestion?—*C. Blair, Binny, Uphall, N.B.*

CYPRIPEDIUM BELLATULUM.

As the flowering season is coming round it is well to be prepared with potting material for this chaste and pretty species; an entirely different method of cultivation will have to be adopted, as it does not lend itself quite so readily to the treatment generally given to Cypripediums. It is, however, of easy culture if the following mode of cultivation is followed. The potting material I find suits it best is a mixture of yellow loam which contains lime, broken into small pieces, adding crocks broken about the size of peas, and silver sand. The two former materials in equal proportions should be mixed well together. The pots should be carefully drained by placing a large crock in first, then drain to half its depth, and plants fixed rather firmly in the mixture bringing the latter to ½ in. of the rim of the pot. The plant should then be hung up in a position near the glass where it can have plenty of light, taking care that it is not overwatered. It is a plant which really requires but little water at any time of the year, more especially during the winter months. The best way to water is to dip the pot up to the rim in a bucket of water. Be careful not to wet the foliage. I find C. bellatulum comes true from seed. Intermediate house temperature suits it best.—*George Walker, The Beeches, 43, Circus Road, St. John's Wood.*

JASMINUM NUDIFLORUM

Is the queen of hardy mid-winter flowering climbers. It is like that friend who comes alone to cheer our darkness when all others are thoughtlessly asleep or purposely absent. "The little skies of golden stars" the poet is pleased to describe its beautiful clear yellow flowers. "The fateful bower entwined with golden chains of Jessamine always lends that aid essential to the brave," the novelist explains it. Who but the gardener appreciates or understands the sterling merits of our winter queen? This very mild season it is flowering most profusely, and its numerous buds are indicative of a continuance. How lovely to look upon a sheet of Jasmine stars basking in the moonlight, as the gardener quits his toil of clearing off dead leaves or working on wet soil, perhaps associated with Cotoneaster microphylla or placed near a bed of Christmas Roses, or perhaps sending its graceful arching shoots from a groundwork of Crataegus Pyracantha with rich green foliage and bunches of scarlet berries. The latter gives an enchanting picture when covered with frozen dewdrops which sparkle in many colours from the feeble rays of a rising sun. The Jasmine is at home when planted with Roses and Honeysuckle on a wall. Indeed a wall covered with these three yields beauty and fragrance the year round. The Jasmine is propagated by cuttings made from young medium shoots having a heel of older wood left at the base. They strike root freely if placed one-third of their length in sandy soil at the base of a south wall, or other sheltered position during April or May.—*H. H. Gibson, The Gardens, Glencairn, Belfast.*

EPACRIS.

PLANTS of easier culture not requiring the same attention have but almost extinguished this hard-wooded plant. In bouquet making and other decorative purposes, they are superb. The long stems of waxy, tubular flowers, which are closely set at the base of the small pinnate leaves are enchanting to the eye. Those of a free and trailing habit are of most service; the other type is more of a bush habit,

Immediately after flowering, prune the bush variety to within ½ in. of the previous year's growth, and those of a trailing nature need only have the tips of the shoots cut off. Afterwards remove the plants to some moist pit, with a temperature of 50°, till the month of June. When a deep airy frame will then be in their favour. Plunge the pots in ashes. Shade on scorching days, damping with a fine rose overhead in the afternoon. Repotting may be done when the young growths have made a start. A compost of peat, sharp sand and a piece of loam will suffice. Some shoots that are making rapid growth may have the points pinched, resulting in laterals that will be a mass of flower. The month of September will have to find the plants in their flowering quarters. The secret of Epacris is in watering. They enjoy abundance of water, but will not allow of stagnation at the roots. Crocking of pots is an art in hard-wooded plants which is very often neglected.—*Adam V. Main, Coltness Gardens, Wishaw, N.B.*

GLOXINIAS.

GLOXINIAS are very charming tuberous stove plants, of easy culture, producing a wealth of bloom continually for months. Start a quantity of the bulbs in January, using leaf mould, turfy peat, fibrous loam, with a little sand well mixed, and place them in a temperature from 60° to 80°, giving a little water. Pot a second batch in February and another in March. This succession will supply flowers for at least five months in the year. The different upright and drooping forms and colours lend an air of gracefulness to the surroundings, whether grown together in a stove or dotted round the front stage of a fernery; and when well grown are very decorative plants. After the blooming season is over they gradually go to rest, and all they require then is to keep the pots free from frost and wet, and the temperature should never be below 45°. If lower than this they are very apt to rot. To start them from seed, they ought to be sown in February in a well drained seed pan, using a compost of sifted leaf mould, peat and sand. Sow the seed on the surface, water with a fine rose, and place a sheet of glass over it and put it in an atmosphere of 65° to 75°. As soon as they attain a leaf or two, transplant them on the surface of a shallow box, and pot when large enough into 4-in. pots.—*J. C. Dick, Champfleurie, Linlithgow.*

WINTER BLOOMING IRISES.

THE Algerian Iris (I. stylosa) is one of the few plants which bloom out of doors in mid-winter, and when we see its sweetly-scented, delicate, and finely coloured flowers peering out of the grassy leaves, our thoughts go back, or rather forward, to the summer "Flags." There are several varieties of different shades of blue; speciosa is one of the best and largest flowered; alba is a lovely white one. They are most successfully grown in the southern counties. The best position is on a well-drained border at the foot of a sunny wall. The soil should be a very light one and not over rich, or the plants will be inclined to make excessive growth and not flower well. In any case they should be well sheltered, as the flowers are too delicate to withstand heavy rain. The season for flowering is very long, November till April. The method of propagation is by division in April when they have finished flowering and are about to form new roots. An interesting point about this Iris is that the flower has no true stem. What appears to be such is really the elongated flower tube. This feature gives it its name, stylosa. The Iris has been called the "Poor Man's Orchid," and when we are able to admire it in all its glory in the dull days at this season of the year, the name seems particularly appropriate.—*L. F.*

ROOT PRUNING.

I FIND there is still much to learn regarding the root pruning of fruit trees. I know that I am going a long way out of the old beaten track when I recommend that the root pruning of fruit trees should always be done from the middle of July to the middle of August. When I want to bring fruit trees into a fruitful condition, on the previous season the trees to be root pruned get little or no pruning, merely cutting out the small summer growths—letting all the leading and well-placed shoots remain their full length. The following season I begin root pruning about the middle of July and finish by the middle of August. By root pruning at that time "you gain a whole season," which is a consideration to fruit growers of the present day. I am sending you by this post shoots taken from standard Pear trees that were root pruned last July and August to show that the system is thoroughly practical and sound.—*Richard Nisbet.*

[The shoots sent were nearly 3 ft. long and bristling all round and throughout their length with short spurs ½ in. to 2¾ in. long, and mostly all furnished with one flower bud each at the apex. The shoots were also clean, healthy, and taken from trees fifteen years old.—ED.]

THE PAST CENTURY OF FLOWERS.

WHEN we review the rapid strides, which all branches of horticulture have made within the last century that is past, the more one thinks of the vast numbers of florist flowers which have been raised and put into commerce, the more gigantic in thousands do they become; and it would tax the best of brains to keep one-hundredth part of their names within the memory. When quite a young man, serving my apprenticeship, the Chrysanthemums were few in number; Fuchsias, Geraniums, and many others the same. In the young days of my father, who served his time in the early part of the last century, the flowers were but few in number. I have heard him often say the number of Roses could easily be counted, also the Dahlias. The latter he enjoyed the great privilege of helping to hybridise from the old single varieties to the semi-doubles, and so on, until the show ones made their appearance; and never was he more amazed than when the present type of Cactus Dahlia came out. So we can look forward to the new century we have now commenced, wondering what the man of science, or the hybridist, will turn his hand to next; doing our duty as thoroughly as we can in the capacity of life in which we are placed, never forgetting to lend a hand to the younger members of our profession.—*J. Ford, May's Villas, Sidcup, Kent.*

FRUIT UNDER GLASS.

STRAWBERRIES.—The earliest batch of forcing Strawberries will now be upon the shelves of a warm house. It is not desirable to over-press them to start with. A Fig house or an early Peach house is very frequently accorded to them, or in lean-to vineries a shelf on the back wall, raised high so as to get the maximum of light, will answer very well. The temperature should not be lower than 57° at night, and may rise up to 65° or 68° by day. Previous to bringing in the Strawberries they should be carefully examined for red spider or similar pests. If they are in the least infested they must be dipped three or four times in a warm solution of Gishurst Compound and soft soap, which are boiled together in just enough of water to make a fairly strong solution. In any case it is advisable to dip the plants. Wash the pots and pick away the dead leaves. Plants in flower, as some very early batches no doubt will be, should be gone over with a rabbit's tail brush to fertilise the blooms. Maintain as buoyant an air as possible without allowing it to become either too moist or dry. When set, the plants may be fed three or four times a week with weak liquid manure. Thin the berries to eight or ten per plant.

VINES IN POTS.—The plants started in November will now be showing flower. It is very difficult to maintain a suitable and regular temperature in such changeable weather as we are at present experiencing. First comes fog, then some clear, cold weather, followed in a couple of days by rain or snow and fog again—a very different state of things to that under which Vines grow naturally. In their own habitats sunshine, night dews, and showers all unite to bring out the best that is in them. Still, the gardener must overcome difficulties else there would be no art in gardening. During the flowering period of the Vine keep a drier atmosphere than has been necessary up till now. Do not syringe the plants, and watch when the flowers are at their best, at which point go over them with a soft camel's hair or rabbit's tail brush. Stop the laterals at two leaves beyond the bunch, and pinch in all unnecessary laterals. What is wanted is a well-furnished, fruitful Vine, with a moderate supply of foliage, for it must not be forgotten that foliage stimulates the roots to action, and is altogether necessary. Still, too much foliage excludes the light, a point to be guarded against. Plants in pots, however, can be shifted about, whereas permanent Vines cannot be. Renew the fermenting material occasionally, and keep the pots plunged. Tie in those side shoots that are selected to remain.

EARLIEST VINERY.—While the pot Vines are useful to all classes of growers, but especially to those with limited accommodation or conveniences, the permanent Vines for early forcing to supply Grapes in April or early May, are a special feature of all the larger, leading establishments. For early Vines inside borders are preferable, to the exclusion of outside borders altogether. The inside border should be mulched or rather dressed with fermenting leaves mixed with some fairly well decomposed stable litter. The earliest house was started in November, so that it may be necessary to add or renew some of the fermenting material. The border must be tested with a Kirk's Vine border "tester" or similar device, for in the careful and proper watering of the earliest Vines, depends nearly all the success with this valuable indoor fruit. The state of the soil at 2 ft. may be quite different from that of soil at 1 ft, and if the roots have not just the very best and most exact conditions it is nearly impossible to bring on a perfect and early crop. The water applied must always be of the same temperature as the air of the house. Rain water should be plentiful and this ought to be used. No liquid manure should be given yet; enough of nourishment will pass downward from the fermenting top-dressing. The treatment of the growths is similar to that for pot Vines. Succession houses may be started. Later, or midseason houses must be prepared at once. The latest houses of all should have the bunches cut if any remain, after which the Vines may be pruned, cleaned, washed, the soil of the border scraped to clean off bugs or insects which may have fallen there, and every square inch of the house should be scrubbed with hot water and soft soap. Syringe every crevice with one or other of the well-known insecticides prepared in solution.

VINES may be propagated from eyes at this time, and suitable wood should be selected when pruning.

VINE BORDERS must be got into a state of preparedness for the starting of the Vines. Some of the vineries may be having their borders re-made. There are many things to take into consideration when doing this work, as for instance, the quality of the subsoil—though if a concrete bottom is decided on this will not matter—the presence of an outside border, the run of the vinery, the Vines themselves and the climatal conditions of the district. It is gradually becoming more or less a rule to have only outside borders for mid-season Vines, where the conditions are all much more natural than for Vines where the growth has to be made in the dull months of the year, or in the case of the late Vines, where the summer's wood and the bunches too, have to be ripened in the late and often sunless autumn months. By only providing an inside border one knows exactly where the roots are, and what their conditions are like. The grower can do with them just what he likes, and all the contrary forces of Nature have very little effect. Then again, still further to have the roots in one's grasp, as it were, a cement bottom to the Vine border is coming annually more into favour; 2½ ft. of soil is quite enough for a border and ½ ft. of well-laid and properly chosen drainage material with nice, fresh turves above it, are all that is necessary. I would further suggest that all borders be made piecemeal in the same way as we do for Figs.

PEACH HOUSES.—The earliest peachery will be coming into flower and the same precautions as are taken with Vines or other trees in flower, should be adopted here. A balmy air, gently changing by having a chink of top-air on, and some heat in the pipes, should be maintained. Shake the trees and pollinise the flowers when they are ready. Early Rivers' pollen should be used on Noblesse which is a shy setter. Keep the laterals pinched, but always leave a shoot at the base of the present wood. Keep the centre of the trees well furnished, and go over all the branches carefully at this time to destroy mealy bug and look out for redspider. Succession houses to supply fruit early in June may now be started. Allow a night temperature of 50° or a little higher, up to 65° by day.—*J. H. D.*

HINTS FOR AMATEURS.

HARDY AND HALF HARDY ANNUALS.

Balsams.—These somewhat formal, herbaceous annuals, with their profusion of rosette flowers, are not so frequently grown in the open borders as in pots; nevertheless they are showy subjects in well dug, rich soiled beds. There are, at least, a dozen different shades in which they can be had, and provided one's garden is favourably situated, a bed or plot of Balsams might well be decided on for a change. Sow the seeds in pans about the beginning of April, merely covering them, and the pans should be placed in a pit having a temperature of 60° to 65°. The seedlings may either be potted singly into 3-in. pots, or pricked into deep boxes about 4 in. apart. Gradually harden them off from the middle of May, and plant out about the first of June.

Fibrous rooted Begonias.—A strain of dwarf fibrous rooted Begonias unsurpassed for bedding purposes, has been brought into prominence of late years by the Reading Royal Seed firm. These miniature bedding Begonias are a selection in the first instance from B. semperflorens, and resemble the type in all respects. They are perhaps even more bushy and floriferous. Though strictly speaking they are perennials, yet the fact that they can be easily raised from seeds and flowered within four months, may stand as a reason for treating of them under the title of annuals. A sowing made immediately will provide bedding plants to make a show in the month of June.

Bartonia aurea.—In this hardy annual the gardener has a very desirable plant. The flowers may be called large, being about 1½ in. across, very pleasant to look upon, and satisfying in their richness of golden-yellow. As the plant is hardy a sowing may be made at any time after March.

Browallia elata.—Here we have a most delightful blue flowered annual, which attains 18 in. in height, and is elegant, showy, and very useful. I like to see it in goodly-sized plots toward the front of the herbaceous plant border. B. speciosa major furnishes a splendid annual for pot culture. The most favoured position should be selected for Browallia elata.

Eccremocarpus.—The Eccremocarpus or Calampelis scaber, as it is sometimes called, is useful where fast growing and showy trellis plants are desired. It can be grown in all gardens, small or large, as indeed, can any of the plants I am now writing of. The tubular flowers are in trusses, and when well grown in a sunny place they are orange-scarlet in colour. This is a very handsome plant, and might well be tried by those who have not hitherto grown it. The seeds should be sown indoors at the end of March to be potted on and finally hardened off for transplanting in June. The foliage is also very attractive. The plant grows 10 ft. high.

Annual Larkspurs.—I need not write much about these. They are very easy to cultivate, and can either be sown in the open border where they are to flower, or in boxes about March to be transplanted out of doors in April. When finally transplanted or thinned they should stand 4 in. to 6 in. apart either way. It is the best plan to keep the colours by themselves, that is, do not mix the varieties, though if mixed packets of seeds are bought this is unavoidable. I once saw a long border filled with the dwarf Rocket Larkspurs in a dry, sunny Kentish garden, and from that day to this I have advocated the claims of the annual Larkspurs.

Leptosyne Douglasii.—Though this is one of the brightest and sweetest of the annual Composite flowers (like a golden Cosmos) known to me it does not seem to have been noticed by any of the nurserymen, as not even the large firms catalogue it. L. Stillmanii, however, may be taken in place of it; both are much alike. They are 6 in. to 12 in. high, and have golden-yellow heads. If your own seedsman has not the certain varieties you want, if he is a business and obliging man at all, he will procure them for you through ordering of another house. It is always well, even for amateur gardeners with only small gardens, to have such a catalogue as Sutton's, Carter's, Veitch's, or any of those well-arranged publications of other seedsmen.

Giant Hemp.—While we name great numbers of showy flowering annuals, it would be faulty were we to overlook the ornamental foliage subjects. Few plants are more worthy of distinction than the Giant Hemp, growing 5 ft. to 6 ft. high, with green divided leaves and finger-like leaflets. Sow seeds in the open border in May, and thin out the young plants.

The Ice Plant.—A well grown Ice plant is quite an object of wonder in any garden, not because well grown plants are scarce, but the full peculiarities of this remarkable plant are then fully seen. Some folks have called Mesembryanthemum cordifolium the Ice plant, but this is wide of the mark. The Ice plant is Mesembryanthemum crystallinum, a species with ovate, undulating leaves, and covered with pellucid, glittering beads like ice drops. When once seen it can never be mistaken. It grows procumbently, and does not occupy much space. Sow the seeds in a gentle heat during March, planting out the seedlings in good soil, in a sunny part of the rockery or border.

Ornamental Kale.—It is rather a pity that more attention is not paid to the merits and decorative qualities of the ornamental Kale. Miss Hope of Wardie, one of the greatest of the old Scotch lady gardeners, used to have the finest collection in the Kingdom. I had the pleasure of seeing the remnant of her collection at one of the Edinburgh shows about half a dozen years ago, and I would like to know if any one around Edinburgh has a stock of these at the present time. Some of the large houses offer a few ornamental kinds of Kale for garnishing purposes. I think a large massive, well designed bed would take well in some of our public parks; it would certainly be uncommon.

Ornamental Grasses.—The recognised ornamental grasses should not be awanting in any garden where a square foot or two of land can be afforded. The Quaking Grass, Briza maxima; Bromus brizaeformis, B. sterilis; the Hare-tail Grass; Lagarus ovatus; the Feather Grass, Stipa pennata; and Oryzopsis miliacea, a plume-like hardy grass used for floral decorative work, are all favourite sorts. Lamarckia aurea; Pennisetum longistylum, a bushy-headed species; Hordeum jubatum, a species of the Barley tribe commonly called the Squirrel-tail Grass, together with the very light and elegant Eragrostis elegans, and the graceful Agrostis nebulosa, like a cloud of spray, would furnish a further list of beautiful and distinct ornamental grasses. They can all be sown in the open border in April. The surface need only be raked and the seeds sown, these being covered by re-raking. A net should be spread over the ground to keep off birds.

Eschscholtzias.—The Esch-scholtz-i-as are amongst the richest and best annual plants of the Poppy order. There are named varieties, so that any special colour can be had by itself, or a mixed selection can be had. The plants are really perennial, but from a sowing in March plants for flowering in June can be raised. As a rule seedlings spring up yearly from self-sown seeds. A sunny slope should be accorded, for the flowers only open when the sun shines. The height of the plants is about 1 ft.

Marigolds.—These deserve more notice than a mere note here, I will have something more to say about them. Meanwhile there is no special need to order seeds of them at present.

White Mignonette.—The white Mignonette, Reseda alba, grows fully two feet high, so that in one particular it differs from most of its neighbours. It is remarkably fragrant; is a capital bee-flower, lasts well into autumn, and is conspicuous either in the borders or in vases. I have seen it flourishing in the Swanley nurseries. It does not seem to have made much headway, but as a hardy and variously useful border annual, it might be more widely patronised.

Nycterinia selaginoides.—This is one of the sweetest and showiest of the very dwarf annuals. Happily it is well known and largely used for edging purposes. The flowers are star-like, white with an orange eye, and the plant only attains 3 in. or 4 in. in height. Sow in a gentle heat in March and prick out into boxes, or sow out of doors in May.

Poppies.—Iceland Poppies, Shirley Poppies, Paeony flowered Poppies, the Alpine Poppy, and the double forms of the common Corn Poppy, which receive the special names of Carnation, Picotee, and Ranunculus flowered Poppies, are all bright and welcome flowers in the garden during summer. They are all easily grown. Newly made rockeries that are not fully planted, or newly filled shrubbery borders with more vacant space than one wishes to see, may easily be furnished by sowing a few handfuls of Poppies.

Annual Chrysanthemums.—These are very popular in smaller gardens, though personally I do not care for them. Sow in a gentle heat in March and prick the seedlings into boxes.

Maize.—The Maize is hardy enough to succeed well in any part of the British Isles if planted out of doors in June. In the south it could be put out in May. As a pot plant it finds a large amount of favour. There are numerous varieties of the Maize (Zea Mays), but the stripe leaved one is most ornamental. It is largely employed in sub-tropical bedding in the London parks, along with Cannas, Araucarias, Cordylines, and Ricinus. Sow the seeds early in March and plant out when the season is reasonably fit. Among other "common" names the Maize has those of Indian Corn, Mealies, Guinea or Turkey Wheat.

Humea elegans.—For pot use seeds of this graceful and anomalous Composite may now be sown. Large plants in flower with their drooping trusses find favour when planted in the select herbaceous border, or in the centre of flower beds, when the soil has become warmed in June.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

How many known species of plants are there?—*Beginner*: When the *Genera Plantarum* was published it was reckoned that there were a little under 100,000 good species. Introductions and recently discovered species would bring the list up to the above figure. Some authorities would reckon a larger number of species.

What is the richest natural Manure?—*Andrew Tait*: By this we understand you to mean a natural manure that is obtainable in some quantity from stock kept in this country. Fowl manure then is very rich; it is four to six times richer in its dry state than the best farmyard dung. The percentages of the three most essential constitutents of plant life, that is, of nitrogen, phosphates, and potash, in fowl manure per ton, are: nitrogen, 18 lb. to 25 lb.; 12 lb. to 24 lb. of phosphate, and 6 lb. to 12 lb. of potash. In good dung there are 10 lb. to 12 lb. of nitrogen, about the same of potash, and from 4 lb. to 6 lb. of phosphates. Some of the artificial guanos of course are largely composed of the dried droppings of sea birds with the addition of some chemicals. Pigeon manure again is double the value of the poultry manure. Those that we have mentioned are rich natural manures. The values of the excreta of sheep, horses, pigs, and cows follow in this order. Pure night soil is also of very high value, and it is a great waste of riches to think that so much sewage is lost to the land. Poultry manure may be given at the rate of ½ lb. to 1 lb. (dry) per sq. yard.

Subjects suitable for forming Hedges.—*J. R.* Thorn, Beech, Hornbeam, Yew, Holly, Briers, Arbor-Vitae, Privet, Euonymus japonicus, and looser hedges can be formed of Mock Orange, Diervillas, and other flowering shrubs. These latter are more for ornament than shelter or other utility.

Best varieties of Sweet Peas.—*L. T.*: Amongst those that were most in favour at the conference held at the Crystal Palace in July last, were:—Salopian, Gorgeous, Sadie Burpee, Duchess of Sutherland, Sensation, Prince Edward of York, Navy Blue, Fascination, Countess Cadogan, Mars, Lady G. Hamilton, Alick Eckford, Venus, Primrose, Mrs. Eckford, Black Knight, Othello, Lovely, Royal Rose, Aurora, Grey Friar, and Prince of Wales.

Verbena Miss Wilmott.—*A.*: This beautiful Verbena was selected and raised by Miss Wilmott, of Warley Place, who is an enthusiastic garden lover. It can be raised from seeds, but to keep it true, plants from cuttings are recommended. As a pot plant for early decorative use, or again for late autumn, it is a valuable subject.

Ficus elastica.—*W. Hash*: It is of common occurrence to find the leaves dropping from tall-stemmed plants. What you must do is to cut half-way through the stem, about 3 in. below the lowest of the remaining leaves; and having cut so far, take the knife in an upward direction so as to make a tongue at this half severed part. Keep the tongue or notch open by fixing in a small chip of wood, then bind the whole part round with damp moss to form a spindle-like fixture. Keep this moderately damp and if you have a warm greenhouse to place the plant in after the operation, success will be more likely. The notched part of the stem emits roots in the course of a month or two and when a fair number are observed, sever the stem below the moss and pot the newly-rooted plant.

How is Zero Reckoned.—*J. Telfer*: Zero in the Fahrenheit scale—the scale mostly in use in our country—is registered as 32° of frost, 32° being the freezing point of water. Zero was first reckoned as being the lowest degree.

Plum "Gumming."—*Arthur Biggs*: From your note we conclude that your Plum is on a stock that is uncongenial to it. The bark in the middle part of the tree may have been torn by cats. You must get someone to closely examine the tree, and if our conclusions are correct a young tree should be planted in place of the present one.

Sowing Tomato Seeds: Good Hardy Varieties.—*Robt. Rowaite*: The middle of March is quite soon enough for sowing Tomatos for outdoor planting in May. They may be sown in the usual way, in pans, under glass, the temperature about 60°. The earliest sowings of Tomatos have been made some time ago. Plant the hardy Tomatos about the 25th of May. Good varieties for your purpose are Laxton's Open Air, Earliest of All, Conference, Carter's Outdoor, Market Favourite, Chemin Rouge, Acme, Conference, and Challenger. The first four are most reliable out of doors. Always select the sunniest and most protected spot.

Recently introduced Cactus Dahlias.—*Alf. Tait*: Among others of the more recently introduced varieties that we can recommend are the following: Mrs. J. J. Crowe, yellow; Uncle Tom, very dark blackish-purple; Mrs. Carter Page, crimson, very rich; Green's White; Mayor Tuppeney, orange; Artus, orange-buff; Lyric, fiery red; Vesta, rose-pink; Rosine, rose; Eclipse, lemon-yellow; Ajax, orange-salmon; J. W. Wilkinson, deep rosy-red; Zephyr, rose-pink; Red Rover; and Major Weston, deep red. There are some of the older varieties such as Starfish, Capstan, Debonair, and others which are unsurpassed.

A FINE DENDROBIUM DENSIFLORUM.

At present this fine species of Dendrobium does not seem to enjoy the popularity which it had a decade ago, being pushed aside for a time by other and more favoured species. The accompanying illustration prepared from a photograph represents a healthy and vigorous specimen which has bloomed regularly with Mr. J. Fraser Smith, gardener to the Countess of Seafield, Cullen House, Cullen, N.B., for the past ten years. During that time there has been no evidence nor question of degeneracy, for it has been increasing ever since he had it, and at the time it was photographed it carried twenty one trusses of bloom. The trusses and flowers are much larger and darker in colour than is usually the case in D. densiflorum, so that the cultivator may well be proud to afford it space. He had the original piece from Java twelve years ago, so that it would appear to have been a selected plant cultivated there; for it is a native of the Himalayan regions from Nepaul to Assam, where it flourishes at elevations between 2,500 ft. and 3,500 ft. or 1,000 ft. of vertical range. No record seems to have been made of its having occurred in Java. In any case the flower trusses and the broad leaves show that it has responded well to the cultivator's art. As seen in the illustration, it has a background of Thunias, Gloxinias, Caladium argyrites and Abutilon. Mr. Fraser Smith has been a cultivator of Orchids for many years, even before he took charge of the gardens at Cullen House, and he does them well too.

PLANTS IN FLOWER AT GLENDOUNE, GIRVAN.

From many quarters, especially from across the border, we are hearing about the "mildness" of the season. I have read several letters in *The Standard* giving lists of various plants in bloom at Christmas in Sussex, Norfolk, Shropshire, &c. Verily we have had what we in Scotland call a "Green Yule" and is associated, not with flowers, but a "fat kirk yaird." The winter, thus far, has undoubtedly been an open one, and the rainfall, too, has been unusually high here, in South Ayrshire. In December we had 5·25 in. of rain, the total for the year being 43·78 in., quite 5 in. above the average of previous years. Work is in arrears in most gardens and farms hereabout, and the young men will consequently have to "spur up" when favourable weather comes, which we trust will be soon. As an evidence of the extreme mildness of the "New Century" it may interest your readers to know I noticed the following plants and shrubs blooming in the gardens and grounds here on New Year's Day. Many more might have been included had it not been necessary to clear them off to make room for spring "bedders" or for sake of tidiness.

List of plants and shrubs in bloom, *in the open*, at Glendoune, Girvan, on New Year's Day.

Flowers.	Shrubs.
Winter Aconite (Eranthus hyemalis)	Rhododendron nobleanum
Christmas Roses	Desfontainia spinosa
Lenten Roses, various hybrids	Laurustinus
Doronicum	Hydrangea
Sweet Violets	Berberis Mahonia
Viola, various	Aralia Sieboldii
Primrose, double and single	Spurge Laurel
Auricula	Pyrus japonica
St. Brigid Anemone	Genista, various
Roses, various	Escallonia macrantha
Mignonette	Jasminum nudiflorum
Marguerite	Arbutus Unedo
Polyanthus	Common Laurel coming into bloom.
Snowdrops	
Wallflower	
Periwinkle (Vinca)	
Agrostemma coronaria	
Hepatica	
Tradescantia virginica alba, Kaffir Lily, Schizostylis coccinea.	Salvias and scented Geraniums, quite fresh and green.

—*John Simons, The Gardens, Glendoune, Girvan, N.B.*

FLOWERING OF DAHLIAS.

I note the success of J. C., Chard, of early flowering of Dahlias by curtailing gross root action. I have, of late years, been trying my best to get early flowers in our damp, cold soil, and not without a goodly measure of success. I kept the roots confined in pots plunged in the soil of a border. The result is the confined roots checked gross growth and induced free flowering, weeks earlier than from the plants planted out in the usual way. The quantity of flowers was more abundant, but smaller some what. When flowering begins manure water is given, which is of great benefit. In ground quite hard and holes made not much larger than to take in the roots easily (they were in pots 5 in. to 7 in. deep), the effect on earliness of flowering and compactness of growth was striking.

I have often been struck by the little difference of time which Dahlias come into flower in Scotland compared with what I have seen in the south of England. In the immense breadths of ground set apart by Messrs. Dobbie and Co., at Rothesay, I have seen Dahlias earlier in flower than anywhere else, even hundreds of miles further south. Any information to aid one in getting plants to flower so early would be valued by many of us who want early supplies and cannot easily get them. The resourceful J. C., Chard, does not write in vain when he records his methods of practice out of the ordinary course as indicated. We learn this season that Dahlias along with many other flowers were in great

Dendrobium densiflorum at Cullen House.

abundance in northern parts of Scotland (notably at Nairn and in that district) three or four weeks later than we had them in this locality. So much for early frost and low damp ground, as we have it here, which quickly puts an end to tender flowers, while in the locality of Nairn there is a great depth of sand.—*M. Temple, Carron, N.B.*

VISITS TO NURSERIES.

MORLAND NURSERY, SOUTH NORWOOD.

SPECIALISATION is one of the characteristics of latter-day horticulture. A firm or an individual can have extensive grounds and hot houses and yet devote his space and skill to produce a few choice subjects that through circumstances have come to be favoured by him. The nursery of Mr. C. F. Bause, 125, Portland Road, South Norwood, exemplifies this fact very well. Crotons, Dracaenas, Nepenthes, Kentias, Cocos and Geonomas are the principal subjects on which attention is bestowed. The handsome variegated Ficus elastica having become unpopular within recent years, its inclusion is only represented by one or two "stock plants." And so on with other good plants whose worth at present is not highly appreciated. The fashion goes for other things and, of course, the things that pay find acceptance as against those that do not.

Dracaenas and Caladiums are perhaps the two sections of foliage plants that Mr. Bause has done most to improve. The present manager of the business is the eldest son of the late Mr. Bause who in his day founded the Morland Nursery. Mr. Bause, sen., did splendid work among the Caladiums when he was attached to the Royal Horticultural Society's garden at Chiswick. Among the new varieties that he raised there were Princess Royal, with red centre and red veins; Princess of Wales; Golden Queen, golden-green, and having white spots; and Prince of Wales, all of which have been the base for many other varieties, while they themselves are still catalogued amongst the most select. The late Mr. Bause also raised Dieffenbachia Bausei and a large number of permanently popular Dracaenas, &c. All this goes to prove a distinct knowledge and patience, and it is with pleasure that we noted the continuance by the sons and son-in-law, of the honoured father's good work. Dracaena The Queen (fig. p. 694 of THE GARDENING WORLD for June 30th, 1900), was one of the seedlings raised here. It is a splendid little thing. Amongst others of great merit are those now to be named, including Distinction which colours freely (green with reddish-pink edge) and is hardy. Be it noted that the word "hardy" is here purely a relative term, and is applied to warm house Dracaenas that are good for market work and can stand against changes of temperature.

D. The Sirdar has a rose-heliotrope edge with green centre; it has broad drooping leaves and has only been out two years. D. Snowball furnishes a distinct subject, having a broad white margin to all the leaves. The latter are broad, and the plant is vigorous. D. Triumphans is one of the most beautiful, having a suffusion of cream, pink and green colouring; the habit being also good. D. Jamesii is always in great demand. It is one of the finest of the narrow leaved Dracaenas, its colour being deep greenish-purple with a bright creamy edge. D. Collingi is another good white streaked sort; D. Lord Wolseley has a fine erect habit, and beautiful rosy-edged leaves; D. Prince Manouk-Bey produces large and effective plants, that have also the rose-mauve edged leaves. D. Pendula has broad leaves, edged with an attractive band of rose-heliotrope. D. Hendersonii is peculiarly streaked all over the leaves with rose and heliotrope, green and cream, being thus distinct and very beautiful. D. Exquisite is one of which immense quantities have been sold. The leaves are broad, have a creamy band between the broad green centre and the pink edge.

Among a long list of other very ornamental Dracaenas the following must certainly also be included:—Thus D. Frederickii with medium brightly coloured leaves; Alex. Laing and Rose Laing, both of the first-class, and distinct; Duchess of York, and Lady Mosley, both of which are very graceful, with slightly drooping habit; D. Youngii, D. Leonardii, D. norwoodiensis (exceedingly fine), and some others are each in all distinct and meritorious. Some might be said to be better than others, but all have an individual value.

The Crotons are perhaps not quite so numerous in point of varieties, but here also a goodly list can be chosen. C. Flambeau is fairly well known as one of the best of the narrow leaved varieties. The Croton presents to us a genus, the members of which differ exceedingly in type. From the very broad leaves such as C. James Rothschild, or C. andreanus to the cord-like foliage of C. angustifolius or C. Flambeau (or seedlings that are narrower than either), there are all intermediate breadths and forms. Some are intermittent, others twisted like a corkscrew, some are erect and many droop—they in fact show every conceivable variation. From this quality of great variety and the richness of their multi-coloured leaves, the Crotons have for long been amongst the most select of warm hot plants. C. Golden Ring, C. Prince of Wales, Princess of Wales, C. Chelsoni, C. Warreni, C. Disraeli, C. Davisi, Gordoni, Newmanni, Her Majesty, Hoggii, Reidii, Aighurth Gem, Lord Derby, and Thomsoni are all of the first rank. Mr. Bause has only lately reverted to the raising of seedling Crotons, but from what he has now to show, we predict many advances on even the finest of existing types.

We cannot conclude without paying a tribute to the high standard of quality of the plants in all the houses—of the scrupulous neatness and cleanliness everywhere, and to the widowed Mrs. Bause and her sons for their courtesy.

GRANTON ROAD NURSERY, EDINBURGH.

SOME time ago we had a run through the nursery of Mr. John Phillips, in the Granton Road on the northern suburbs of Edinburgh, and found him busy rearranging the hot-water apparatus in his extensive range of plant houses. Originally they had been put in very badly, many of them being, in fact, more or less buried amongst soil below the level of the pathways. In other cases they were beneath stages where it took a long time for the heat to make itself felt on the stages above. Now they are arranged one above the other alongside of the pathways, and therefore more in accordance with the modern principles of economical heating. Slender pipes were also to be fixed along the eaves of some of the houses to keep the atmosphere dry and help set the flowers of the Tomatos. Some of the side benches in span-roofed houses were being built up solidly and faced with bricks.

The Granton Road Nursery is largely devoted to the cultivation of useful plants and flowers for market work. One house contained a fine lot of Aralia Sieboldi of a useful size. The roof of another supported Tea Roses, such as Niphetos and The Bride, which are very popular for market work. The central area was planted out with Smilax, supported by twine from the roof above, and which had made splendid growth. A Tomato house included such varieties as Stirling Castle, The Cropper, Austin's Eclipse, and one of his own seedlings. They had all fruited heavily, and fruits were been gathered every day. In another house the Tomatos were grown in boxes, in which they are more easily managed, and trained under the roof of the house, where they get all the advantage of sunlight and air from the ventilators. Pteris cretica major, P. tremula, and other Ferns are grown on the benches beneath them so that no space is wasted.

Palms of various small sizes are largely grown for decorative purposes, though the number of species is limited according to the popular demand. Kentia belmoreana and Phoenix rupicola are the favourites. Asplenium bulbiferum and A. b. laxum were most largely represented in the next house we entered, to be replaced by Tomatos and small Ferns in thumb pots in the next. These latter are largely grown for decorative purposes in the small state, as the buying public make large use of them for ornamental baskets and other receptacles where large ones would be inadmissible. Maidenhair Ferns occupied a house, and consisted chiefly of Adiantum cuneatum and A. concinnum Flemingii, both very useful for making a good potful of fronds. Their culture is evidently well understood here judging by the healthy vigour of the plants. The Tomatos trained up under the roof were confined to a single stem of moderate length, dependent upon the height of the house, and they ripened, on an average, about 6 lb. of fruit each.

A large stock of Araucaria excelsa was the chief feature of a cool house 150 ft. in length. With this house and others on the premises there are saleable plants of this Araucaria from 6 in. to 5 ft. high. Specimens 3 ft. high, in 6-in. and 7-in. pots, were pictures of symmetry and perfect in every way. Other plants in this house were small Ferns of all sorts for market work, Cocos weddeliana in 60-size pots, and Clerodendron fallax superba, the latter being on trial for market. Many growers have a difficulty in getting Aspidistras to grow quickly, and furnish the much desired stock. Mr. Phillips plants them out in the central border of a house, and the rhizomes extend with sufficient rapidity to furnish a large amount of stock. A second division was occupied with Lockie's Perfection and Telegraph Cucumbers trained under the roof, while the ubiquitous and always required Asparagus plumosus filled the third division, and Pteris Wimsettii, now almost as popular, occupied the furthest division.

A well grown stock of Cyrtomium falcatum was a leading feature of the fernery. The leathery, shining fronds of this species stand well in the dry atmosphere of dwelling rooms, while it is very nearly hardy. The late Mr. Jenner, of Joppa, near Edinburgh, used to grow it in the open air, where it lived and made short fronds in his hardy fernery. Polystichum angulare proliferum makes a handsome basket plant when it attains some size. Next came a large quantity of Asparagus plumosus nanus in grand condition. Smilax and Aspidistra lurida variegata, planted out along the central border of the house, were equally thrifty. There can be no question but that the finest growth and quickest increase are obtained in this way.

The latest batch of Tomatos carried a heavy crop of fruit. Show Pelargoniums are rather extensively grown for summer work, and make a brave show. Lapageria rosea alba was flowering finely on the roof. Zonal and other Pelargoniums occupied the next house, while Tea and other Roses, including Niphetos, Gloire de Dijon, and Marechal Niel, were grown in pots for cut flowers. Heliotropes also make an item of some importance.

Old plants of the variegated Aspidistra carried leaves, 2 ft. to 3 ft. long, and in first-rate condition. Some Kentias measured 3 ft. to 4 ft. in height. There was also a fine stock of India Rubber plants, 2 ft. to 2½ ft. high, and clothed with leaves to the pots. Something like 3,000 plants of Ampelopsis Veitchi are grown in pots, the climber being in much demand for covering walls, &c.

In the open air Tomatos produced a splendid crop in the latitude of which we speak, notwithstanding the wet and sunless season. Early Chrysanthemums and Sweet Peas were also features of the open air cultures. About 4,000 of the large, late flowering varieties of Chrysanthemum were grown in pots in bush form. All had been cut back in early summer, so that they formed dwarf and very bushy specimens, intended as pot plants for market as well as for cut flowers. Marguerites, Aralias, and other stuff filled a set of frames in the open. Mr. Phillips keeps the houses occupied with various crops all the year round.

LATE FLOWERING HARDY PLANTS.

IN a fairly open season the variety of hardy plants that can be expected in a fairly fresh condition till the end of October is surprisingly large. All of those mentioned below were in a good state for ordinary garden embellishment or for cutting when seen at Kew towards the end of October.

Polygonum baldschuanicum was even better than at any previous period. In the autumn the wreaths of pale pink flower clusters assume a deeper tint, which seems to add an additional merit to them, for the warmer the colour the better at this dull season. It is a plant that should be grown in all gardens. In good soil it will climb over walls, houses or stakes to a height of 15 ft. or 16 ft.

Polygonum lanigerum was still conspicuous, its large, silver-gray leaves being quite fresh. Planted alone in a bed it forms an uncommon and certainly interesting feature. Both in the open air and in pots in the greenhouse the lovely blue racemes of Salvia azurea grandiflora (which is said to be what was known as S. Pitcheri) were at their best. Out of doors it had nothing like the effect that the pot-

grown plants had. The latter furnish about the finest blue-flowered plants that our conservatories can contain during October. Growing as it does to a height of 5 ft. or 6 ft., and having an abundance of bright pale blue flowers, when interspersed among such Chrysanthemums as Soliel d'Octobre and others the colour contrast is very effective and delightful indeed.

Physostegia virginiana speciosa was almost over, but little Cedronella mexicana cana still made a bright display. It is a valuable plant for the front parts of the border. Verbena Aubletia with its bright lilac-mauve flowers was as fresh and vigorous in October as in July. Then Pentstemon perfollatus with its dark green foliage closely set upon the ground, and long branching panicles of pinky-lavender flowers, is quite a decorative subject at this time. The Verbascums were nearly over. Where the tall flowering central spike had been removed the lower lateral spikes developed, and were in fine condition. V. tomentosum at Kew is the best in this respect.

Mimulus cardinalis, after a long and continuous flowering season, was beginning to appear shabby. Where it succeeds, and that is in a half-shaded and damp corner, well sheltered, it is a worthy plant for any garden. In pots it has been proved to do exceedingly well.

Solanum rostratum is a plant I have not before referred to. In autumn it bore at the end of each prickly shoot a raceme of deep, bright yellow flowers. The foliage is much like that of the Oak-leaved, scented Pelargonium. When carefully treated this plant could be effectively employed in border or bed arrangements for a late display.

The various Statices were past their best for cutting and drying. Some of them were effective enough even then, for the dry calyxes have an ornamental value. Such of them, as S. Limonium, S. speciosa, S. Bonduellii, with its yellow flowers, and S. sinensis, may be called to mind.

One of the best plants, during autumn, in the garden is Ceratostigma plumbaginioides, of dwarf and bushy habit and wiry growth. The terminal leaves of the shoots are dark red and bear clusters of clear blue flowers. It covers a deal of ground, but it is worthy of all it occupies. Eccremocarpus hicolor rosea, a remarkably showy annual of elegant climbing habit, still had some amount of blooms early in October. Hieracium rubrum and Scolymus maculatus, each fairly well known and worthy of yet more attention, were passable, and may be included among the lists of later flowering herbaceous border plants. Another good annual which resembles the Hieracium is Emilea flammea; and this still held out. Ammobium alatum was more than ready for cutting by the middle of October. The Helichrysums, another genus of "Immortelles," were fresh enough till the end of the month, or even later, and so might the Ammobium be, if it was grown in a sheltered position. But the foregoing is sufficient to keep one's thoughts in touch with the hardy border plants in the meantime.—*D.*

NOTICE OF BOOK.

THE ADVERTISERS' GUARDIAN. Thomas Dixon, 195, Oxford Street, W., London, 1900.

Anyone having an idea that the art of advertising is a new or recent one will be disillusioned on reading this compendious volume of some 376 pages compiled by Mr. Thomas Dixon, of Oxford Street, who seems to have hunted up every record of the art since any such record had been made. The writer commences with the announcement that it would be a fruitless endeavour for the antiquarian "to seek the *fontes originis* of advertisement," and then quotes largely from the Old Testament to show that from the king downwards the ancient Hebrews and Chaldeans were wont to placard the streets of their cities and villages with various proclamations of kings, prophets, and others; while criers or processions paraded the streets making known the most recent edicts, summonses to prepare for war, things lost and found, &c. It seems to us but natural for man to do this, seeing that the lower animals, particularly those that congregate in flocks and herds, have different means of advertising danger, summoning their congeners for flight or fight as the case may be, and likewise when about to migrate in search of fresh fields or countries. Even the ordinary barn fowl, having laid an egg, proclaims her most recent achievement by cackling.

The Greeks seemed to have carried the art to a pitch of refinement sadly unknown to the streets of London at the present day. The town crier was not permitted to offend the ears of the citizens with his proclamations unless attended by a musician to give him "the correct musical pitch." Rival criers of newspapers might take this lesson to heart, and practice it instead of the usual discordant howls. When the Greeks had property stolen or damaged, he recorded the fact on tablets of lead attached to the images of the infernal gods in the temples. If the plaintiff was "a gentleman" he would withdraw the "swear-words," if his "property were returned or compensation paid."

The Romans also had town criers both for public and private announcements. Cicero mentions a street merchant who used to cry Figs, just as may be seen any day in Fleet Street.

In England in the middle ages, and more or less down to the present day, houses were and are recognised by distinctive signs. In the olden times this was a necessity, as the houses were not numbered. Old gardening books still record that they were published by someone at a certain specified sign. Few people, except the clergymen and other learned men, could read so that trade names on a signboard or any other legend of inscription would have been useless because meaningless to the rank and file passing along the streets. Addison, in 1711, wrote a witty letter anent the incongruity of many of the signboards, finishing up by saying, "A cook should not live at the *Boot*, nor a shoemaker at the *Roasted Pig*; and yet, for want of this regulation, I have seen a *Goat* set up before the door of a perfumer." The history of advertising runs to 98 pages, and reads like a volume of short stories. The law for advertisers is also included in the history of advertising, and is rather amusingly written by a well known barrister-at-law, while he makes it clear to the reader what is and what is not the law of the subject.

CATALOGUE MAKING.

AT the annual meeting of the American Seed Trade Association, Mr. Charles M. Page, the Des Moines (Ia.) seedsman, read a paper on several phases of the seed publicity, which was heard with marked attention by the members. Mr. Page thinks that "each seedsman has a clientage of his own who are reached by his style of advertising and catalogue making. The first thing to decide is what class of customers you want to reach, for it must be admitted that no catalogue can be made to suit everybody. For the wealthy your book must be printed on heavy paper of extra finish; it must be made thoroughly artistic in every respect, with illustrations different from the ordinary, and superior composition and press work. This will be expensive, but requires a less number of catalogues and the orders will average larger when trade is once established."

For the cheap class of trade cheaply-made catalogues, with poorer paper and printing, appears to be sufficient to win the trade. Plenty of "puffing" language also does good in such cases. For the middle classes a plain, thoroughly practical catalogue which will also be of interest to the ordinary gardener and amateur is recommended. Prices are made reasonable on everything instead of the common policy of ridiculously low prices of a few items, which are more than made up by overcharges on others.

"The preliminary work of preparing a catalogue is the most important. It should be begun in the spring by having a note-book ready for jotting down items, which daily come to our attention during the busy season, and for this purpose it is well to prepare a catalogue with blank sheets of ruled paper bound in between the leaves of the book. During the summer the catalogue editor should spend much time making notes in the field or on the trial grounds.

There is no doubt that illustrations sell goods, but there are very few engravers who can make cuts which truly illustrate vegetables, flowers or field crops in such a manner as will bring out the salient points. The best engravings are undoubtedly good wood-cuts, but they are expensive, and line drawings from which zinc etchings are made are cheap and largely used. Half-tone engravings are inexpensive, except that it requires a true artist to arrange the detail and make a good photograph. Half-toned blocks from pencil sketched give very fair results. A super-calendered or coated paper is imperatively necessary where half-tones are used.

In beginning work on a catalogue I make a dummy of each page, pasting on the illustrations selected in just the position I wish them to appear in the book. This assists the printer and enables me to know at the outset just what space I can allot to each department and item.

The value of catch-phrases depends on their adaptability for advertising purposes. It is not everyone who can coin an expression which is apt and will take. Still, there are very good catch-phrases in circulation, and these serve to fix the traders' name in the minds of his customers. The best transient expression to be seen this year is L. L. May's advertisement of Bromus. 'It would keep your hat up,' but it would be valueless without the accompanying picture."—*The Florists' Exchange.*

MANIPULATING SOIL FOR PLANTS.

THAT is an excellent note at p. 311 and should be helpful to many. I am doubtful if many ever thought of it in the way Mr. Temple shows it so graphically and the ill effects therefrom. Undoubtedly many Vine, Peach and other borders never give good results from the loam being thrown into them in these big lumps, and this the more so when it is of a very close, adhesive nature. What is the use of adding other things to it unless this is broken up fine enough to get mixed with it. Where I am now operating I had some years ago to destroy some Peach trees in a cold house and replant, making a new border; and when I came to remove the soil which had been thrown into these borders in big, thick lumps (these borders were 3 ft. deep), in the two bottom feet there was scarcely a root of any value, and where one was to be found it had no fibres. These trees had obtained their support from the top 12 in. of soil; and wherever the most active roots were there could be found other ingredients to keep it open. So close had the bottom soil become that it could hardly be shaken off the spade. Another evil is to dig heavy loam too thickly, as below the roots of the grass the soil is close and heavy. When a youth in Durham Down Nursery I had a good lesson, one season having to chop and mix a large heap of soil for pot Vines, and I well remember the chopping and mixing. It must not be thought that fine under spit soil is the idea. No; good fibrous soil, well chopped up, is the best soil, having plenty of fibre.—*J. C., F., Chard.*

JOURNEYMEN.

THE fraternity of gardeners is quite as unsettled to-day as it has been during the last half century. Every week some canny corner of one or other of the gardening papers bears token of the gentle agitation that has its threads like the mycelium of a fungus spread far and wide in the bothies over the land. The sign on the whole is a good one. Only last week I had a letter from a friend containing, in a special sentence, the same sentiment expressed by your correspondent, "John C. Dick," in his note, *re* "Journeymen," in last week's issue of THE GARDENING WORLD. My friend writes "so far as gardening is concerned I have come to the conclusion that such a thing as a 'good all-round man,' so-called, more nearly approaches an all-round *messer*." He goes on to say, "It seems to me that in the short time we have here it is impossible for any man, except one with an intellect given to few, to make himself competent all round. . . . My endeavour has always been to do at least *one* thing *well*. All-round mediocrity is seldom satisfactory; and after all, the man who can do *one* thing better than any other man (rather a big order, you'll say) can always find a niche in any profession. I think if many young gardeners realised the difficulties of management in a moderate sized garden — many, too, undermanned — they would not enter on their first charge with as light a heart as they do. I have seen enough of management to cause me to think it the most difficult problem to tackle, and one must take years to perfect oneself in every detail. . . . I think it a mistake for any one to be a gardener who has not the patience of Job and the meekness of Moses, with perseverance *ad libitum*. I suppose if all that was rolled into one

poor mortal he would be mortal no longer. He would certainly want a better office than that of a 'ponica." My friend concludes by saying that gardening is the most harassing occupation under the sun, but he could not be happy at any other! This is from the pen of a practitioner in a southern county of England, while Mr. J. C. Dick signs from Linlithgow, yet each echoes the other's remarks. I do think that the head-gardeners could do more for their assistants—they have done so in many cases—and the influence of the press, of horticultural societies and the advancing power of education among gardeners as a body, might be trusted to upraise the whole profession.—*John.*

HOLLIES.

THERE are many worse features in gardens than a good collection of Hollies. This is a roundabout way of saying that a collection of Hollies is really an attractive and desirable feature in the composition of the grounds of the garden. Hollies are wonderfully interesting when planted in the fashion of an avenue, that is, by the sides of paths and the broader sorts of walks. To any one who cares for trees and shrubs, the satisfaction secured by comparing the different varieties is obtainable only when the plants and specimens are beside or near each other. There are many varieties of the Holly and all seem to agree in liking a deep, sandy soil. They can be very hard pruned without evincing any deterioratory effects. Holly hedges are proof of this. Various topiary designs are executed upon the common Holly, Ilex Aquifollum. As a rule the plants grow symmetrically and but little pruning is required. From the beginning of October till the end of November, and during March and April, the planting and transplanting of the Holly may be performed. Give the plants or trees every chance by thoroughly working the ground and by planting carefully. Moderate treading is sufficient. A basin should be left around the base to hold water, for if the summer proves dry they will stand in need of a thorough soaking occasionally. The Holly is rather a bad tree to transplant, so that every precaution should be taken. A stout stake ought to be inserted as a support to the larger transplanted Hollies. The propagation of these shrubs or trees scarcely need trouble the gentleman's gardener, though the sowing in springtime of autumn gathered seeds will result in a sufficiency of young plants, whose after-treatment is simply that of transplanting, and judicious pruning. Of the derivation of the name Loudon writes that "Theophrastus and other Greek authors named the Holly Agria; that is, wild, or of the fields. The Romans formed from this the word Agrifolium; and called it also Aquifolium, from *acutum*, sharp, and *folium*, a leaf." (The name Aquifolium was the generic name employed by Tournforte.) "C. Baukin and Lourciro first named it Ilex on account of the resemblance of its leaves to those of Quercus Ilex (the evergreen Oak), the true Ilex of Virgil. Linnaeus adopted the name of Ilex for the genus and preserved the name of Aquifolium for the most anciently known species.

"The name Holly is probably a corruption of the word holy, as Turner in his 'Herbal' calls it Holy and Holy tree; probably from its being used to commemorate the holy time at Christmas, not only in houses, but in churches. The German name Christdorn, the Danish name Christorn, and the Swedish name Christtorn, seem to justify this conjecture."

There are something like 145 species, not including the numerous varieties whose lists are always being augmented. Few are natives of either Africa or Australia, their headquarters being in South America. Most are hardy. The common Holly which, with its varieties, is so common in our gardens, is a native of the European Continent, and of Britain.

The undermentioned are distinct and ornamental kinds.

ILEX AQUIFOLIUM. The common Holly is too well known to require description. It is one of the best liked shrubs of the garden. Birdlime is got principally from this species. Birdlime "is a viscous substance usually made of the juice of Holly bark, extracted by boiling, mixed with a third part of nut oil or thin grease, used to catch birds. For this purpose the twigs of bushes are smeared over with the viscid substance."

I. A. MARNOCKII is a smooth leaved variety resembling the better known I. A. Hendersonii. Well berried specimens were shown by Messrs. Paul & Son, The Old Nurseries, Cheshunt, at a recent Drill Hall meeting.

I. OPACA.—This is the commonly called American Holly. It is largely grown in the United States from which it was brought 157 years ago. It is a neat growing species, with moderate sized, prickly leaves, though not nearly so forbidding to handle as the European Holly. The scarlet crimson berries are borne on somewhat lengthy stalks. Young trees seem to be finer than old ones.

I. AQUIFOLIUM LAURIFOLIA LONGIFOLIA.—The name pretty nearly describes this variety. The leaves, however, differ considerably. They are usually 4 in. long, and altogether smooth. The tree has a fine branching habit.

I. A. RECURVA.—The leaves are small, dark green, strong and spiny; and the habit is very close growing.

I. A. HENDERSONII.—A massive, bushy sort, with very stout shoots, and broad dark leaves, 2½ in. to 3½ in. long, having also prickly edges. The orange-scarlet berries are large. The tree grows in fine pyramidal form.

I. A. CRISPA.—This special variety cannot be mistaken, for its leaves are twisted and folded like a roll of parchment. It is interesting.

I. A. ATROVIRENS.—A bold and handsome variety with large, deep green leaves of an ovate-elliptic form, and having the margins notched. This is one of the best.

I. A FEROX-ARGENTEA.—With its close-set habit, and "hedgehog leaves," of a creamy or whitish colour, this well known variety is sure always to be largely planted.

I. A. LATIFOLIA AUREO-VARIEGATA is a broad-leaved golden variety.

I. A. MADEIRIENSIS VARIEGATA.—Here also we have a golden variegated variety, but this has small leaves tortuously twisted and spiny. The habit is upright and close growing.

I. A. ARGENTEA PENDULA.—This may be described as one of the best shrubs in existence. It has chocolate-coloured shoots, moderate-sized, creamy-edged leaves, with a prickly edge.

I. A. LAWSONIANA —Lawson's Holly makes a neat stout tree, having smooth, though more or less irregular leaves.

I. A. FRUCTA-LUTEO.—In this variety the berries, strangely enough, are canary yellow. The leaves are like those of the common Holly.

I. A. LUTESCENS.—This forms a rounded bush, dense and compact, the tips of the stools bearing the young leaves appearing, at a distance, a rich yellow colour. The yellow makes the bushes attractive and conspicuous; and this variety at least should not be forgotten.

I. A. HODGINSII.—One of the best, large and massive.

I. A. CRASSIFOLIA.—An attractive variety in its way, having narrow, oblong, serrated leaves.

I. A. AUREA MEDIO PICTA.—The Golden Milkmaid Holly is one of the best of the genus, and ought to be included in all collections.

I. A. ARGENTEA MEDIO-PICTA.—This is commonly called the Silver Milkmaid Holly, and like the Golden variety should also be selected.

I. A. PENDULA.—This is a drooping variety, quite distinct in habit, but otherwise like the ordinary form.

I. DECIDUA.—No one seeing this "Holly" or Ilex in winter, would recognise it as belonging to the genus. Its shoots are like those of a Hawthorn, and are naked, for the tree is not an evergreen. It hails from the S. United States.

I. CORNUTA.—Here we conclude with a Chinese species. The leaves are "horned" as it were. They are roughly in the shape of a parallelogram with three prominent horns at the apex. It is a hardy and handsome Holly.—*J. H.*

GARDENING MISCELLANY.

SUPPRESSING CHRYSANTHEMUM RUST.

FROM a trial extending all through the summer a grower of 'Mums has had wonderful success in combating the rust by using Jeyes' Fluid at the rate of one wineglassful per gallon of water. This he first used as a solution for dipping the cuttings in, then he syringed them once a week with the solution, used at the same strength all through the summer. He reports his plants as being sturdy, clean, and healthy.

ASPARAGUS SOUP.

STIR three ounces of butter and three ounces of flour together in a pan over fire until they are well blended. Add, a little at a time, one quart of milk. Allow it to simmer for a quarter of an hour. Then add the contents of a tin of Asparagus rubbed through a sieve. Season and bring to a boil.

MACARONI A LA BECHAMEL.

GRATE a Carrot and put into a pan with a quart of milk. Add a Bay leaf, the stalks of a few Mushrooms cut fine, a little Thyme, and seasoning. Bring to boil, and simmer for half an hour. Then put through a sieve. In another pan blend three ounces of butter and three ounces of flour over the fire. Add the flavoured milk a little at a time. Bring to boil again and simmer for quarter hour. Pour this sauce over half a pound of macaroni which has been boiled in water.—*The Vegetarian Messenger.*

BEGONIA BERTHE DE CHATEAU ROCHER.

IN the Begonia house at Kew are specimens of this Begonia. We do not bring it forward as a thing that is very startling, but it certainly is worthy of inclusion in winter flowering Begonia collections. The plant resembles a tall grown form of B. semperflorens rosea, but the flower trusses are in every respect much more refined. Other Begonias now flowering in the same house include B. Gloire de Lorraine, grand, in hanging baskets, a yard through at least, and suspended just below the lantern-ventilator; B. haageana, B. Mrs. Heal, B. Winter Cheer, B. polyantha, B. Credneri, B. Gloire de Sceaux, B. fuchsioides miniata, B. socotrana, B. Pres. Carnot, B. coccinea, and B. Ingrami, nearly all specimen plants.

ORCHIDS AT KEW.

THE species mentioned below, among numerous others, were in flower at Kew towards the end of December:—Calanthe Veitchii, Dendrobium aureum, D. Phalaenopsis, Cymbidium tracyanum, Cypripedium insigne, Laelia autumnalis atro-rubens, Laelia anceps, Oncidium tigrinum, O. crispum, O. varicosum, O. sarcodes, Cattleya labiata, Oncidium unguiculatum, O. excavatum; also Cochlioda vulcanica, bright rosy-amaranth; Trichopilia fragrans nobilis, very fine and fragrant; Sophronitis grandiflora, Oncidium ornithorynchum, Odontoglossum crispum, O. madrense, and Cynorchis purpurascens.

IPOMOEA HORSFALLIAE BRIGGSAE.

THE above is an introduction of recent years, and so far as floriferousness goes it is superior to Mrs. Horsfall's Ipomoea. The bell-shaped flowers are most profusely borne in clusters, and are of a bright warm amaranth-crimson. It is certainly one of the best of the flowering climbers now in bloom at Kew. It occupies a beam on the north wall of the Victoria Regia house, and is planted out.

GENERAL PRINCIPLES OF HYBRIDISING.

IN the Royal Horticultural Society's report of the Hybrid Conference held in July, 1899, Herr Max Leichtlin, of Baden Baden, Rhine Provence, Germany, contributed a condensed summary of the conclusions arrived at by him in his experiences of hybridising. First, he says the female gives the form and shape to the offspring, also certain qualities; second, the colour is most often given by the male and free-flowering qualities are usually transmitted; third, artificially produced offspring give larger flowers than the parents; fourth, widely separated species, that is, those from widely separated habitats, are difficult to hybridise; fifth, the offspring becomes infertile and delicate if the form of the flowers of the parents is widely different in shape and outline.

ANOECTOCHILUS.

THE Anoectochili and Goodyeras are amongst the few representatives of the Orchid family whose chief feature of beauty is their leaves. The foliage is remarkably beautiful, being variously veined, marbled and crystalled over with bright colours as

golden, purplish, rose, copper, silver, olive and the finest shades of green. The plants are insignificant in size, but, perhaps, this adds to their great charm. They seldom attain more than 6 in. to 8 in. in height. They are indeed, as Baines says, "the gems of the vegetable kingdom." Their culture is not very simple. Usually they are grown under bell-glasses and are placed in the Cattleya house, the treatment of which seems to suit them well. They are propagated from cuttings taken about February. The compost for the rooted plants should consist of three parts of finely chopped sphagnum, to one of fibrous peat with some sand, and small pieces of crocks and charcoal. Well drained 3-in. or 4-in. pots suffice for a start. The plants require to be regularly watered, and as they like abundance of good light, the bell-glasses should be wiped at times. These should also be tilted about ½-in. to allow just a slight amount of air to pass inwards.

AQUILEGIAS.

THESE handsome herbaceous perennials have been largely in favour during recent years and are continuously being improved. A bed or border of the cock-spurred varieties are both bright, varied and effective, and are very valuable to those who like plenty of cut flowers for vases. They are of bushy habit and are very free flowering. The older specific forms as A. glandulosa, blue; A. flavescens, yellow; A. canadensis, reddish sepals, yellow petals; A. olympica, white; and others are still very distinct. These are being crossed, however, and new strains and types are selected from them.

APPLE CHUTNEY.

TAKE thirty large, unripe, sour Apples; 1 lb. moist sugar, 1 lb. Onions, then ½ lb. raisins, ½ lb. of sultanas, ½ lb. salt, ¼ lb. mustard seed, 1 oz. powdered ginger, 1 oz. powdered Chillies, and 3 pints of vinegar. The Apples should be peeled, cored and sliced; the raisins should be stoned. The sultanas should be washed in vinegar; Onions to be finely chopped. Take the skins and cores of the Apples and boil them down to a pulp in a pint of water. This pulp if strained will provide a nice juice in which to boil the Apples and Onions; and when the latter have become tender, a little vinegar may be added. After some further boiling all the other ingredients may be added, along with the rest of the vinegar. The whole must be thoroughly stirred until they are well blended. The process takes about four hours. Bottle it off when ready.

SOCIETIES.

ROYAL HORTICULTURAL.—*January 15th.*

THE meeting on Tuesday last was not a large one, the frosty night and morning probably keeping away some things that would likely suffer in transit. Orchids, Aucubas in berry, Coleus thyrsoides, and some hardy herbaceous plants were best represented.

Orchid Committee.

PRESENT. — Harry J. Veitch, Esq., in the chair, with Messrs. James O'Brien, R. Brooman White, H. J. Chapman, W. H. Young, H. A. Tracy, J. Wilson-Potter, E. Hill, T. Rochford, A. Hislop, J. Jaques, J. W. Bond, E. Ashworth, Walter Cobb, Jas. Colman, and Jas. Douglas.

Messrs. James Veitch & Sons, Ltd., Chelsea, had the largest exhibit of Orchids, staging a tasteful group of plants and cut flowers. Conspicuous amongst them were Angraecum sesquipedale, Cymbidium tracyanum, Zygopetalum Clayi, Z. Mackayi, Z. leucochilum, Epidendrum atropurpureum album, Laeliocattleya wellsiana, Cypripedium Euryades, C. lathamianum, C. Actaeus, and others. Cut flowers included Laeliocattleya Bryan, Lc. Pallas, Lc. Coronis, Laella Mrs. M. Gratrix, C. leeanum Prospero, C. Euryandrum, C. Aeson, C. Morganiae, C. Niobe, C. Euryades leonidas, C. lathamianum superbum, and other hybrids. (Silver Flora Medal.)

H. F. Simonds, Esq., F.R.H.S. (gardener, Mr. George E. Day), Woodthorpe, Southend Road, Beckenham, was awarded a Cultural Commendation for a large and well-flowered plant of Dendrobium spectabile, bearing five racemes of bloom. He also showed Laelia anceps Simondsii, white with pale blue lines on the side lobes.

C. D. Kemp Welch, Esq. (gardener, J. Guyett), Broadlands, Ascott, staged Cypripedium spicerianum Broadlands var. F. M. Burton, Esq., Highfield, Gainsborough, showed cut flowers of Cattleya walkeriana Highfield var. M. Florent Claes, 55, Rue des Champs, Etterbeek, Brussels, showed a large and two small plants of Epidendrum claesianum.

Messrs. J. Veitch & Sons, Ltd., set up some new hybrid Cypripediums, including C. Euryades maculatum, C. E. langleyense, and C. E. Leonidas albidum. A. H. Smee, Esq. (gardener, Mr. W. E. Humphreys), The Grange, Hackbridge, exhibited Laellocattleya elegans Smee's var. H. S. Leon, Esq. (gardener, Mr. Hislop), Bletchley Park, Bletchley, exhibited Sophronites grandiflora gigantea with very large scarlet flowers. De Barri Crawshay, Esq., Rosefield, Sevenoaks, exhibited Odontoglossum wilckeanum Lionel Crawshay, with richly blotched flowers. Mr. W. Goodliffe, Cambridge Nurseries, Northcourt Road, Worthing, showed Oncidium sanderianum and Odontoglossum Rossii majus. Messrs. B. S. Williams & Son, Upper Holloway, staged Lycaste lasioglossum with dark cinnamon sepals and yellow petals.

Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham, exhibited cut flowers of handsomely blotched varieties of Odontoglossum, including the variety Princess Christian, and a number of hybrid Cypripediums, and varieties such as C. insigne dellense, C. lathamianum var., and C. villosum aureum. Elijah Ashworth, Esq. (gardener, Mr. H. Holbrook), Harefield Hall, Wilmslow, staged Dendrobium Ashworthae, a peculiar white species.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, exhibited two large panfuls of Cypripedium callosum, well flowered; also C. c. aureum.

F. Hardy, Esq. (gardener, Mr. T. Stafford), Tyntesfield, Ashton-on-Mersey, staged cut flowers of many hybrid Cypripediums, including C. Swinburnei magnificum, C. Morganiae burfordiense, C. leeanum reticulatum, and many others. Mrs. Briggs Bury (gardener, Mr. J. Wilkinson), exhibited Odontoglossum Fairy Queen, and Cypripedium leeanum giganteum × Calypso Oakwood var.

Floral Committee.

PRESENT:—W. Marshall, Esq., in the chair, with Messrs. O. Thomas, C. T. Druery, G. Nicholson, H. B. May, R. Dean, J. H. Fitt, G. Ruthe, Jas. Hudson, J. F. McLeod, J. Fraser, Chas. Jefferies, W. Bain, C. E. Pearson, C. E. Shea, W. J. James, Chas. Blick, Geo. Paul, and H. J. Jones.

Mr. John Russell, Richmond Nurseries, Richmond, Surrey, set up a long table of Aucubas in pots. The plants had been grown under glass so that the heavy clusters of berries were well coloured. A. angustifolia, A. vera, and A. japonica variegata, were included. The plants were in 32-sized pots, bushy and very useful for all purposes of cool house for dwelling room decoration.

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, showed an interesting little group of hardy plants in pots, including Cyclamen vernum, Iris reticulata, I. histriodes, I. bakeriana, and I. sindjarensis, and varieties of Christmas Roses.

Messrs. James Veitch & Sons, Ltd., Chelsea, showed a group of Coleus thrysoideus, and a very interesting specimen of Thibaudia macrantha. The latter is a cool greenhouse plant introduced about 1850, from the northern parts of India. The wood is shrubby, the flowers being in pendent clusters somewhat oblong bladder like, and coloured a pinky-mauve shade. The plant was much admired.

Messrs. Barr & Sons, King Street, Covent Garden, sent up finely flowered bowls of the Chinese Sacred Lily, together with other bowls of Roman Hyacinths, Iris bakeriana, Hoop-Petticot Narcissi, both the white and the sulphury variety.

Messrs. Wallace & Co., Kilnfield Gardens, Colchester, showed Iris bakeriana, I. Dandfordiae, and I. Heldreichii.

Mr. C. J. Wakefield, 58, Hindon Street, London, S.W., showed his "Floral-aid," which has been described in these columns previously.

Messrs. Sinclair & Co., 19, Eldon Street, Finsbury, London, E.C., exhibited samples of an improved pneumatic diffuser (White's Patent). This produces a vapour-like spray for distributing insecticides or water.

Fruit and Vegetable Committee.

PRESENT: Geo. Bunyard, Esq., in the chair, with Messrs. Geo. Kelf, W. J. Empson, W. Farr, W. Bates, S. Mortimer, Alex Dean, C. Herrin, E. Shaw Blaker, W. Poupart, H. Markham, E. Beckett, Geo. Miles, G. Wythes, J. Willard, Jos. Cheal, G. Norman, A. H. Pearson, H. Esling, and W. W. Wilks.

Messrs. James Veitch & Sons, Ltd., Chelsea, sent the following Pears: St. Germain, Olivier des Serres, Ne Plus Meuris, Beurré Easter, Bergamotte d'Esperen, Beurré Rance, and a newly certificated variety (F.C.C.) Josephine de Malines, a medium sized fruit with a fine brownish-yellow skin.

The Earl of Ilchester (gardener, Mr. C. Dixon), Holland House, Kensington, sent Apple Northern Spy; Beurre Rance Pear, &c.

LEGAL NOTES.

OVER-GROWING TREES.

FROM November 30th to the end of March a surveyor of highways can compel the cutting of Ash, Lime, Chestnut, Maple, Elm, and other trees where they interfere with the highways. He has no such power during the rest of the year. Where an occupier permits the branches of his trees to grow over on to the land of another, they can be treated as a nuisance, and can be cut off. Fruit that drops on to your ground from the branches of your neighbour's trees, overhanging your land, is yours. The fruit while on the tree is his, and it is no trespass for him to come into your garden and pick it. You may require him to remove such branches, and can cut them off yourself if he neglects to do so unless they have existed there for twenty years.

WATER AND THE WATER COMPANIES.

MR. G. M. FREEMAN, Q.C., together with other Buckingham magistrates at Slough, recently heard a case of great importance to water consumers throughout the country. The Slough Water Company summoned Mr. Neal, of Slough, for £2 8s. water-rate. Defendant admitted that £1 18s. was due, but disputed the remaining 10s. charged for a garden hose. The charge was specified in the company's regulations, but no agreement existed as to it between them and the defendant. The bench, therefore, gave judgment for £1 18s. only.

OBITUARY.

MRS. GEORGE GORDON.

WITH regret we announce the death of Mrs. George Gordon, the wife of Mr. George Gordon, editor of *The Gardeners' Magazine*, at Endsleigh, Priory Park, Kew. Mrs. Gordon had not been enjoying very good health for some years past, and had a paralytic stroke early last summer from which she rallied and partly recovered, but never was the same again. She passed away early on the morning of Friday, the 11th inst. The funeral took place on Monday last, service being conducted at Kew Church, at 2.30 p.m., after which the remains were taken to Richmond Cemetery. Mr. Gordon also lost one of his sons last summer, so that we feel sure that his wide circle of friends will join with us in sympathising with him in his bereavement.

A large concourse of mourners assembled at Kew Church, and followed the deceased to Richmond. Amongst them were many horticulturists, including Mr. George Nicholson, of Kew; Mr. S. T. Wright, of the Royal Horticultural Society's Gardens, Chiswick; Mr. C. T. Druery, of Action; Mr. C. H. Curtis, of *The Gardeners' Magazine*; and others.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. H. Fleming, Junr., Wexham Park, Slough, for his article on "Solanums," p. 310.

QUESTIONS AND ANSWERS.

**** All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 5 & 6, CLEMENT'S INN, STRAND, LONDON, W.C. *Business communications should be addressed to "The Publisher." Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Cauliflowers in Cold Frames.—*A. M. D.*: The best way to raise Cauliflowers, seeing that you have no bothouses for them and no time to prick them off, is to sow in frames, as you propose, on the 1st of February, or as near that time as you can. In the meantime get some fresh manure, preferably horse manure, and put it up in a heap to ferment, so as to be ready to go in the frames when you are about to sow the seed. Select a dry portion of the nursery or some convenient yard or enclosure affording a considerable amount of shelter. This will economise the heat by not being exposed to boisterous winds from any quarter. Next select a position facing south, and to further assist the plants you should throw some of the soil from what is intended to be the front of the line of frames to the back of the same, so that it will face the sun at mid-day or nearly so. When the manure is fermented and ready, make up a hot-bed about 1 ft. deep, tread it down firmly, then place the frames in line upon it. The frames may be as rough as you like, consisting merely of rough boards about 10 in. or 12 in. broad, set on edge, and fixed in position by strong wooden pegs driven into the ground on either side of them. You can further protect these frames by throwing up soil against them to the level of the upper edge of the boards. Then put about 4 in. of soil inside the frames and over the manure. Level this and make it moderately firm. You can then sow the seeds broadcast all over the surface, but not too thickly, remembering that you have no time to transplant. If at all crowded when the seedlings come up you must thin them and keep them thoroughly clear of weeds to prevent damping. Old glass sashes may be placed over them, and merely tilted well up behind in open weather when the seedlings have made some growth. During frost cover with mats, bracken, or straw at night. By and bye, say in March, the sashes may be taken entirely off, and protection merely given at night. Do not be in too great a hurry to plant out until the weather becomes fairly settled and warm.

Thorn Hedge under Trees.—*D. C.*: The reason for the gaps is probably due to several causes, foremost of which would be the starved and dry nature of the ground owing to the presence of the tree roots, and the fact that their branches throw much of the rain to one side so that the roots of the hedge must get very dry soon after the drought of summer sets in. The branches of the trees may come too far down and thus shade the Thorns to an injurious extent. Then you must guard against people or animals from passing through the gaps or weak places by stretching wires along the middle of the hedge line at those places. Prune the lower branches of the tall trees, if that is permissible. Then, before planting any fresh Thorns, take out a trench and put in some fresh soil to give the young Thorns a chance of a good start. If you have no objection to patchwork, you might try Hollies, which make a fair growth in shade, though not so vigorous as when in full exposure. Privet would grow more rapidly, if that would be any object.

Soil in which to Sow Tomato Seed.—*A. M. D.*: Any light, sandy soil will do for this purpose, with a little leaf mould in it. Sift it, or at least the top portion in which the seeds are to be sown. Old potting bench soil will do, provided it has not been previously used for Tomatos or Potatos. If too heavy make it lighter with sand, and if poor in leaf mould, add a quantity, thoroughly mix the whole and sift it to get out the lumps, stones, crocks, &c. Keep the seedlings moist, but do not over-water them until growing strongly. Should any difficulties arise concerning the above or other matters, we shall be pleased to help you.

Berried Plants for the Conservatory.—*A. K.*: You cannot do better than get a stock of a good strain of Solanum Capsicastrum, the berries of which ripen in autumn and hang on great part of the winter. Nice little plants of Pernettya mucronata and some of its many varieties may be grown in a bed of peat during summer, and lifted in autumn and potted up in the case of those well-laden with fruit. The same may be said of Skimmia Fortunei and S. japonica (obliqua), which usually berry freely if you have male and female plants. The Otaheite Orange which carries numerous small fruits, during a great portion of the year, particularly in winter and spring, is easily managed in pots. The Rivinas should not be overlooked, particularly R. laevis, R. humilis and R. aurantiaca, the two former having red berries and the latter golden yellow. Nertera depressa in pots or pans is very dwarf with scarlet berries late in summer. Aucuba japonica in the form of small plants may be potted up when in berry, and the ripe fruits will hang on a long time.

Propagating Golden Privet.—*W. G.*: This is practically as easy as in the case of the ordinary green, oval-leaved Privet. Take cuttings in spring when trimming in your plants, and dibble them into sandy soil in a frame, and this shelter will prevent the cuttings from drying up, and will hasten the formation of roots. Then, towards the end of summer when the plants have made good growth, another set of cuttings should be taken off, and rooted in boxes, pots or frames, or under handlights.

Names of Fruit.—*A. D. W.*: Apple Beachamwell. —*A. R*: The Cape Gooseberry (Physalis peruviana).

Names of Plants.—*Western*: 1, Pinus insignis; 2, Cupressus macrocarpa.—*A. C.*: 1, Reinwardtia trigyna; 2, Begonia semperflorens var.; 3, Rivina laevis; 4, Primula floribunda.—*R. M.*: 1, Lastrea decomposita glabella; 2, Pteris scaberula; 3, Doryopteris palmata; 4, Asplenium flaccidum; 5, Phyllanthus glaucescens (or Reidia). —*D. R.*: 1, Viburnum Tinus; 2, Retinospora plumosa; 3, Prunus Laurocerasus colchica; 4, Erica carnea.—*Adam, B.*: 1, Abutilon megapotamicum variegatum; 2, Iberis gibraltarica; 3, Disandra prostrata; 4, Zebrinia pendula (otherwise called Tradescantia zebrina); 5, Salvia rutilans.

Communications Received.—W. B. G.—W. O. —A. V. M.—H. H. G.—H. Lewis.—J. C., F.—A. M.—D. C.—J. B.—Longmans, Green & Co.

TRADE CATALOGUES RECEIVED.

W. WELLS & CO., LTD.—Earlswood Nurseries, Earlswood, Redhill, Surrey.—Special List or Supplement to Descriptive Catalogue of Chrysanthemums for 1901; also large sheet of illustrations of Chrysanthemum Novelties for 1901.

WM. BAYLOR HARTLAND, Royal Seed Warehouse, Cork, Ireland.—Hartland's Garden Seeds.

HERD BROS, Market Square, Penrith.—Garden Seeds, Flower Seeds, Garden Manures, Garden Tools and Requisites.

E. COLNETT, 61, Wyndham Crescent, Canton, Cardiff.—Select List of New and Choice Chrysanthemums.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

JANUARY.

25.—Blackheath Horticultural Society Meeting.
29.—R.H.S. Committees.

FEBRUARY.

4.—Wimbledon Horticultural Society Meeting.
12.—R.H.S Committees.
15.—Gardeners' Orphan Fund (Annual Meeting and Election).
26.—R.H.S. Committees.
28.—Kew Guild Annual Meeting.

MARCH:—

2.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
4.—Wimbledon Horticultural Society Meeting.
7.—Linnean Society Meeting.
11.—United Horticultural Benevolent and Providential Society's Annual Meeting at Caledonian Hotel.
12.—R H S. Committees.
21.—Linnean Society Committees' Meeting; Royal Botanical Society Meeting.
26.—R.H.S. Committees; Brighton and Sussex Horticultural Society Show (2 days).
27.—Liverpool Horticultural Show.
29.—Blackheath Horticultural Society Meeting.

APRIL:—

3.—Royal Caledonian Horticultural Society Show, Edinburgh (2 days).
4.—Linnean Society Meeting.
6.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
9.—R.H.S. Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society Spring Show (2 days).
10.—Shropshire Horticultural Society Show at Shrewsbury.
22.—Chesterfield Spring Show.
23.—R.H.S Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

MAY:—

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
7.—R.H.S. Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, JANUARY 26th, 1901.

NEXT WEEK'S ENGAGEMENT.

TUESDAY, January 29th.—Royal Horticultural Society's Committees Meet.

WHAT COULD A GARDENER DO IN ICELAND?—Occasionally one hears or reads of Iceland being a battlefield of fire and ice, and to a certain extent this is true, for it is wholly of volcanic origin, and many of its mountains, which are nearly 2,000 ft. higher than any in the British Isles, are covered with perpetual snow and ice for the greater portion of their height from the top downwards, and extensive ice fields keep slipping down almost to sea level. Under such conditions it might be said that the gardener could do nothing; but the above description applies chiefly to the southern portion of the island, which, paradoxical as it may seem, is less favourable to vegetation than the northern portion of the island. Its area is somewhat larger than that of Ireland, and while it lies about 600 miles to the west of Norway, and about the same distance from the north of Scotland, it comes within 60 miles of the coast of Greenland. One would naturally conclude that the southern coast of Iceland should be the warmer, but the contrary is the case owing to the high mountains above mentioned and their physical effects upon the climate of those regions. The shores are washed by the Gulf Stream, particularly the western and northern, so that what might otherwise be a rigorous climate, owing to its northern latitude, is tempered by the genial waters of a torrid clime before they have finally parted with their warmth. One of the most northerly of its headlands lies a little to the north of the Arctic circle, yet only about three species of the flora of the island are decidedly Arctic. What is more striking, at a computation of its flora not so many years ago only 62 species had been gathered or seen in it which do not grow in the British Isles, and this out of 467 flowering plants, and Ferns known to inhabit it, and most of them being found in Scandinavia. Nothwithstanding the distance of the island from our shores its flora is decidedly European.

The country has been peopled by Europeans since A.D. 874, when the Northmen took possession of it, that is, soon after the Vikings or Danish pirates landed on our shores, more intent upon plunder than colonisation. They in fact made a landing on the east coast of England in 787 and on the Scottish shores in 839. When these Northmen landed in Iceland it is believed that woods were more extensive than was the case down till quite recent times. As far as is known they did not exceed 10 ft. to 12 ft. in height though the stumps of those that had been cut down by the inhabitants often measured 2 ft. in diameter, so that the trees or woods represented a sturdy but stunted vegetation, which at least till recently consisted of low bushes of Birch and Willow. The latter are confined to about eighteen species of dwarf bushes, many of them hardly deserving any other name than herbs, though really representing the dwarfest forms of Euro-

pean woody vegetation. Some of our schoolmasters used to speak of trees dwindling and dwindling as the North Pole was approached until one could pull up a tree and put it—roots, stems and branches—into a pocket book. The largest trees, or those to which the name can with any justice be applied, are the Birches, and only Betula pubescens of the three native species, all being British. The Scotch Fir and the Norway Spruce have both been sown and planted, but they do not for long survive the rigours of this northern land. Other woody vegetation exists, but only of a dwarf shrubby character, so that the island possesses only one species deserving the name of tree. There is no evidence that Firs, such as are characteristic of Norway, ever existed since the birth of man upon the globe.

It is said that excellent crops of Potatos can be grown in the northern parts of Iceland (introduced by man of course), but that the climate is totally incapable of maturing a crop of corn of any kind, and very few products of European gardens. How then can the people live? External to the island there is the harvest of the sea; internally there is good grass in extensive boggy or wet meadows, though more extensive tracts are totally barren, consisting chiefly of the debris of volcanos where the land is not covered with snow or ice. This grass is made into hay, and in proportion to its quantity and the number of live stock (cattle and sheep) that can be supported through the long, dreary winter, in like ratio can the inhabitants prosper. The operations of a gardener there, if at all deserving of the name, would be very limited indeed; though there might be room for what the Americans would term an ornamental gardener, that is, one whose object is to grow ornamental plants for which the demand must always remain very limited there, as it seems that the "ages" can hardly grow to that "Civility and Elegancie" implied by the writings of Bacon. In Britain we complain of the short, cloudy and sunless days of winter; but in Iceland these difficulties are greatly intensified. It is a land of fire and ice, and also a land of fogs. Owing to the comparative mildness of the climate of the northern part of the island, due to the influence of the Gulf Stream, the condensation of moisture is very great, the rainfall equally so, and the skies are often so overcast as to obstruct the effect of sunlight even in summer. This relative lack of sunlight alone is responsible for the impossibility of bringing most European garden crops to maturity, and agriculture is limited by the same agencies.

Having made mention of ornamental plants a few of them may here be noted to show that we already possess them and appreciate them in proportion to their value. The rock garden, with its appendages, is the proper place for most of them. Amongst the more interesting of those that are not British we may mention Papaver alpinum, Arabis alpina, Saxifraga Cotyledon, S. Aizoon, Cassiope hypnoides, Ledum palustre, and Diapensia lapponica, by no means a lengthy list. Amongst British Rosa spinosissima, the parent of the Scotch Roses, is the only species found in Iceland. Other plants having some pretence to decorative value are Caltha palustris, Cardamine pratensis, Viola tricolor, Parnassia palustris, Silene maritima, S. acaulis (the Cushion Pink), Lychnis alpina, Cerastium alpinum, C. arvense, Geranium pratense, G. sylvaticum, G. Phaeum, Anthyllis Vulneraria, Lathyrus maritimus, Spiraea Ulmaria, Alchemilla alpina, Potentilla maculata, Dryas octopetala, Geum rivale, Epilobium, Sedum Rhodiola, S. album, S. acre, Saxifraga oppositifolia, S. hypnoides, S. caespitosa, S. granulata, S. stellaris, S. aizoides, the Ivy, Cornus suecica, Antennaria dioica, Carduus heterophyllus, the Daisy, Campanula rotundifolia, Calluna vulgaris, Erica Tetralix, Vaccinium Vitis-idaea, Pyrola media, P. minor, Gentiana verna, The Bog-bean, Viper's Bugloss, Forget-me-not, Foxglove, Veronica saxatilis, Thyme, Primula farinosa, Thrift, Salix pentandra, S. purpurea, S. Caprea, S. phylicifolia, S. reticulata, Orchis mascula, O. Morio, O. maculata, O. latifolia, and Mianthemum bifolium. Rushes, sedges and grasses are abundant. Some of the more important Ferns are the Mountain Parsley, common Polypody, Beech and Oak Ferns, Woodsia ilvensis, W. hyperborea, the Holly Fern, Bladder Fern, Lady and Male Ferns, Asplenium fontanum, A. septentrionale, A. Trichomanes, the Hard Fern, Moonwort and Adder's-tongue. The only plants that can lay claim to supplying food are Fragaria vesca, the Mountain Ash (berries), Caraway and Dandelion. Evidently then there are few attractions for the gardener in Iceland.

Gardening Appointment.—Mr. D. F. Johnston, lately foreman in the Palace Gardens, Dalkeith, as head gardener to E. K. B. Tighe, Esq., of Woodstock, Inistioge, Co. Kilkenny.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, January 29th, in the Drill Hall, Buckingham Gate, Westminster, 1 to 4 p.m. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Professor G. Henslow, M.A., &c.

Haarlem Bulb-culture Society.—Since its establishment in 1860, the "Société générale de Bulboculture de Haarlem" has flourished under the presidency of Mr. J. H. Krelage, the oldest representative of Dutch horticulture. Having had to relinquish this post owing to his advanced age, Mr. Krelage was presented with a portrait of himself, painted by the Dutch artist, Haverman, this portrait being a *chef-d'-oeuvre*. In addition to this sympathetic manifestation, the subscribers presented Mr. Krelage with an album bearing their names. Mr. J. H. Wentholt has been elected president.

Croydon and District Horticultural Mutual Improvement Society.—The first annual meeting was held at the Sunflower Temperance Hotel, George Street. Upwards of eighty members were present. The committee presented their report and balance sheet for the past year, which were confirmed and adopted. The members then proceeded to the election of officers and committee for the present year. Frank Lloyd, Esq., Coombe House, was elected president. Vice-presidents: F. W. Burbidge, V.M.H., Trinity College Botanic Gardens, Dublin; C. H. Walker, Esq., Falkland Park; and T. English, Esq., Addington Park; treasurer, F. C. L. Wratten, Esq.; chairman, Mr. W. J. Simpson; vice-chairman, Mr. E. Mills; committee, Messrs. A. Blogg. W. Bryant, A. Chipperfield, J. Dingwall, W. Harris, Humphreys, W. J. Jarman, W. Laing (Sutton), H. Lisle, C. Moore, A H. Naylor, E. Kromer, J. Sewell, W. Turney, W. Woodgate, W. Wright; hon. secretary, John Gregory. The chairman called upon those present to make any suggestions for the future benefit of the society. The secretary suggested that all possible encouragement should be given the young gardeners, with the result that six members offered prizes for essays on horticultural subjects. The announcement met with most hearty applause. On the proposition of Mr. Boshier, seconded by Mr. E. Kromer, it was decided to hold a dinner, followed by a social evening, to be held in February. Votes of thanks to the officers and committee concluded a most enthusiastic meeting. The statement of accounts for the year ending 31st December, 1900, showed that the society was in a very sound state financially, notwithstanding the extra expenses incurred in founding the same, and its first year of working. The balance in hand was 19s. 4d., not a large amount, but satisfactory.—*J. Gregory, hon. secretary, 60, Canterbury Road, Croydon.*

Mr. John Mackay.—In our notice of Mr. Mackay's appointment as Orchid grower at Highbury, in last week's issue, we wrongly spelt his name as Machie; whereas "he's the real Mackay!"

Fruit Growing in Siberia.—We learn that the Russian Government are granting subsidies to new settlers in Siberia to encourage the culture of fruit and of farming. Since 1894 £543,000 has been spent in this direction.

Mr. Geo. W. Scott.—The death is announced of Mr. Geo. W. Scott, well known to American horticulturists, and especially intimate among the members of the American Association of Cemetery Superintendents. Mr. Scott was born in Roxburghshire, Scotland, in 1841.

Veitch Memorial Fund.—At a meeting of the trustees, held on January 15th, it was decided to place at the disposal of the Glasgow and West of Scotland Horticultural Society two Veitchian Medals and two prizes of £5 each to be competed for at the exhibitions proposed to be held by the society in connection with the Glasgow International Exhibition of 1901. They also decided to place a medal and prize of £5 at the disposal of the Wolverhampton Floral and Cottagers' Horticultural Society, and the Taunton Deane Horticultural Society, to be competed for at their respective summer shows. It was further decided to offer a large Silver Veitchian Medal to Mr. R. Irwin Lynch, A.L.S., Curator of the Cambridge Botanic Garden, and to Mr. W. B. Latham, Curator of the Birmingham Botanic Garden, in recognition of the eminent services rendered by them to horticulture.

Ealing Gardeners' Society.—"Pruning and Training Fruit Trees" was the subject of the opening meeting of the new year, which was held on the 15th inst., Mr. H. Burgess in the chair. Mr. W. Chaffer was the exponent and practical demonstrator of the "Art, which does mend Nature." He exhibited rough sketches of badly-trained trees and also some others to show the trainer's skill. His use of the knife on some branches which he had brought for the purpose was much appreciated. As one of the old school of gardeners he did not deny the value of root pruning, but relied rather on top pruning and training to make fruitful trees. The discussion which ensued circled round the root pruning question, the value of which was generally conceded. The usual votes of thanks were duly accorded.

Royal Botanical and Horticultural Society of Manchester and the Northern Counties.—The report of the council of the above society was delivered to the seventy-third annual meeting of proprietors, held on Thursday, January 24th, in the Lord Mayor's Parlour, Town Hall, Manchester. After twelve years of encumbered finances, the society winds up the old century with the pleasant account of £188 6s. 6d. to the good for 1900. The council may well compliment themselves on the state of affairs at the termination of the century. The council hope that the turning point in the society's fortunes has been reached, and there is every reason to believe (as the report said) that the society will not only pay its way year by year, but will do some little toward the extinction of its old debt, viz., the bank overdraft. The society promotes a spring flower show, a great Whitsuntide exhibition, a Rose show, and a Chrysanthemum show, each of which affords pleasure and instruction to the public. Another satisfactory feature of the report for 1900 is in the increase of annual subscriptions, an increase which is being steadily maintained, and which the council hope will continue. The revenue account for the year ending December 31st, 1900, as already stated, shows a surplus balance of £188 6s. 6d. The council stated that £250 had accrued from a transaction whereby they gave up their right of consideration to certain land surrounding the society's gardens. In 1829 certain covenants had been entered into when the purchasers had been buying land for the present garden, to the effect that the land forming a radius of 400 yards from the garden should not be used for mercantile purposes. This land has been sold by the present proprietor, Sir Humphrey F. de Trafford, for building purposes, he not having known of the aforementioned covenant, but an arrangement was effected between the trustees and Sir Humphrey by which the old covenants were released.

The Proposed National Physical Laboratory in the Old Deer Park, Richmond, Surrey, has been abandoned by the Government as far as that site is concerned.

Firing Cannon to Produce Rain.—The experiment of firing cannon to produce rain has for many years being a bright idea amongst the Queenslanders, and it has often been tried. Rain has always followed the firing, but only just "enough to swear by." They have now resolved to adopt the plan on a larger scale at Mackay, where the prosperous sugar plantations are abundant. In order to carry out the plan some large mortars are being specially made for the purpose.

The Motor in the Harvest Field.—The motor-car has already threatened the horse on the road, and now it would appear as if it were also to usurp its position for usefulness in the field. In connection with the Great International Exposition held during the summer at Paris a demonstration was given in a field near by the "Exposition" of a mower driven by motor power. The mower in question was tried on a field of Lucern with eminently satisfactory results. Here is an opening for those with fertile brains, and who understand something of husbandry and engineering, to apply motor-power in various other directions.

The Hamilton and District Gardening and Forestry Association held their monthly meeting on Tuesday, 8th inst., in the Mining Institute. The Rev. Mr. Paterson, the president, occupied the chair. There was a fair attendance to hear the president's address, which was very interesting and most instructive. He treated on the rainfall of the past year in this district, the last six months being much above the average for many years. There was in October, 5·9 in.; November, 6·9 in.; December, 7·40 in. Mr. Paterson then treated on astronomy, which was most interesting and much appreciated. The meeting was terminated with a most hearty vote of thanks to Mr. Paterson for his most instructive lecture.—*J. M.*

Devon and Exeter Gardeners' Association.—The following are the subjects to be delivered during the spring session of the above-named go-ahead association:—January 30th, "Greenhouse hard-wooded plants," by Mr. John Coutts; February 13th, "Notes on the growing of the best dozen kinds of vegetables," by Mr. W. R. Baker; February 27th, "Hardy fruit growing for Devonshire," by Mr. F. J. Fletcher; March 13th, "Methods of propagation," by Mr. James Mayne; March 27th, "Is gardening a science?" by Mr. R. W. Hodder; and April 10th, "The treatment of cool Orchids," by Mr. G. H. Head. The meetings are held in the committee room (upper room) of the Guildhall, Exeter, at eight o'clock prompt. The hon. secretary is Mr. Andrew Hope, 36, Prospect Park, Exeter.

East Anglian Horticultural Club: Annual Dinner.—The eleventh annual dinner of the East Anglian Horticultural Club was held at the "Shirehall Tavern," Norwich, on Wednesday, the 9th inst., when a large gathering enjoyed a hearty evening. Mr. W. L. Wallis, the secretary, had made full arrangements, and the manner in which everything was carried through reflects to his credit. Mr. J. Powley, the president, occupied the chair. Mr. John Green (Hobbies, Ltd.), Dereham, supplied the flowers for the tables. The chairman was supported by Mr. J. Green, Mr. C. Daniels, Mr. G. Daniels, Mr. C. E. Pilling (secretary of the Norfolk and Norwich Horticultural Society), Mr. J. E. T. Pollard, Mr. J. W. Church, Mr. T. Bishop, and Mr. H. P. Read; whilst there were also present Messrs. E. Cadman, J. Clayton, T. B. Field, F. Fitch, C. H. Fox, W. Fuller, G. James, W. Joice, T. Rix, W. L. Wallis (secretary), and R. Ennals. Letters regretting inability to be present were received from Mr. A. Preston, Mr. Forder, and Mr. Perry. After dinner dessert was placed upon the tables. The prizes that had been won at the monthly meetings throughout the year were then distributed by the president. Messrs. Hines, Howellet, and Matthews were the winners. The secretary's report was then read, which showed that fifty new members had been enrolled during the year, and the aggregate membership of the club is now 202. The balance at the bank at the last audit was £67 1s. 7d. The report was agreed to, and then followed various toasts and entertaining items.

Kew.—The lawns and grass lands throughout the Royal Gardens, Kew, are at present being dressed with fine, rich soil. The succession of dry summers has almost ruined many parts of the grass land, for the soil lies everywhere above a sand and gravel subtratum.

The Mistleto Legend.—There are many versions of the Mistleto legend, but perhaps this is the best. Balder, the god, was rendered invulnerable by his mother, Fringg, against the four elements—earth, air, fire, and water. Loke, the spirit of evil, manufactured, however, an arrow from the Mistleto, belonging to none of the elements, since its roots are neither in air nor earth, nor water, and this dart, launched at the god, slew him. Restored to life, the god dedicated the plant to his mother, and it was rendered harmless so long as it did not touch the earth. On this account is the Mistleto bough hung high aloft, while those who pass beneath it exchange a kiss of joy and peace in token of its no longer being able to work evil.—*The Orcadian.*

Wells' Chrysanthemum Novelties for 1901.—Messrs. W. Wells & Co., Ltd., Earlswood Nurseries, Redhill, Surrey, have sent out to gardeners and Chrysanthemum growers, a large sheet illustrated with fifteen well-finished photographs of Chrysanthemum novelties for 1901. Those who have followed the reports of the Chrysanthemum shows during the season will have some idea of the extent of the Messrs. Wells' successes, and may recall the numerous instances in which this firm's new varieties were honoured with certificates. The specimens figured on the present sheet are, amongst others, Matthew Smith, a golden yellow Jap.; Lord Roberts, which takes after the style of E. Molyneux, but is even more attractive; C. J. Salter, a Japanese incurved, canary yellow; Khaki, another incurved Jap., khaki coloured; Mrs. J. L. McKellar, jap., deep blush-pink; Guy Hamilton, Jap., a beautiful pure white variety; Mabel Morgan, a rare and lovely yellow; Glorious, an intense crimson-scarlet reflexed market or decorative variety, very fine; W. R. Church, a deep rosy crimson, one of the best of the season; together with Rev. W. Wilks; Miss Lucy Evans, Ernest Bettsworth, Chas Longley, and Souv. de Paris Exposition. The illustrations give a splendid idea of the blooms, and as the great majority of growers may not have seen these introductions the Messrs. Wells cannot but have conferred a boon in having issued this reliable index.

Liverpool Horticultural Association.—On Saturday evening, the members met to the number of 130 at the "Bear's Paw," for their annual dinner and re-union. The chair was occupied by Mr. R. W. Ker, F.R.H.S., F.A.S., who was supported by Mr. H. Herbert, superintendent Liverpool Parks and Gardens; Mr. T. Foster, chairman of the society; Mr. J. Guttridge, curator Liverpool Botanic Gardens; Mr. J. Hathaway, superintendent Southport Parks and Gardens, and others. The principal toast of the evening was "Horticulture," proposed by the chairman, who gave a most interesting retrospect of the subject, showing the advantages that we enjoy in the cheapening of class, the more effective means of heating, the more approved form of ventilating and shading. Special reference was made to the many introductions of plants from nearly all over the world, and to the vast improvement brought about by our intelligent hybridisers. The horticultural literature and gardening charieties also received a well merited note of acknowledgment. Messrs. R. G. Waterman and T. Foster replied, the former dwelling upon the value of good specimens of plants, fruits, flowers or vegetables, and the credit due to the producer of such. In speaking of the charities he strongly urged all present to become members, for those must be considered first. In regard to the Royal Benevolent it was satisfactory to note that every candidate in their locality had been elected on the pension list. Referring to the chairman, he was sure all present rejoiced in the action of the premier society (Royal Horticultural), in which they did credit to themselves and honoured Liverpool by their selecting Mr. Ker to some of the most important functions of their valuable work. Mr. Foster spoke of the valuable work of their own and neighbouring societies, and hoped that their good work might be maintained. Special credit is due to the sub-committee who were responsible for the management, which proved one of the most successful yet enjoyed.

Jasminum nudiflorum, one of the richest and most beautiful of all the flowering shrubs of the year, is grown in pots at Kew for greenhouse use.

Fruit and Pheasants gratuitously.—In its report of the proceedings on the day of Earl Roberts' arrival in London (Thursday, January 3rd), the *Express* describes an amusing incident which occurred in Piccadilly. After the procession, a good-natured crowd lingered in this great thoroughfare, especially at the western end, where one lady was throwing oranges among the Tommies for all she was worth. The Tommies proved good "catchers." Then followed Apples, Bananas, Raisins, Nuts, and other fruits, in a way that made the fruiterers chuckle mightily. Soon a rivalry got up among the people, and more fruit and sweetmeats were freely showered upon the laughing soldiers. But the lady who led off determined to crown her bounty with something more substantial. To the great amusement of the crowd she precipitated several cooked pheasants and chickens. Her keenest rival followed with roast beef and what seemed like cuts of cod. And the soldiers took home their New Year spoil that had not had to be fought for.

Reading and District Gardeners' Mutual Improvement Association.—The first fortnightly meeting of 1901 was held in the Club Room on Monday, January 14th, when the president (Mr. Leonard G. Sutton) presided over a splendid attendance of members. The subject arranged for discussion was "A few useful plants for the stove and greenhouse," and this was dealt with in an exceedingly practical manner by Mr. W. P. Bound, of Gatton Park, Reigate. The plants touched upon were Anthuriums, Poinsettias, Euphorbias, Winter-flowering Begonias, Acalypha sanderiana, Streptocarpus, &c. A discussion followed on these plants and also respecting Eucharis, Tuberoses, Clerodendron, &c., in which the following took part:—Messrs. Exler, Townsend, Chamberlain, Barnes, Bright, Sherlock, Lever, Wicks, Cretchley, E. J. Dore, Fry and Neve. A hearty vote of thanks, on the proposition of the president, was accorded Mr. Bound for his most able paper. The exhibits were exceedingly interesting and in accord with the subject. Mr. Townsend, of Sandhurst Lodge, staged various varieties of winter-flowering Begonias, Eranthemum pulchellum, Centropogon lucyanus, Browallia macrantha, Justicia flavicoma, and Mr. Bound Anthuriums, Poinsettias, Euphorbia, Begonias and Acalypha sanderiana. Three new members were elected. On Monday, January 21st, the annual tea and entertainment was held in the Abbey Hall (by kind permission of Messrs. Sutton & Sons) and proved a great success. The tea was attended by nearly 100 members, the company including Mr. Leonard G. Sutton (the president), Mr. Arthur W. Sutton, V.M.H., Mr. Martin H. F. Sutton, Mr. T. Neve (chairman), Mr. H. Wilson (vice chairman), Mr. F. Macdonald (treasurer), Mr. H. G. Cox (hon. sec.), Messrs. Woolford (Wokefield), Gibson (Marlow), Powell, Turnham (Henley), Townsend, Richings (Wellington College Station), Nichols and Murray (Strathfieldsaye), Pigg (Maidenhead), Botley (Taplow), Overill (Cookham), Barefoot, Sherlock (Mortimer), Galt (Aldermaston), Kitt (Wasing), Wise (Blackwater), Rigg, Farey, Maine (Caversham), Green, Roberts (Woodley), Chamberlain (Shinfield), Osborn (Three Mile Cross), Cox (Calcot), Barnes, Taylor (Bearwood), Hobbs (Sindlesham), Howlett (hon. sec. Earley Horticultural Society), Dore, Fry, Bright, Smith, Atter, Lasham, Lever, Ager, Hearn, Judd, Pigg, Hinton, Moody, Exler, &c., &c. During the tea the chairman of the association took the opportunity of thanking the president for his attendance and also for kindly providing the entertainment. Mr. Sutton also briefly addressed the gathering. The tables were beautifully decorated with Cyclamen, &c., from the florist flower seed houses of Messrs. Sutton & Sons. After tea, an entertainment took place to which friends of the members were invited. The invitation was readily accepted, some 600 spending a very pleasant evening. The programme consisted of animated pictures and limelight views by Professor Lewis, and humorous songs and sketches by Mr. Ben. Lawes. Needless to say the animated photographs were greatly appreciated, as were also several exquisite flower studies, whilst the humorous songs and sketches were received with cordial enjoyment by all.

Ohlendorff's Diary.—The Anglo-Continental (late Ohlendorff's) Guano Co., 30, Mark Lane, London, have issued a useful Blotter and Diary for 1901. Included are some interesting photographic illustrations of South American scenes, showing in one case a "Peruvian Guano island" crowded with great birds like pelicans, without whose presence there would be none of the pure and valuable fertiliser that gardeners know by that name. Other views present an idea of how the guano is amassed or excavated, and also shows how it is shipped for home use.

Utility Poultry Club Laying Competition.—The competition began on October 17th, and ends February 5th. The twenty pens (four pullets in each) are under the management of Mr. G. C. King, The Manor Poultry Farm, Slough. Prizes and specials to the value of £18 are being offered. Below is the result of the first, second, and third month's laying:—

Pen.	Breed.	1st month. Eggs.	Points.	2nd month. Eggs.	Points.	3rd month. Eggs.	Points.
1.	Faverolles (E) ..	0	0	0	0	1	2
2.	Anconas	0	0	0	0	0	0
3.	Langshans (Bh.) ..	0	0	2	4	15	30
4.	Houdans	0	0	0	0	2	4
5.	Lincs. Buffs ..	16	30	32	61	12	24
6.	Leghorns (Br.) ..	0	0	2	4	6	12
7.	Orpingtons (Bl.) ..	0	0	0	0	11	22
8.	Leghorns (Bf.) ..	28	56	19	38	22	44
9	Orpingtons (Bf.) ..	0	0	17	34	31	62
10.	Leghons (Bf.) ..	0	0	3	6	21	42
11.	Ply. Rocks (Ba.) ..	56	112	22	44	19	38
12.	Leghorns (Br.) ..	0	0	0	0	2	4
13.	Wyandottes (Bf.)	0	0	0	0	0	0
14.	Leghorns (Wh.) ..	0	0	0	0	0	0
15.	Wyandottes (Par.)	0	0	0	0	0	0
16.	Leghorns (Wh) ..	0	0	0	0	11	22
17.	Wyandottes (S) ..	0	0	0	0	3	6
18.	Minorcas (Bl.) ..	0	0	0	0	0	0
19	Wyandottes (Wh.)	0	0	0	0	3	6
20.	Minorcas (Bb.) ..	0	0	0	0	0	0

N.B.—In scoring two points are given for every egg weighing over 1½ oz.

The manager reports that pens Nos. 1, 10, 12, 14, and 16 were not hatched early enough. That pens Nos. 13, 15, 17, 18, and 20 were apparently hatched too early for November laying, they having all gone into moult after laying a little before the competition began. That the majority of the birds appear to have felt the change. That all the pens are in good health.—*L. W. H. Lamaison, Hon. Assistant Secretary, Southwold, Kenley, Surrey, January 12th*, 1901.

Grand Yorkshire Gala.—The annual meeting of the guarantors and life members of the Grand Yorkshire Gala was held towards the end of last week in Harker's Hotel, York. Ald. Border presided over a large attendance. The purpose of the meeting was to inaugurate the gala for the ensuing year. The chairman mentioned that this year's show will be the forty third they have held, and it was proposed for June 12th, 13th and 14th. He hoped that the first gala of the century would be an unqualified success. Deputations had waited upon the committee of the Bootham Asylum, with regard to the use of the field, and the deputation had also waited on the Lord Mayor to ask him to become president of the society. He proposed that the Lord Mayor (Alderman E. W. Purnell) be elected president for the ensuing year. Mr. J. J. Hunt seconded the proposition, which was carried unanimously. The Lord Mayor thanked the members for the honour they had conferred upon him, and hoped he would be able to maintain the good record of past Lord Mayors in connection with this office. Sir Christopher Milward was re-elected chairman; Ald. Border was also re-elected to the vice-chair; Ald. Sir J. Sykes-Rymer was again returned as treasurer and Mr. C. W. Simmons as secretary, all being returned with acclamation. Messrs. Pearson and Taylor were re-elected auditors. The Council was unanimously re-elected, with the addition of Mr. E. Bushell. The following sums were allocated for the forthcoming gala:—£650 for the floral fete; £230 for the musical arrangements; £120 for fireworks; £65 for balloon expenses; and £175 for amusements. The various committees were then appointed. The chairman said that they had all heard with a great amount of pleasure of the honour which the Queen had been pleased to confer on a member of their committee, Sir Joseph Sykes-Rymer, and he moved "That the Council of the Grand Yorkshire Gala heartily congratulate Sir Joseph Sykes-Rymer on the honour conferred upon him by Her Gracious Majesty the Queen, and we trust that he will long live to enjoy the well deserved honour." Sir J. Sykes-Rymer had always taken a very prominent part in the welfare of the city for the better part of a quarter of a century, and he had been closely connected with the gala, having twice acted as president, and he thought that was a fitting opportunity for them to express their pleasure at the honour conferred on Sir Joseph Sykes Rymer, and through him on the city. (Applause.) The Lord Mayor seconded the resolution, which was supported by Mr. M. Cooper, and carried with applause. The Chairman then expressed the hope that the new century would prove an unmixed blessing to all those sitting around that table, and that the gala would be a greater success in 1901 than it had ever been in the past. (Applause.) He hoped that in the future they would do as much as they had in the past for the furtherance of the York charities, and the best interests of horticulture. (Applause.) The proceedings then terminated.

ROOT PRUNING

Is now taking a turn to be interesting, and perhaps we shall now arrive at some decision *how*, and *when*, to practise it, but I shall want more convincing proof than even those Pear shoots of bristling fruit buds that you, Mr. Editor, passed such eulogy on, forwarded by your correspondent Mr. Nisbet. Does he wish us to take in the theory (I do not consider it is practical), that by root pruning in July or August, trees practically devoid of fruit buds, such bristling shoots are forthcoming early in the following January? It is more than likely had your correspondent examined the trees before he commenced to root prune, he would have found those said shoots on the right road to forming fruit buds. I can hardly think five months and a root pruning capable of reforming an almost barren tree into one of fruitfulness. Further, your correspondent should have stated what kind of soil he has to do with, as I am much afraid that to operate on trees in light shallow soil in the middle of summer would in many instances mean utter ruin to the trees.—*Experience.*

BEGONIA FUCHSIOIDES.

This handsome species of Begonia is not grown as much as it deserves, it making a splendid plant for the conservatory, training up walls, or up pillars. It grows best in a mixture of warm leaf soil and sand, not so light as is given for the potting of the majority of Begonias. Cuttings taken now will make fine plants in 48's and 32's by July and August, the time when the plants flower the most profusely. Plants can also be divided up in small parts, and potted up singly, but by this method very little advantage is gained on plants treated in the first way. When they are wanted for planting out to train upon walls or up pillars use the same compost as before only rather coarser. They will be found to take rather a long time to cover a wall, but they pay for the extra time when it is covered, few plants looking better, the scarlet blossoms showing up well upon the dark green foliage, and the stem tinged with red. I have seen plants grown upon the walls of a fernery at The Towers, Hillingdon, 10 to 12 ft. in height, covered with bloom nearly all the year round.—*H. Fleming, junr., Wexham Park Gardens, Slough.*

DISEASES OF PLANTS.

This subject is of rather an extensive a nature to render it full justice in a short article so that a few general hints are all that I may aim at. Mildew on Roses, canker on fruit trees, the shanking of Grapes, the clubroot in Cabbages, &c., are just a few to which many cultivated plants are liable. The health of a plant depends on the correct performance of its functions; so that diseases arise either in consequence of old age, from vermin such as scale, red spider, mealy bug, greenfly, &c., or from too much heat, or too much moisture; and in many cases from too strong doses of liquid manure; also from bleeding owing to the use of the knife at the wrong time. The Vine and regal Pelargoniums are instances of this. If gardeners could find the time to avoid and cure all the diseases, and exterminate all the vermin, our plants would all enjoy a vigorous long life. Such, however, is not the lot of many gardeners in these times when so many country gardens especially are under-manned. I throw out the hint, on the above enemies to plants, that in proportion as we can save our plants, or fruits from these ravages will they enjoy a strong and prolific life, and will be lovely and pleasant to look upon.—*John C. Dick, Champfleurie, Linlithgow.*

VARIEGATED SCREW PINE (PANDANUS VEITCHII.)

As a table plant this is well worth cultivation. A properly grown specimen of it, finely furnished, with its prettily variegated pendant leaves, is highly attractive. Suckers taken off and inserted in small pots, using sphagnum moss and silver sand, and keeping them moderately close, root much more quickly than in loam and sand. When well rooted pot them on into 60's, and finally into 48's, the pots being well drained, using good turfy loam, with the addition of one-sixth silver sand, making the soil quite firm in potting. It requires ordinary stove treatment with a night temperature of 70° during the growing season, and a rise of 10° in the daytime. Keep the soil moderately moist, syringe the plants morning and afternoon, and keep them well elevated near the glass in order to induce a short, compact growth, shading very little, as when much shaded it does not come so finely variegated. It is not very liable to attacks of insects, except scale, which is easily kept down by the use of the sponge and brush. In the winter keep the soil a little drier than in the summer, and maintain a night temperature not lower than 60°.—*George Walker, The Breeches, 43, Circus Road, St. John's Wood.*

STRAWBERRY FRUIT PROTECTION.

During the fruiting season there is generally a certain amount of the fruit made useless, through the berries falling on the soil. Even with the greatest of care when covering between the rows, there is always some deficiency with whatever is used as a covering. As an experiment to prevent this to a certain extent would be to procure some wire netting of about 2 in. mesh or thereby; cut into strips about 9 in. broad inserting the same by means of short, stout stakes, at a slight angle from the base of the plants, just before the flowering period. After this a number of fruit stalks would find their way through the netting, and prevent them from getting contaminated with soil; not to say they will all act alike, but a few hours' work looking over them will well repay the extra labour expended, when the fruit gathering takes place, as they will ripen more equally all round and not be so apt to decay. I may add, in conclusion, that I should be pleased to see a few remarks in The Gardening World on the above subject as to how it would act for the purpose indicated, as I never have seen it used myself in any situations where I have been, it having merely come into my mind through thinking of Mr. H. Low's "patent Strawberry support" which appeared in your issue of January 12th.—*Walter Hogarth, The Gardens, Norton House, Ratho, Midlothian.*

WINDOW GARDENS

Are far and away the loveliest adornment of any dwelling. The best productions of the architect, the painter, and the carver sink into deathlike monotony when compared with a well-arranged window of plants. A box on the sill should have two cross-bars half an inch thick to rest on, the box being 9 in. deep, breadth and length, minus 2 in. of sill. The two back corners could be planted with Ivy, one green the other variegated. Half way between these a good plant of Ivy Pelargonium Madame Crousse can be trained to stakes, and will make a pretty background to a front row of pink flowered Begonias and Lobelia gracilis (white) planted alternately. By employing inverted pots or blocks of wood on which to rest pot plants a bank of foliage and flowers from window box to ground is easily arranged to the desired position. For a northern aspect suitable plants would be—top centre, Fuchsia Cloth of Gold; one side, good plant of the Fern Athyrium Filix-foemina; opposite side, a plant of silver variegated grass. The next row

could be filled with pink flowering Begonias and Scolopendrium Ferns. The third or ground row could consist of Musk and various little Ferns. The Ivy should be trained up either side of the window, and the bank arranged, squeezing and flatness being avoided. The plants named are capable of producing a pretty window clothed from its top to the gronnd in pleasant varied foliage and agreeable flowers, but it must have a loving hand to supply its continual wants.—*H. H. G bson, The Gardens, Glencairn, Belfast.*

JOURNEYMEN.

As I am a journeyman and have come through all kinds of places, I think that although a chap has just his own bit in big places, he learns more in six months than being in a small place for a year. Chaps are not going about with their eyes shut. They can see what each man is doing and can write it down in a diary, which I think every journeyman should keep, as you know for another year how and when the same work was down before. I agree with Mr. Blair in saying that married gardeners come worst off, but their cases cannot be improved, I think. As for journeymen a great lot could be done by head gardeners to benefit their willing assistants. The most of bosses look to having the place made tidy whether there is enough strength to do so or not. I say this is the mistake, as gentlemen get us at as small money as they can, or rather as cheap as possible; therefore, I do not see why we should slave, wet and dry, to please nervous head gardeners and hungry gentlemen. It is a healthy occupation, but the hardest and most trying of any kind of work, and to make it worse the pay is miserable. Bacon styles gardening "The purest of human pleasures." Yes, it is, after an "angel's visit" comes.—*T. S. Dick, Castlemilk, Lockerbie.*

EAST LOTHIAN STOCKS.

This section of one of our choicest annuals is, perhaps, the most useful for bedding, owing to their lengthy flowering period. Seeds of choice strains in separate colours, white, crimson, purple, &c., may be obtained from onr leading seedsmen. To secure strong plants for planting out in May, sow the seeds at once in pans of light, sandy soil, scattering the seeds thinly and just covering with soil; give a good watering with a fine rose and place in a gentle heat. When the seedlings are large enough to handle transplant into boxes and place on a shelf close to the glass. Early attention to this point is important as, if the young plants remain crowded in the seed pan, they are very susceptible to damping off. Early in March make up a bed of light, rich soil, about 6-in. deep in a frame, and transfer the plants from the boxes, planting out about 6 in. apart each way. Keep close for a few days until established, when air may be admitted, gradually increasing the quantity until they will stand exposnre altogether. By this method strong plants will be ready for planting out early in May, and the display when in flower will well repay the extra attention devoted to them. Choose showery weather for transplanting to the beds, first giving the plants a good soaking of water, so as to lift with a good ball, when scarcely any check will be experienced.—*E. G.*

THE FLOWER GARDEN.

Easily-grown Choice Shrubs.—So long as one sees so many uninteresting shrubberies in the gardens everywhere, there will be a sufficiently strong reason for repeating and again repeating the claims of many unappreciated shrubs. The large nurseries are full of grand things and are only waiting the order to send their subjects far and near to enliven and increase the interest of a great many gardens. Why should we fill all the belts or beds with a few dark Cupressus, and here and there a small Rhododendron, or a Berberis intermixed with the variegated Privet and Euonymus? These are right enough and I do not want to abolish them. These, with the Almonds, the Labnrnums and Lilacs are necessary, and are none the less respected because they are "everybody's plants" or shrubs in this case. But when one looks aronnd and asks for such features as a mass of Hydrangea paniculata grandiflora, Magnolia stellulata, Rubus deliciosus, Penzance Sweet Briers, and Ramblers; Diervillas, other than the old amabilis and rosea; or Deutzia scabra, Coluteas, Cytisus, Dogwoods, Desfontainea spinosa, Kerrias, Forsythia suspensa, and a host of such other things they are seldom to be seen. Some of these are not hardy in all parts of Britain, or common enough for popular planting, and we have not learned yet to use masses of Briers, &c., in the proper way in our shrubberies. As a rule, the shrnbberies are planted with too many subjects all of a similar contour and character. We want larger and bolder masses of the real good things, and these should have plenty of space or openness rather, around them to allow their charms to be seen. The ground can still be well enough covered with smaller shrubs, such as species of Heaths, Rock Roses and Sun Roses, dwarf Veronicas, Genistas and Vacciniums. As planting can still be carried out, I may be pardoned for presenting a short list of easily-grown choice shrubs. These will include Hamamelis arborea, Prunns nanus, P. davidiana, P. Amygdalus, P. triloba, Pyrus japonica, Rhododendron dahuricum, Akebia quinata, Amelanchier canadensis, Berberis Darwinii, Clematis cirrhosa (for masses on supports), Calycanthus floridus, Coronilla Emerus, Gaultheria Shallon, Paeonia Moutan, Philadelphus coronarius, Spiraea Thunbergii, S. bella, S. confusa, S. lindleyana, S. prunifolia, Robinia hispida inermis and Staphylea colchica. There are also the Olearias, Neillia opulifolia, Choisya ternata, Fuchsia Riccartoni, Zenobia (Andromeda) speciosa, Tamarix gallica, Caryopteris Mastacanthus, Berberidopsis corralina, Azara microphylla and Kalmia glauca. Many other fine things are omitted that are of equal merit with any of these.

Planting and Pruning.—The operation of planting ought to occupy almost as much attention as does the planting of fruit trees. The plan of arrangement goes a very long way toward making a collection interesting or otherwise. I have tried to show how my own ideas of arrangement incline. Then the subject of pruning requires more than one season's study. By stricr observation on the manner and time of flowering, the proper handling of the shrubs can be discovered. Most of the strong growing shrubs are aided by hard pruning. All such shrubs as Diervillas (Weigelas), Forsythias, Chimonanthus fragrans and Philadelphus should be lightly thinned soon after flowering. It is not always necessary to do so, but generally it is beneficial.

Feeding.—The soil of shrubberies should be kept clean and should be aerated by hoeing. If it is a heavy or moderately heavy soil there will be less need for manuring or top-dressing than if it is light and dry. In any case, the shrubs must not be allowed to lack for want of nourishment. There are many top-dressings that one can apply with advantage and these should certainly be employed.—*J. H. D.*

Kitchen Garden Calendar.

Early Sowings. — Every good gardener with ordinary conveniences likes to be able to take in an early dish of Turnips, Carrots, Radishes, or such other vegetables to the kitchen, and to do so sowings at this time must be taken in hand. For all of these, frames above the hot beds should be employed. The seeds for these early sowings should have been ordered some while ago, so that there may be no delay. The hot beds should be made up in the ordinary way, adding half the amount of leaves to that of the stable dung which is used. When the heap has become fermented to an appreciable degree the bed should be got into shape, the litter being trodden moderately firm, and squared off, leaving a margin of about 2 ft. all around the woodwork of the frame. The latter is placed on the heap when it is finished off, a depth of 1 ft. of good soil being placed within the frame. The drills are then drawn out and the seeds sown and very lightly covered, but it is well to wait nntil the body of the soil is warmed. The evaporated moisture from the hot bed will keep the soil quite moist enough, and to prevent the atmosphere from remaining too humid, to the conseqnent danger of the seedlings, a chink of air should be kept on. A mere seam will suffice. The varieties favoured for early work include the Milan, Early Snowball, and Carter's Swan's Egg Turnips. Numerous varieties of Radishes are used for forcing, while the Carrots comprise Sutton's Inimitable Forcing, Carter's Long Forcing, and Parisian Forcing.

Parsley.—Sometimes on damp, cold soils the supply of Parsley gradually becomes more and more scant towards the end of the winter. The supply of this garnishing plant can be augmented by a sowing in a pan, the seedlings being pricked off as soon as they are fit to be handled. They should be pricked into boxes, which may be placed on the shelf of a peachery or vinery just started. The plants develop to a useable size in eight or nine weeks.

Lettuce.—A sowing of Hick's Hardy White Cos or Commodore Nutt Lettuce may be made at the present time, the seedlings afterwards to be pricked out over a gentle hot bed. The Lettuces at present in the frames from the autumn or early winter planting will require to be ventilated as much as possible. Only when a degree or two of frost is registered need the frames be entirely closed, and at no time this year has the protection of mats been called for.

Early Peas and Beans.—It has become more usual to forward a very early batch of Peas by means of pot culture. Boxes may be used if these are preferred, though it little matters. The sowings are best made in the fruiting pots or boxes straight away. There is then no need to shift and no check of any sort need arise. Good drainage should be given and a compost of old Chrysanthemum soil with some fresh loam added may be used. These seeds should be sown 2 in. deep. A house with a temperature of from 55° to 60° will suit the Peas, though a Melon house temperature may be given to the Dwarf Beans. Sowings of Peas and Broad Beans can now be made in the warmest and best places on south borders in the favoured gardens of the southern counties.

Salads.—The usual sowings of Mustard and Cress in shallow boxes should be kept up. Seakale and Asparagus for forcing will have to be brought in or crowns may be covered in the open ground with cans and these then surrounded with fermenting matter.

Cabbages, Onions, and Cauliflowers for early spring planting may now be sown.

Other Work.—The ground on all the warm borders should be surface hoed and raked, so as to deepen and improve the tilth, for these borders will all be filled early in February. Alleys should be made up, edgings relaid, paths repaired, and the general kitchen garden work should be got as well in hand as possible.—*Kitchen Gardener.*

Gleanings from the World of Science.

Compound Flower on Foxglove.—At a meeting of the Linnean Society of London, December 20th, 1900, on behalf of Dr. J. W. Cornwall, F.L.S., the Secretary exhibited two photographs of a compound flower which appeared on a white Foxglove growing in a garden near Godalming.

Hill's Flora Britannica.—Mr. B. Daydon Jackson exhibited two editions of Hill's Flora "Britannica," the earlier, of 1759, being apparently unknown to bibliographers. This edition differs from the usual issue of 1760 in having a different title-page, and publisher's name; the copy exhibited wants the plates mentioned on the title. The species ascribed to the genus *Statice* are three in number; in modern nomenclature one species of *Armeria* and two of *Statice*. Some additional remarks were made by Mr. Henry Groves.

The Death's-head Moth.—At the same meeting as the above Prof. Poulton, F.R.S., exhibited a living specimen of the Death's-head Moth (*Acherotia Atropos*), and proved with a stethoscope that the late Prof. Moseley was correct in stating that the sound comes from the proboscis. He also showed that all sound ceased the moment the tip of the straightened proboscis was dipped in water, and could not be resumed until the organ was withdrawn; thus supporting Prof. Moseley's opinion that the sound was produced by forcing air through the proboscis.

Flora of Vavau.—Mr. I. H. Burkill, F.L.S., read a paper on the Flora of Vavau, a little known Island of the Tonga group, on which some remarks were made by the president.

HINTS FOR AMATEURS.

GARDEN LAWNS.

It has been very truly said and written that "A smooth and verdant lawn is an abiding source of pleasure." When travellers, especially Americans and Australians, come to this country, if it be in summer, one of the features that first impresses itself upon their notice is the greenness and velvety quality of our English lawns. Green of all colours seems to be the most refreshing and the least wearisome to the eyes, so that lawns should even be given preference in many cases to flower beds, to shrubberies, or other features. We are so accustomed to see hard stony surfaces—houses, pavements, highways, and all these things that really fag out the mind, that the merits of lawns for their rest-giving inherency comes to be more and more felt. And then again without good lawns where could we enjoy our games at bowls, at croquet, or tennis? The cinder courts that are sometimes laid out in place of lawns, seem to rob a game of tennis of all its pleasure and make it seem like a task perforce to be performed.

Lawns are so often made by sowing, and such fine, thick, smooth lawns can be had in from four to six months from the time of sowing, that in the meantime I do not mean to write of the turving method.

Soil.—It is not enough merely to level a piece of ground and to sow the seeds; good soil is necessary, if good lawns are desired. Poor or improper drainage and a sterile soil causes the production and spread of moss in lawns; and very frequently the same causes act in establishing weeds. It is thus imperative to make the preparations carefully and with pains, from the very beginning. Very often the lawns of many gardens are in summer, if not absolutely an eye sore, at least not a pleasure. Daises, Plantagos, and Dandelions, may be seen crowding through the grass, and are the occasion of much work and a good deal of worry to the poor gardener who wishes to present a fresh green view. Bad turf and inferior grass seeds are the general causes of the origin of these weedy lawns. Light soil should be enriched and if the quality is very light indeed, that is, if the sand amounts to over 70 per cent. it will be necessary to top-dress the ground with good loam. Such a dressing should not be less than from three to four inches. The expense will necessarily be great unless the soil can be got just at hand. On the other side of the question a heavy or peaty soil must be drained. The drainage for a lawn need not be so nice in all its details as the drainage system of drives, grass rides, or kitchen gardens. Still, the drains must be close enough and so perfectly laid as to be sufficient to carry off the surplus water. From 12 ft. to 15 ft. apart is generally near enough, and a fall of 1 in. in 15 ft. will keep the water moving along the drains. The 3-in. pipes should be laid on a firm bottom at a depth of 3 ft. or 3½ ft. Few lawns, except those immediately around the owner's dwelling, are so elaborately prepared. But I ask, is it not more economical to spend time and money at the start than have to relay the whole lawn, and to keep men eradicating weeds or making patches here and there, after only a year or two of use?

I scarcely think we all appreciate the fact that the lawn is one of the finest features of any garden, large or small. It is a conspicuous and ever-present item in the composition, and what is its primary reason of existence? Why, that of beauty, for the garden lawn, mind you, is distinct from the recreative lawns, as the tennis lawn, and the bowling green, which I have already mentioned. Being chiefly to please the eye, and to rest the feet—the one by viewing it, and the other by walking upon it, —the question of expense and some trouble in its primary formation, seems to be justified.

Undulating ground, even though the soil is heavy, is usually quite well enough drained. Yet in this matter of drainage the question of rainfall, of local position, of night dews and other considerations must be borne in mind, and upon the extent of the influence of these things, the need of drainage will have to be determined.

Levelling.—It is nearly always best to make the lawn *even*, that is to say, smooth. It need not necessarily be flat to the eye, but it should be conspicuously "gardenesque." The gardenesque style of laying out aims at smoothness, roundness, beauty, without appearing at the same time, formal. It is a good style, and really the only style to any extent practised in laying out grounds at the present day. In the first instance when beginning to level, if the ground is markedly uneven, I always think it best to get an "eye level," that is, a surface that roughly seems level to one's eyes when looking at it. Then the work of taking the ground piece-meal and obtaining a true level by means of pegs driven into the ground and to adjust a borning-rod, or a straight-edged line of wood, on these with a spirit level. For a dead level the latter would be used, while for a slope the borning rod would take the preference. Steep banks are liable to be scorched in dry, hot summers. It is seldom that steep banks or terraces are necessary, and they are certainly a great nuisance to those who have them to mow, besides being dangerous. Moreover, where lawn mowers are used upon them, these machines are sadly racked and twisted in the performance. With a little labour, steep grass slopes could be done away with, or if it is too much to make a gradual slope of them, it is better just to build an ornamental terrace. Even a common stone wall could support a terrace, and to hide the ugliness of such a creation, plant Ivy, or other evergreen hardy climber.

Time of Sowing.—After having prepared the drainage (if any) to your satisfaction, and having settled the question about the quality and state of the soil, and also the proper level of the service having been attained, and a good, well raked, moderately firm tilth accomplished, the question of when to sow arises. So far as I have seen, it seems to be in every way best to wait till the end of March, or even well into April. If the seeds are sown before the first date, they take a longer time to germinate; they are exposed to the ravages of birds and cats, and the sower may begin to think that his seeds have been bad, or that his operations were wrongly carried through. Whereas, if the soil has received a fine warm shower, it will be nicely mellowed, softened on the surface and warmed. The seeds will then germinate readily and well, and should go ahead strongly to compose a close set lawn by the end of summer. Allow the grass to grow four or five in. before cutting it with a scythe. Choose dull, showery weather for the first cutting, for in hot sun-smitten weather, the young plants are apt to receive a great check after losing their leaves. If dry weather prevails it is usual to scatter the cut grass over the lawn instead of at once raking it up. This saves the roots from being scorched. It is worth a note to say that cross sowing, first lengthways then across, is "good practice," as it tends to obviate the possibility of bare patches. The soil at seed sowing should be in a state to be raked without clogging, and to allow a roller to pass over. The seeds, of course, should be raked in with a wooden (not a steel) rake, and finally rolled with a moderately heavy roller. During the first summer it may be necessary to water the surface of the lawns. From three to four bushels of seeds per acre are usually sown to form a new lawn.

Present Work.—Peas may be sown in pots or boxes under glass for very early produce, say May. Carrots, Dwarf Beans, Tomatos, Milan Turnips, Lettuces, and Radishes should be sown in pots or frames, according to convenience or needs. Leek seed may also be sown in a cool house, whereas the others should be in a temperature of 60°. Potatos for forcing may be prepared and inserted in frames. Ailsa Craig Onions for April planting may now be sown, and sowings of First Crop Cauliflower and an early variety of Cabbage may also be put in.

Seeds of Gloxinias and Cyclamens can now be sown. The hardy annuals may wait till toward the end of March, when they can be sown out of doors.

Place Deutzias, Azaleas, and forcing bulbs as well as Strawberries, &c., for early supplies into warm houses. Pot up Chrysanthemum cuttings.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

China Roses for a Small Garden.—*L. Keith*: We are pleased to know of your success and hope you will continue to be a good rosarian. The dwarf varieties of Rosa indica, the Chinese or rather Bengal Rose, are not nearly enough made use of. For borders or for beds they are simply magnificent. The following are both select and quite hardy: Blush China, Old Crimson, Ducher (one of the best), Prince Eugene, Queen Mab, Cramoisie Superieure, Duke of York, Irene Watts, Mdme. E. Resal, and Gloire de Rosomène. Plant these liberally in good garden soil and do not prune them very hard.

List of Hardy Climbers.—*F. Wilson, South Hants.*: For pergolas use the American Vine, Vitis Labrusca, Honeysuckles, Clematis Jackmannii, Humulus, the Hop, Polyantha, and climbing Roses (see catalogues); Wistaria chinensis, and Virginian Creeper, Ampelopsis (Vitis) hederacea. For walls use Aristolochia Sipho, Akebia quinata, Crataegus Pyracantha, Cydonia (Pyrus) japonica, Roses like Gloire de Dijon, Ceanothus azureus grandiflorus, C. Gloire de Versailles, Cotoneasters, Garrya elliptica, Golden and Silver Ivies, also the fine leaved sorts; Kadsura japonica variegata, Periploca graeca, Schizophragma hydrangeoides, Jasminum humile, J. nudiflorum, and J. officinale. There are many fine things equally worthy of being grown, but as a rule they are not easily procured from nurserymen.

Freesias.—*R. T.*: One of our Devon correspondents, Mr. J. Mayne, grows a few bulbs out of doors, but it is only in the sunniest and most favoured places even of Devon and Cornwall that Freesia refracta alba will do out of doors.

Hardy Cyclamen.—*Vernal*: What you send is not C. Coum but C. ibericum. There is confusion with hardy Cyclamen in the collections of nurserymen and it would be to their own and their customers' advantage were they to have the species named by experts. C. Coum is known by its rather large, orbicular leaves which have no variegation or mottling upon them. The flowers are deep red. C. ibericum which also flowers very early is detectable at once by the gray zone on the leaves. Its flowers are also red, though paler than those of C. Coum. The latter has a white variety (C. C. album) and a rose-red one, C. C. carnea. C. Aitkinsii is a hybrid and is confused with C. C. album. Then the Ivy-leaved species (C. neapolitanum), or as it is otherwise called C. hederaefolium, is one of the most fragrant, if not *the* most fragrant, of the hardy species. C. neapolitanum with white or red flowers is easily recognised by its vigorous habit, its thin toothed foliage, with a dark centre bordered with gray. The leaves appear before the flowers have all passed in autumn. The foliage of C. graecum does not come till after the flowers have disappeared. C. graecum blooms usually in September and October. C. cicilicum and C. europaeum are much alike.

Lily Conference.—*J. S.*: The Lily conference to be held by the R.H.S. at Chiswick is fixed for July 16th and 17th (see "Fixtures"). A serviceable cultural book would be Dr. Wallace's "Notes on Lilies," post free 5s. 6d. The second edition was published in 1879. Mr. Baker, of Kew, prepared a general synopsis of all the known Lilies which may be found in *The Gardeners' Chronicle* for 1875, and is also summarised in Dr. Wallace's book.

Hyacinth or Scilla?—*Robt. Berry*: The Roman Hyacinth is not a species of Scilla. The *Index Kewensis*, besides other authoritative works, call it Hyacinthus romanus. We are cognisant of the fact that it was figured in the *Botanical Magazine* as Scilla romana. The true Roman Hyacinth is a fairly strong flowered bulb with tubular white flowers having a swollen or bulb-like corolla. They are not very fragrant. The Roman Hyacinth mostly grown for forcing is a slender variety found wild in the south of France and named H. orientalis albulus. Thus it is that one hears the market men speaking of the French "Romans" and the true Romans, the latter with the market men being the pure white variety.

Market prices of Vegetables, &c.—*W. M.*: *The Gardeners' Chronicle, The Journal of Horticulture*, and *The Gardeners' Magazine*, publish each week the current market prices of vegetables and fruits. Another typically market paper, *The Fruit Grower, Fruiterer, and Market Gardener*, gives full details of the markets. These could be got through your newsagent.

DEATH OF THE QUEEN.

OUR beloved Queen is dead. She who has reigned over us for sixty-three years and 216 days is now no more; and the whole of the British Empire as well as the civilised world generally laments the death of a sovereign who has made monarchy revered by millions and respected by more. She died at Osborne, her quiet and beautiful home in the Isle of Wight, at half-past six p.m. on Tuesday last, in the eighty-second year of her age, being eighty-one years and 243 days of age.

widely separated parts of Great Britain, namely, at Windsor, Osborne, Buckingham Palace, and Balmoral, to which she retreated during the summer months, yet never even there neglected the affairs of State. At whichever home she dwelt for the time being she was welcomed and revered by her servants as by her subjects all over the world. She had been patron of the Gardeners' Royal Benevolent Institution since 1851 to the day of her death; and at the annual general meeting of that body on the 22nd inst., it was resolved and agreed to that a telegram be sent to H.R.H. the Prince of Wales deeply regretting the Queen's illness. This was only a little over three hours before her lamented decease.

been contemporary to twenty-eight kings, six emperors, four Czars, four Queens, thirteen or more Presidents, ten Princes, five Sultans, and many petty monarchs of smaller States of Europe and Asia. Light and air were taxed when she ascended the throne, the tax on windows bringing something like £1,000,000 annually to the treasury. Slavery still existed in all parts of the world, civilised and otherwise. Social reform, invention, and sciences in all departments of human thought have progressed immeasurably during her beneficent reign. When Victoria became our Queen, about 65 per cent. of the women and forty per cent. of the men of Great Britain could not write their own name. How great the change to-day! The population of the United Kingdom in 1837 was 26,000,000, to-day it is about 40,000,000. The vast progress that has everywhere been made, and visible to-day, has been attained during the long and beneficent reign of the wise and good Queen Victoria, who passed away peacefully to rest on Tuesday last.

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HER MAJESTY THE QUEEN. *Born May 24th 1819; Died January 22nd, 1901.*

She was born May 24th, 1819; succeeded to the throne on June 20th, 1837, on the death of her uncle, William IV.; was crowned June 28th, 1838; married Prince Albert of Saxe-Coburg-Gotha, February 10th, 1840, and died as above stated. She was eighteen years of age when she succeeded to the throne, and therefore remained single for three years.

The world of horticulture has been vastly indebted to her long and beneficent reign. In her private capacity she maintained four gardens in

Her reign has been the longest of any British sovereign, and her empire the largest the world has ever seen. For every 100 square miles of British land in 1897, there were a little less than 1¼ square miles in 1597, when Queen Elizabeth reigned; and since then this has been greatly increased before the close of Queen Victoria's reign. Our Queen has

STREPTOCARPUS VEITCH'S HYBRIDS.

THE idea that Streptocarpi can only be successfully flowered in summer should soon become dispelled, for we have seen a good few of them within the last two or three months. A bunch of Veitch's hybrid Streptocarpus comes to us from Messrs. J. Veitch & Sons, Ltd., Chelsea. They were grown in their comparatively new nursery at Feltham, Middlesex, where a considerable range of glass houses has now been built on the north side of their extensive grounds there, and beyond the destructive range of the London fogs, so prevalent in winter. Some of the flowers were of large size and rich purple in colour, and ranging from that to nearly white. Quite distinct were those of a mauve shade with heavy violet lines in the throat. Some of the rose varieties were much brighter, the same colour running down the white tube in regular lines on all sides. This is unusual as the stripes and bands are usually confined to the lower side. Most of the varieties sent us on this occasion showed that arrangement. Very handsome were the rich purple-violet varieties. Most of the white varieties that appear in batches of seedlings have violet or other lines in the throat, and often very heavy bands of colour. Amongst those sent us were some pure white ones, without any lines or markings whatever. Others again had a white tube both externally and internally with a blue or violet lamina. A scarlet-flowered variety was notable for the great number of flowers on a stalk, though these were not so large as when the flowers were confined to two or three.

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned below were made by the Royal Horticultural Society, on the 15th inst.:—

Orchid Committee.

ODONTOGLOSSUM FAIRY QUEEN.—The flowers of this pretty variety give one the impression that it is a natural hybrid between O. crispum and O. triumphans. The elliptic sepals are pale yellow, with several large Chestnut-red blotches, separate or amalgamated. The ovate, clawed petals have a white centre in the basal area, but otherwise coloured and blotched like the sepals. The lip has a large horseshoe-shaped blotch of Chestnut-red with a white margin. It might have received a higher award, for it is very pretty. (Award of Merit.) Mrs. Briggs Bury (gardener, Mr. J. Wilkinson), Accrington, Lancashire.

LAELIA ANCEPS SIMONDSI.—The sepals and elliptic, broad petals of this beautiful variety are white. The disc of the lip appears to be dusted with violet in the centre, and there are some pale blue lines on the side lobes, otherwise the flower is wholly white and very choice. (Award of Merit.) H. F. Simonds, Esq. (gardener, Mr. G. E. Day), Woodthorpe, Southend Road, Beckenham.

DENDROBIUM ASHWORTHAE.—This belongs to the same group as D. macrophyllum, as is evidenced by the keeled sepals and the curiously hairy character of the ovary. There are a few purple lines at the base of the side lobes, otherwise the flowers are white and very distinct looking. (Award of Merit.) Elija Ashworth (gardener, Mr. H. Holbrook) Harefield Hall, Wilmslow, Cheshire.

LYCASTE LASSIOGLOSSUM.—The sepals of this striking species are dark chestnut-brown, and farinose on the face at the base. The petals are yellow, and the hairy lip is spotted with crimson. (Award of Merit.) Messrs. B. S. Williams & Son, Upper Holloway, London!

EPIDENDRUM CLAESIANUM.—The flowers of this species are small, white, and produced in short, dense, nodding racemes terminating the stem. (Botanical Certificate) M. Florent Claes, 55, Rue des Champs, Etterbeek, Brussels.

Floral Committee.

PRIMULA FLORIBUNDA GRANDIFLORA ISABELLINA.—The flowers of this variety are freely produced in whorls upon robust flower stems. They are yellow as they expand, but fade to lemon soon after. The variety is very pretty, and comes true from seed. (Award of Merit.) Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford, Dorking.

CYCLAMEN LIBANOTICUM.—This hardy species was introduced from Palestine, and belongs to the group without auricles to the base of the segments of the flower, which is pale purple or rose with a crimson band round the throat or base. The leaves are nearly orbicular and marbled, with a broad grey band above. (Award of Merit.) Messrs. Geo. Jackman & Son, Woking Nursery, Woking.

Fruit and Vegetable Committee.

PEAR JOSEPHINE DES MALINES.—The small, turbinate or shortly Pear-shaped fruits of this variety are densely spotted all over with russet. The flavour is excellent for this period of the year, the variety being indeed one of the best late Pears in cultivation. It is in season during January and February, but may be kept good for several weeks longer. (First-class Certificate.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

FREESIAS AS VASE PLANTS.

THE slender habit of the Freesia as it is frequently seen does not conduce to its employment as a decorative subject, in an isolated position at any rate; yet with eight or ten bulbs well grown in a 5-in. pot few things of similar habit and bulk are more effective. In order to produce substantial foliage and flower stalks bearing from six to ten blooms, thoroughly matured bulbs must be secured to start with, the potting material must be moderately rich, liquid manure applied judiciously during growth, and a position near the glass is indispensable. If these conditions are observed fine specimens are obtained which can be used in vases for domestic adornment and not merely as contributors to a group of miscellaneous plants. Apropos of the notices of Freesias which have appeared in THE GARDENING WORLD, it may interest some to hear of a fine lot which was grown at Newbyth, near Prestonkirk, the seat of Sir David Baird. They were treated in the manner roughly described herein and used for the purpose indicated. Considering the time of year, viz., first week in December, in which they were grandly in bloom, averaging eight flowers to a stalk, though many had ten, with foliage more resembling miniature Gladioli than the sickly Freesias one sometimes sees, great credit is due to Mr. Thomson, the gardener there. Possessing pleasing verdure, graceful contour and a delicious fragrance which never palls, a collection like this is most serviceable and attractive.—*Observer.*

AMARYLLIS.

IF a batch of these bulbs is required for early flowering they must be at once potted, and started into growth. The general rule is to give them a thorough resting period, all leaves being allowed to wither. This results in more flowers being produced. Shake all the soil from the bulbs, taking care to see that no mealy bug is lurking under the scales, for now is the easiest and best time to eradicate this, the worst insect enemy of the bulb, by using a stiffish brush and any insecticide. The compost should consist of a good yellow loam, leaf soil, well rotten cow manure, and silver sand. In potting, plenty of drainage is essential, and do not cover more than half of the bulb with soil; pot firmly allowing the old roots to remain on. If possible plunge in fibre in gentle bottom heat; give no water beyond a syringing on bright days, till root action commences. During the flowering period keep the house fairly dry, as moisture injures the flowers. After flowering and as the foliage expands copious supplies of water, an occasional one of manure water, must be given, and overhead syringings. Now that such excellent strains of seed can be obtained from the leading nurserymen, named varieties are not necessary. Seeds sown in sandy loam and placed in a temperature of 65° soon germinate, and if pricked off, into a bed of good soil if possible, produce flowering bulbs in three years.—*K.*

CRASSULAS.

CRASSULAS are well worth growing by anyone possessing a greenhouse where frost can be excluded. C. coccinea is the species most frequently grown, and is very easy to manage. I have found the following method of culture very satisfactory:—Take cuttings in March, about 3 in. long, of fairly strong side shoots, leaving the stronger flowering growth alone. Place five cuttings in a 3-in. pot filled with a mixture of loam and leaf soil in equal parts, with a liberal addition of sand. The cuttings should not be watered for a few days, then well watered and placed in a position near the glass. No more water will be needed until the soil becomes quite dry, and this practice should be adhered to until the cuttings are well rooted, when they may be shifted (without separating them) into well drained 5-in. pots, the soil at this stage consisting of two parts loam, one part leaf soil, with a good dash of sharp sand. The plants should be grown throughout on a sunny shelf in the greenhouse, and the following February may be transferred to 7-in. pots, which will much improve them, or they may be flowered in 5-in. pots if desired. Staking should be attended to before the flowers appear. I have had plants (treated as described) in 7-in. pots, carrying over thirty trusses of their beautiful sweet-scented flowers. C. falcata is a handsome species, and is best grown singly in 5-in. pots.—*A. C.*

TUBEROUS BEGONIAS FROM SEED.

MANY successful growers of Begonias, I notice, make a very poor job of raising their plants from seed. There is no reason why this should be so, if a small amount of care is exercised. The end of January and first half of February is the best time to sow the seed. I find 5-in. pots more suitable than any other thing for the seed sowing. Drain well, and fill up the pot to within 1½ in. of the top with nice light soil passed through a half-inch sieve. Then pass some of the same material through a very fine sieve, and make up the pot to half an inch from the top. Make this smooth and level, give a good watering, and let stand for an hour. Sow the seed as thinly and evenly as possible, and do *not* cover. All that is required is a slight sprinkling of fine sand. Plunge in gentle bottom-heat. Where nothing but a greenhouse is to be had, the pots can be put into a box on an open stage, over the hot-water pipes, and the box covered with sheets of glass. An inch of fine ashes in the bottom of the box helps to retain moisture. The seed will not germinate so fast but will, if fresh, come all right in a few weeks. As soon as practicable prick into similar soil, place in same temperature, and when large enough place in small pots. One "wrinkle," and the most important of all; never water the seed pots overhead, but plunge them to the rims in water slightly heated.—*Chas. Blair, Binny, Uphall, N.B.*

LIBONIA FLORIBUNDA.

THIS Libonia is a remarkably free flowering subject, whose bright coloured blossoms are freely borne throughout the winter months. For some reason or other, it is far less popular than it was a generation or so ago. This Libonia can be readily struck from cuttings in the spring, and if grown on freely during the summer months will by the autumn form neat little specimens full of flower buds. They need the temperature of an intermediate house in order to develop the blossoms. Though an excess of moisture especially during the winter is fatal to the well-being of the plants, drought is just as injurious, and in the summer overhead syringing is of great service, otherwise they are liable to be attacked by red spider, which quickly injures the foliage and permanently disfigures the plant. As the pots get full of roots, liquid manure is of considerable benefit, with additional doses of soot water, as this latter tends to keep the foliage in good colour, a very important item in the case of the Libonia, whose leaves are apt to turn yellow unless carefully attended to.—*H. Davidson, The Gardens, Netherby Hall, Longtown, Cumberland.*

URCEOLINA AUREA.

MESSRS. J. VEITCH & SONS, LTD., have a number of specimens of this beautiful Amaryllidaceous plant flowering in one of their warm greenhouses at the present time. The proper name is really U. pendula, and the character of the flowers is truly pendulous. They are born from a long stout stalk, in a drooping cluster at its apex. In colour the tubular flowers were yellowish with green tips, and are margined with white. There are only three species, the broad-leaved, the scarlet flowered, and the pendulous variety, under which our note appears. The usual flowering period of the latter sort, also called the Drooping Urn Flower, is mid-summer, so that special means are taken to have the bulbs in flower now. The culture is similar to that of Hippeastrum (Amaryllis), and it is well known that by specialised culture very early batches of these popular bulbous flowers can be had.—*L.*

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE sixty-second annual general meeting of the members and subscribers of the above institution was held at "Simpson's," 101, Strand, London, W.C., on Tuesday, January 22nd, at 3 p.m. The chair was promptly taken by Harry J. Veitch, Esq., who at once called on the secretary to read the minutes of the previous annual meeting. The minutes were unanimously adopted.

Before proceeding to the more serious work of the meeting, Mr. Veitch in a few touching words referred to the illness of Her Majesty, who has been patroness of the institution since 1851. He proposed that the following telegram be sent:—

"The subscribers to the Gardeners' Royal Benevolent Institution at the annual general meeting now assembled for the election of pensioners, desire to express their deepest sympathy with their President, H.R.H. the Prince of Wales, and every member of the Royal Family in their intense anxiety consequent on the most alarming illness of Her Majesty, who has been patroness of the institution since 1851."

(Signed) VEITCH, Chairman,
101, Strand, London.

The proposition was unanimously agreed to.

The annual report was then called for, and was read by the secretary, as follows:—

REPORT OF THE COMMITTEE.

In presenting their annual report and statement of accounts, as audited, for the year 1900, the committee have again the privilege of congratulating the members and subscribers on the continued success which has attended the work of the institution during another year—the last one in the nineteenth century, and the completion of the sixty-first year in the society's history—and they desire to express their thankfulness that the help afforded to the large number of old and worthy people, whose circumstances have compelled them to seek its aid, has been instrumental in providing a much appreciated measure of relief and comfort for them in the evening of their lives, after a service of toil for the pleasures and necessities of others.

At the commencement of the year there were 179 persons—ninety-eight men and eighty-one widows—who were receiving permanent aid of £20 and £16 a year respectively. During the year, twenty-one of these pensioners have passed away—fourteen men and seven widows. Of the men, five left widows, whose circumstances were of such a nature as to permit the committee placing them at once on the funds at £16 a year in accordance with the rules. Thus at the close of the year they had sixteen vacancies, and they recommend the election of seventeen additional pensioners at the annual meeting and election to be held this day, making the total number of pensioners for life 180—the largest number on the funds of the institution since it was founded.

With regard to finance, the committee are much gratified to be able to report that, notwithstanding the heavy demands made upon the benevolent public during the past year, the income of the institution has been well maintained, enabling them to continue and increase their operations without the anxiety which must necessarily occur with diminished funds. For this happy result the committee gratefully offer their sincere thanks to all the friends and supporters of the institution throughout the country. They would, however, remind their friends of the increased liabilities incurred in adding to the number already on the funds, but they confidently appeal for continued effort on the part of their many friends and supporters, so that the work may be in no wise curtailed.

The committee have much pleasure in stating that the anniversary festival dinner, which was held in May last under the presidency of the Duke of Portland, was a great success. They gratefully acknowledge their deep indebtedness to his Grace for his kindness in presiding, and for his able and effective advocacy of the institution's claims, which met with so ready and generous a response. In tendering his Grace their very sincere thanks, the committee would desire to thank also all those who, either as stewards, collectors, donors of flowers, or in any other way contributed to the success attained. They would further take this opportunity of expressing their thanks to the honorary secretaries of the several auxiliaries, and to other friends in various parts of the country for their kind services to the institution, as well as to the horticultural Press for their generous help, gratuitously and ungrudgingly afforded at all times.

The committee are glad to state that the Victorian Era Fund is more than ever a source of invaluable assistance to unsuccessful candidates—who have been subscribers—whilst awaiting election. During the year now closed the sum of £99 has been distributed as follows:—Mrs. Baxter, £5; J. Gibbons, £10; J. Jefferies, £10; G. Marlow, £10; W. Smith, £10; G. Wills, £10; T. Kirkby, £8; Mrs. Hackwell, £8; S. Mills, £8; Mrs. Wighton, £8; Bird Porter, £7; J. Thatcher, £3; W. Gould, £2. And the thankful letters received from the recipients unmistakably show how much the help was required and with what gratitude it has been received.

The Good Samaritan Fund—established in 1899 for the purpose of dispensing temporary relief in urgent cases of trouble and distress—has enabled the committee to grant gratuities in two cases, and as the fund has been augmented during the past year by £560, and although the interest alone from the fund is available, they are hopeful that they may have the means at their disposal for alleviating, if only temporary, many sad cases of distress which come before them. They again earnestly commend this fund to those friends who are in a position to afford it their practical sympathy and aid.

In their last report the committee had to record with deep regret the death of the Duke of Westminster, who had been their valued president for many years, and who had always evinced so warm an interest in the affairs of the institution. They are very gratified to be able now to announce that H.R.H. the Prince of Wales—who since 1871 had been patron of the institution—has graciously consented to become its president. For this gracious and powerful support to the work, the committe are confident every subscriber will join with them in tendering H.R.H. their respectful and grateful thanks. They have also the pleasure to report that H.R.H. the Princess of Wales and their R.H.'s the Duke and Duchess of York, have been pleased to evince their interest in the work carried on by the institution by becoming patrons.

Unfortunately, the committee have again to deplore the loss of many warm friends and subscribers through death, amongst whom they would mention Mr. John Fraser, formerly for some years a member of the committee; Mr. Philip Crowley, treasurer of the Royal Horticultural Society, and Mr. T. B Haywood, all of whom for many years generously supported the institution.

In conclusion the committee make an earnest request for further help, that the progress made by the institution hitherto may be sustained, and that the income may be enlarged to such an extent as to warrant them in granting assistance to many more applicants upon whom declining years, infirmity and misfortune have fallen.

BALANCE SHEET, 1900.

DR.						
To Balance...					£980	14 7
,, Amount on deposit...					3115	10 0
,, Annual subscriptions	£1526	4	6			
,, Donations at, and in consequence of Festival Dinner, including collecting cards	1455	4	6			
,, Good Samaritan Fund	560	9	0			
,, Return of income tax	33	17	3			
,, Advertisements in annual reports	46	15	6			
,, Dividends and interest	932	14	8			
					4555	5 5
					£8651	10 0
CR.						
By Pensions and gratuities					£3062	17 2
,, Expenses of annual meeting and election					12	5 5
,, Secretary salary	£275	0	0			
,, Office assistance	28	5	0			
,, Rent, cleaning, firing and light...	89	11	2			
					392	16 2
,, Printing, including annual reports, voting papers, appeals, &c.	111	18	0			
,, Stationery	17	19	6			
,, Festival expenses ... £208 6 4						
,, Less dinner charges... 127 1 0						
	81	5	4			
,, Advertisement in Fry's Charities	3	3	0			
,, Postages, including reports, voting papers, appeals, &c.	51	8	9			
,, Travelling expenses	5	9	2			
,, Carriage, telegrams, repairs and incidental expenses	8	3	3			
,, Bank charges...	0	2	0			
					279	9 0
,, Transferred to Good Samaritan Fund...	560	9	0			
,, Amount on deposit...	3315	10	0			
					3875	19 0
,, *Balance with Treasurer...	1024	0	10			
,, ,, ,, Secretary...	4	2	5			
					1028	3 3
					£8651	10 0

* This balance was required on December 31st, 1900, to meet the quarterly payments due on January 1st, 1901.

VICTORIAN ERA FUND.
BALANCE SHEET, 1900.

To Balance...					£40	16 7
,, Dividends	£126	12	4			
,, Return of income tax	4	7	8			
					131	0 0
					£171	16 7
By gratuities to unsuccessful candidates...	£99	0	0			
,, Balance...	72	16	7			
					£171	16 7
					£171	16 7

GOOD SAMARITAN FUND.
BALANCE SHEET, 1900,

To Balance...					£0	17 0
,, Donations, 1900	£559	8	0			
,, Annual Subscription	1	1	0			
,, Dividends	10	6	6			
,, Return of income tax	0	2	7			
					£570	18 1
					£571	15 1
By gratuities	£10	0	0			
,, Balance...	561	15	1			
					£571	15 1
					£571	15 1

We have audited the accounts, and certify the same to be correct, and everything in order, and have also satisfied ourselves that the securities of the invested funds are in the hands of the bankers, by whom the dividends are received on behalf of the institution.

(Signed) THOMAS SWIFT,
THOMAS MANNING, } *Auditors.*
JESSE WILLARD,

January 16th, 1901.

The chairman referred with pleasure to the fact of H.R.H. the Prince of Wales, having become the president in place of the late Duke of Westminster. The work of the Institution was very heavy, 17,000 communications having gone out from the office during the year. This has been the best financial year the Institution has ever had. Mr. Veitch also referred to the various funds and placed the merits of each before the members. The auxiliary societies were spoken of, especially the one at Worcester, which has sent up as much as £500 during its term of existence. He hoped that many other auxiliary societies would be formed. He proposed the adoption of the report, which was seconded by Dr. Masters, and unanimously adopted.

The following propositions were seconded and unanimously agreed to:—

(1) The re-election of Harry J. Veitch, Esq., as chairman of the Institution; proposed by Mr. Geo. Wythes, V.M.H. (2) The re-election of Mr. Geo. J. Ingram as secretary, proposed by Mr. Geo. Monro, V.M.H., and seconded by Arthur W. Sutton, Esq. (3) The re-election of the members of the committee, proposed by Mr. White, of Worcester, and seconded by Mr. Bowell. (4) The re-election of the auditors, by Mr. Wm. Denning, seconded by Mr. John Fraser, F.L.S. (5) The re-election of the arbitrators, proposed by Mr. Jas. Hudson, V.M.H. And (6) Mr. H. Cutbush proposed the election of the following pensioners to the benefit of the fund: J. Clark, Wm. Cotton, Wm. Craggs, John Eastwood, Thos. Gale, and Elizabeth Harris, seconded by Mr. Bowell.

The meeting then adjourned till 5 o'clock, when the following were declared elected:—1, Agnes Wright, with 7,916 votes; 2, Wm. Smith, with 6,299; 3, Thos. Tyler (who was a life member), with 5208; 4, Geo. Wills, with 4,975; 5, James Thatcher, with 4,671; 6, John Gibbons, with 4,604; 7, Cecilia Kent, with 4,228; 8, Eley Hackwell, with 4,190; 9, Wm. Tillery, 3,961; 10, Samuel Mills. Other two were added to the list, on the proposition of Mr. Geo. Monro, V.M.H.; these being James Finch, with 3,486 votes; and Wm. Moore, with 2,003 votes.

Nine papers were lost because they had not been signed, and seventeen were unable to vote because of unpaid subscriptions. Votes of thanks to the scrutineers and to the chairman terminated the proceedings.

ANNUAL FRIENDLY SUPPER.

At 6 o'clock the members gathered together for supper, which was well served and enjoyed. Among those present we noticed Alderman Robert Piper, of Worthing (in the chair), with Messrs. H. J. Veitch, N. N. Sherwood, Arnold Moss, R. Sydenham, B. Wynne, Roupell, Geo. Monro, P. Veitch, H. B. May, P. Kay, Geo. J. Ingram (secretary), B. S. Williams, J. Hudson, Geo. Wythes, J. Collins, E. T. Cook, H. J. Wright, C. H. Curtis, Moore, H. Thomas, and J. H. Dick.

Immediately after supper Alderman Piper arose, and all eyes turned upon him, for a rumour had gone round the room telling that the QUEEN was no more. The truth was so.

(*To be continued.*)

GARDENERS' GRIEVANCES.

I HAVE read with interest the letters from your correspondents, "John C. Dick" and "C. Blair," on this subject, but do not agree with the latter when he says that young gardeners make a mistake in being anxious to find their way into large establishments.

I think the majority of young gardeners are not so blind to their own interests, but that they can see it is much to their advantage to gain experience in those gardens, the names of which, coupled perhaps with those of their aristocratic owners, carry weight in the world of fashion and horticulture; and with few exceptions, the two are one as far as high-class gardening and the obtainment of good headships are concerned.

The majority of us have to put in from fifteen to twenty years as apprentices, journeymen and foremen, before we are able to obtain at most a headship of moderate pretensions, and are sometimes told then, when applying for a situation, that foremen will not be treated with, although possessing credentials from first-class gardens, much less the man hailing from an obscure one.

Many will bear me out when I say that there are very many places where gardening is well done, a reference from which will readily procure a situation as journeyman or foreman, but which are worthless as recommendations for a head place, a fact to be borne in mind by ambitious young fellows.

Granted there is something in his objection to a young gardener having to acquire his knowledge in gardens where the departmental system is in vogue, I still hold that the one who has been through the routine of several large gardens will, at the end of his years of probation, be a better man than one who has graduated a head gardener through small gardens, supposing the men to be of equal intelligence.

The system and principle of working is totally different. I have worked in both, know what I am talking about, and, I venture to say, that should a young fellow who has, say, spent ten years in small gardens to be transferred to a big establishment, he would find the latter a very uncomfortable place indeed, and that not because he was treated harshly or unfairly.

I believe, too, that in gardening, as in other callings, in spite of what some may say to the contrary, that a man usually finds his level, which means that the young gardener in the big establishments of the country is being trained by the better men of his profession—a matter of the first importance. Whether he ultimately gravitates into a large or small garden is another matter.

I do not wish to insinuate that high class culture is exceptional in small gardens, as I know it is not; but something more than cultural ability is needed to make a successful head gardener, as witness the failures of some who, as probationers, earned the approbation of their chiefs as capable growers. Neither do I wish to discount the value of influential friends in obtaining good posts, but I take it that such influence will be of little value unless coming from broad-minded men, for reasons founded on good judgment.

With regard to the suggestion of registration I am afraid the gardening fraternity—for such it is, and to a far greater extent than exists in many callings with a Union or Guild with more or less selfish motives swaying them—is such a heterogeneous mass that the idea is impracticable.

A reduction in the number of apprentices might improve our condition materially as such reduction must make itself felt some years hence. Is it that which is causing the present scarcity of journeymen?

I think the two great mistakes of young gardeners at the present time lie in their neglect of kitchen garden work, and in not taking their calling more seriously as if it was the one business of their life. The first is perhaps not altogether their own fault. There are of course those who look down on work connected with the kitchen garden, and the latter with the greater number of us will have to take first place when we get a charge of our own, as only a limited number can obtain head places where glass is the chief feature.

I believe in Scotland journeymen are employed in greater numbers outside than is usual farther south; but in any case where a premium is taken I think a lad should be well grounded in kitchen garden operations before he leaves. Where a young gardener is not actually employed outside much may be learnt by timely observation and note taking throughout the year.

The other mistake I suggested must be corrected by young gardeners themselves. Gardening is a very jealous mistress, and if not actually a "first only love" must be a very exclusive one, and the lad who has elected gardening his life study, and who worships at the shrine of success must give himself heart and mind to his profession. I am afraid I have digressed somewhat from my subject but I hope both you, Mr. Editor, and my older critics will deal gently with *Young Gardener*.

With all due respect to Mr. Blair I beg (with your permission, Mr. Editor) to raise one or two points *re* gardeners' grievances in last week's GARDENING WORLD. First, he considers the journeyman's case is bad, but the married man is even worse. Now my experience proves that in nearly all cases employers prefer married men, providing they have or can secure convenience for them. Second, the majority of men have to live in small places. Why? Because, as he admits himself, the large places are few; the natural result must be a majority of small places. Third, he thinks it a great mistake for young gardeners to try and get into large establishments. In this I beg to differ with Mr. Blair, and ask him to look in any advertisement column and he will invariably find something in this style: Paul Cyperus, five years with the Duke of Cider, at Whatsworth, wishes to meet with similar position; or the Rev. Rosepips highly recommends Peter Parsnips to any gentleman requiring same. Now, I ask, who of the two stands the best chance to secure the large place with good pay? Go on, young men, adapt yourself to circumstances, and do not do a thing because it is usual to do so, but find out for yourselves if it is the right way. And rest assured that in no other profession is the old axiom, "The survival of the fittest," more clearly demonstrated than in the one of *gardening*; and remember "nothing succeeds like success."—*Nil Desperandum.*

BUCCLEUCH NURSERIES, HAWICK.

SUMMER and early autumn is certainly the best time to visit the Buccleuch Nurseries, Hawick, Scotland, as the florists' flowers so extensively grown by Mr. John Forbes, are then in all their glory and pride of place. The lower portion of the nursery, bordering on the Slitrig, is deep and fertile, while that portion which climbs the steep slope is well laid out to the sun. Our visit was made in the third week of September, when many things were still in bloom, though getting past their heyday in certain cases.

The principal item in the houses at that time was Begonia Caledonia, with which many gardeners have now become familiar. A large stock of it was then in half pots of several sizes according to that of the plants occupying them. The parents of the original B. Gloire de Lorraine were B. socotrana and B. Dreggei; and the separation of the parent colours gave B. Caledonia the pure ivory-white flowers, which had proved perfectly constant, not one of them reverting to either rose or pink. The plants were of several ages, the large plants being then in full bloom. The stock is no doubt now greatly reduced. It blooms as freely as the parent from which it sported.

A great variety of subjects is grown in the show house, amongst which we noted hybrid greenhouse Rhododendrons, of which forty to fifty varieties are grown. Some of the finer were R. Edgworthii, R. ciliatum, R. retusum, and Falconeri, which are not hybrids, but very choice. The double flowered hybrids, Balsaminaeflorum album, and others of that strain are grown, as well as many of the Javanico-jasminiflorum race. R. fragrantissimum, R. alhescens (also fragrant), and R. assamicum also enjoy considerable popularity in gardens, being very useful. A good variety of Lapageria rosea, and L. r. alba, were flowering freely on the roof. A choice variety of Fuchsia was that named Trailing Queen, with magenta corolla and rose sepals. Camellias, 4 ft. to 20 ft. high are all grown in tubs upon the floor, and still prove useful for the sake of cut flowers. Greenhouse Statices were represented by such useful forms as S. profusa, S. Butcheri, and S. brassicaefolia. Agave americana variegata of a useful size for bedding is grown in some quantity. Cordyline australis is very nearly hardy.

A house was devoted to Maidenhair Ferns, while a pit was occupied with a general collection. Elsewhere we came upon Begonia Dreggei, in 60-size pots, Palms, Asparagus Sprengeri, Abutilon Sawitzii, Mackaya bella, and Cantua dependens, the two latter being handsome, but very much neglected greenhouse plants.

Zonal Pelargoniums are grown in great variety, as they continue to find great favour in most establishments. Some of the choicer ones we noted, including Chaucer, a very large, deep rose flower; Cassiope, even more choice, being salmon, with a large white eye; and Florence Farmer, large, and marbled with salmon. Very dwarf is John Forbes, but it flowers very freely, the blooms being crimson-scarlet and bright, with a paler margin. Hall Caine is bright Cherry red. Lord Salisbury is very dark crimson, and one of the best of its kind. Double varieties were also numerous, very choice being the orange-scarlet Gold Finder. Fraicheur is a Picotee-edged variety, the petals being white with a pink edge. F. Sarcey is rosy-mauve, the flowers being produced in very large trusses. Those of Granville are cerise with a white centre. The above are only the cream of those then in bloom.

Tuberous Begonias, in named varieties, also receive a considerable amount of attention. That named Diana had very large and handsome orange flowers. Choice also is Mrs. J. M. Troup, with large, soft pink flowers. Sunset is of a soft salmon-pink; while Thomas Luck has deep salmon-pink flowers of good form. Gem is notable for its creamy guard petals and deep apricot centre. The flowers of President are bright apricot, large, full and heavy. Marquise de Trevise rejoices in soft rosy-pink. William Oliver is very fully double and pure white. Mdme. Michelot is soft rosy-pink. Quite distinct in its way is Telephone, with buff flowers, shaded with rosy-pink.

About fifty varieties of the modern and greatly improved Cannas are kept in stock. H. Wanland is yellow with carmine blotches on the inner petals. Souvenir de Madelain is orange-crimson, set off with dark coloured foliage. Model is rich orange with a yellow margin and well worthy of extended culture. Begonia worthiana is a popular bedding plant, but is better displayed as an edging than in the centre of a bed. Fuchsia gracilis variegata is also handsome in bedding designs, as well as in the greenhouse. Choice amongst modern varieties are Rupert, with reflexed red sepals and a soft, violet-purple wide-spread corolla; Duc d'Amaule, scarlet, with double white corolla; and Emperor Nicholas, with scarlet sepals and large pink-white corolla.

FLORISTS' FLOWERS.

VIOLAS.—As is well known all the sections of the Pansy group are represented in the Buccleuch Nurseries, to wit, show and fancy Pansies in named varieties, as well as the Violas, rayed, rayless and miniature which in the aggregate form the most recently developed and the most popular generally of the sections of the genus. Seedlings are raised annually by the thousand, belonging to the aggregate of all the races, and new varieties continue to be added to the lists when improvements make their appearance. A large number of them continued in bloom through September. On this occasion we confine our remarks to new Violas used for bedding purposes, and put into commerce in 1900.

Viola Isolde has large, round, deep yellow flowers and a golden lip, while the habit is dwarf and compact. John Forbes is blackish-violet, shading into rich rose. A very choice one is Mary Robertson, pure sulphury yellow, rayless, very free flowering, and of dwarf habit. The large round flowers were still abundant and handsome at the time we inspected the collection, proving the value of the variety for bedding purposes. The large and very pure white flowers of Purity were equally abundant. Shamrock is a creamy flower edged hellotrope, and is large, floriferous and sturdy. Snowflake (Forbes) is pure white, with the exception of a slight creamy shade in the lip, and the large flowers were still abundantly produced. The habit of Campbell Bannerman is good, and the deep blue flowers are very showy for bedding purposes. The general collection of named sorts is extensive and the miniature race well represented.

Gaillardias are better represented by named varieties than we usually find them. Many of them were still in flower, for they are very persistent bloomers. Some were orange, others red with a

yellow margin, golden-yellow, with a crimson zone and so on. Sir Vindex is a good yellow, with a dark disc; while General Wauchope is buff yellow, with a crimson centre.

PHLOXES have long been a leading feature of the collections here, a wide border being devoted to an extensive series of named varieties. Both the summer or early flowering, and the autumn or late flowering sections are extensively represented by the best named varieties.

New varieties continue to be raised, a round half dozen having been put into commerce last year. The Queen is a soft pink flower of good form; Shakespeare is rich magenta, edged with white; Comet, white, suffused pink; Excellence, rosy magenta, with crimson eye; Prince, silvery pink; and Teviotside, rose, lightly flaked with crimson. The best of the new set is Mrs. Forbes, a pure white flower, of fine form, produced in large, pyramidal panicles. These early flowering varieties are all of dwarf habit. Older ones are also plentiful.

The late Phloxes though past their best, were in many cases still flowering, particularly the seedlings, which were practically still in full bloom. The finest of the seedlings raised here had been picked out and given distinctive names. Those we regarded as the best were Mrs. James Farquhar, salmon-rose with a white centre; James P. Robertson, large, deep rosy-purple, and floriferous; Mrs. Burn, large, orange-scarlet in gorgeous pyramidal masses; and J. Fraser, orange-scarlet, with a violet line round the pale eye, and 1½ in. across the pip. The plant itself was 2½ ft. high.

A large number of the older varieties were still showing their distinctive characters and enabled us to compare their relative values. Handsome varieties were Acropole, carmine with a white centre; Brilliant, carmine-salmon, and of compact habit; Cameron, a very large flower of the modern type, and white with carmine centre; Amazon, pure white, with pale lemon anthers; Sylphide, the best white, with large pyramidal panicle on a very short stem; and popular with growers, Wm. Robinson, salmon; Tourbilion, bright carmine with white centre; and John Forbes, pink with carmine eye and regarded as being yet one of the best of its colour.

The orange-scarlet flowers of Etna appeal to the public generally, and is, of course, extensively cultivated. The white centre of Fantome is surrounded by a clear violet band. Esperance comes into the same category as the previous one, but the coloured zone is mauve. The huge lilac flowers of Derviche have a purple centre. Pretty also is Girondin, with a white centre surrounded with rosy carmine; the white centre of Comet is much larger. Fedora is of dwarf habit, with silvery-rose flowers. Le Siecle is salmon-rose with a lilac-white centre, and very pretty. The orange-salmon of Liberté deepens to carmine in the centre. Madame M. Carvalho may be described as creamy white, and the plant of dwarf habit as in the case of Massillon, which has huge mauve flowers and a carmine eye.

The blue varieties stand out very conspicuously amongst a collection. The flowers of Iris are bluish-violet, fading to a clearer blue in the centre. Some might prefer the bronzy violet-blue of Le Mahdi. Either or both of them should be in every garden where Phloxes are admired. In the same category, but altogether distinct, is Paul Bert, having a dark violet centre to the lilac flowers. Of large and fine form are the carmine-magenta flowers of Zouave. Salmon-rose and silvery towards the margin are the large flowers of Mozart, which is moderately dwarf. Choice and handsome is Pantheon, with its huge, rosy-salmon flowers. One of the best of its kind is Roxelane, with bright-eyed, dark carmine flowers. The rosy-salmon flowers of Regulus also appeal to the collector when looking through a collection for the finest things.

GARDENING MISCELLANY.

FOOD VALUE OF FRUITS.

IN recent years fruit growing has assumed great commercial importance in many regions of the United States, especially in the south and on the Pacific Coast. Canada has also largely added to her orchard area. The activity and progress in this industry has brought experimental stations largely into vogue, and the business of these stations is to find out everything that is worth knowing by the practical cultivator, exporter, and salesman of fruits. Many stations have reported analysis of fruits; and it is interesting to compare the composition of these fruits, fresh and dried, with each other, and with some of the staple articles of diet. The stone fruit group, viz, Peaches, Apricots, Plums, Cherries, and Prunes, are general favourites. But fruits are valuable for other reasons than the nutriment which they contain. They furnish acids and other bodies which are believed by physiologists to have a beneficial effect on the system, and doubtless very often stimulate the appetite for other food. They are also useful in counteracting a tendency to constipation. Another point, and one entirely apart from food value, is, that fruits add very materially to the attractiveness of the diet.—*The Farmer* (American).

TREATMENT OF DISEASES AND INJURIOUS INSECTS.

AT the Royal Horticultural Society's meeting held in the Drill Hall, Westminster, on Tuesday, January 15th, the secretary, Rev. W. Wilks, M.A., read a paper that had been sent from Geneva, U.S.A., by Professor Beach. The title of the essay was "Recent developments in the treatment of diseases injurious to orchard crops." Mr. Wilks explained, after he had sat down, that he had not read all of the paper, but that the full text of it would appear in the journal of the R.H.S. Mr. A. Dean occupied the chair. The essay began by saying that during the last quarter of a century a great many new fungicides and insecticides had come into use. It is not surprising that former gardeners had not bequeathed to us many insecticides for diseases, and pests were less in vogue in past days. Paris Green was introduced thirty years ago, and spraying machines to use the mixture were soon invented. The Potato disease was the cause of its introduction, for it had been discovered with delight that this pigment of paint (Paris Green) could poison out the disease fungus without sterilising the soil. It is but little more than fifteen years ago that the power of a mixture of copper-sulphate and lime would prevent mildew and such-like fungus attacks became known. This mixture first originated at Bordeaux, in France, and since then there have been many imitations, but none have surpassed the true Bordeaux Mixture. The latter, however, has not been used with success against bacterial diseases; potassium sulphide has given better results in this connection. Bordeaux Mixture is efficacious in all cases where insects attack the host plant through the leaves. The cost of treatment for the prevention of fungus diseases was said to be cheaper when a mixture of potassium sulphide and the Bordeaux was applied. Speaking of arsenical poisons, prominent among the substitutes to Paris Green, was the Green arsenate of copper, which is used pound for pound in place of the Paris Green in some places. It is found to be cheaper and better for spraying, being an amorphous powder and stays longer in a liquid state. The introduction of arsenate of lead was due to the ravages of the Gipsy Moth, which appeared in Massachusetts not many years ago. The experiments in the latter American State have established this arsenate as one of the best insecticides. Its colour shows where it has been sprayed, and it remains well in solution. Kerosene emulsion was recommended for all insects with sucking mouths, such as scales, aphides, &c. There are now machines which make the emulsion at the same time as the spraying is performed. Various apparatuses were used for spraying Paris Green over field crops at its first introduction, and to see many of the old patents now would be like viewing an exhibition of old armoury.

Such diseases as Peach yellows, little Peaches, and New York canker were still complete mysteries, and could only be overcome by burning the trees entirely. Progress is being made in the study of Root Rot in orchard trees.

Upon the conclusion of this *resumé* of the progress made in the recent treatment of orchard diseases and pests, a Fellow asked whether Prof. Beach had mentioned the use of a pure nicotine solution. Rev. W. Wilks said it was not referred to in the paper, and he thought it could not be much used in America. Another Fellow mentioned the fact of his having seen copper-sulphate used without the lime as a spraying mixture for orchard trees in Canada during winter. The Bordeaux Mixture, however, was used when the leaves were on the trees. The use of hydrocyanic gas for disinfecting fruit trees was also noticed.

SEASONABLE HINTS.

CONSERVATORY.—The conservatory at present is largely supplied with forced bulbous plants, with Azaleas, Astilbe japonica, Spiraea astilboides, Cinerarias, Cyclamen, Primulas, Peristrophes, and a few hard-wooded plants not so well known as the Azaleas. Those who take note of the more graceful half-hardy annuals will have batches of a few of these coming into flower. It but requires one to observe the different species during summer to be convinced of the suitability of many of them for pot work in early spring or late winter decorative uses. The Schizanthus is one of the best annuals in this connection, and one which I think is fairly well appreciated now-a-days.

Another good little annual that will flower in a short while as a pot plant is Alonsoa Warscewiczii, with crimson-red racemes. The Monkey Flower, Mimulus cardinalis, is also most handsome and easy to cultivate. Such other subjects as Browallia speciosa major, which, however, is truly a greenhouse annual and not quite hardy; Balsams, Mignonette, Sweet Peas, Verbena vernosa, Brachycome iberidifolia, Rhodanthe—otherwise named Heliptrum—Salpiglossis and Petunias might also be mentioned, for they can be had in health and beauty from February (or earlier in some cases) till the summer flowers open out of doors. It would be well if some of these plants were oftener grown under pot treatment purposely to brighten the display at this season of the year.

At this time the Palms and graceful Phyllostachys may require to be top-dressed or repotted. One hesitates to take them away from the conservatory at a time such as this when they are so much required, but if they are to be kept in a healthy growing condition this is the time to do the shifting or top-dressing, and after the operation it is to the good of the plants to place them for a month or six weeks in a stove till they have re-established themselves. When bringing these foliage plants back from the warm house to the much cooler conservatory, it is necessary to avoid chills, delays or draughts, and they should be placed in the cosiest parts of the conservatory till the better weather comes on.

In the stove the potting that is usually performed after the turn of the year will now be engaging attention. The idea that stove plants should *not* be potted till this time of year, however, is bad. The work is done now simply because growth and activity in the roots has started, or may soon start, and there is little else to keep one busy in the houses at this time. But to keep plants in vigour they may have to be potted much earlier or later; sometimes oftener than the annual shift or topdressing, or again in the case of established plants, such as Eucharis, Gardenias, and one or two other things, perhaps only once in a year or two, relying on liquid-feeding to sustain them.

One should be at pains to crock well, pot well, to use the best sort of compost, and to perform the operation of potting at the proper time as pointed out. The proper season for potting has been always upheld to be (in the case of dormant stock) just before new action begins. When the roots of Orchids are observed to be on the move, as we gardeners say, this is the time to do any shifting or top-dressing that they may require; and similarly with Anthuriums and other Aroids, as well as other classes of plants where the signs point to a new activity having started.

The present is also a good time of year to divide the Aspidistras; and to propagate Ficus elastica, or take the tops from those Araucarias that have become too tall. These tops strike in 4-in. or 5-in. pots if given a little bottom-heat. Young Ferns of all sorts, as well as edging plants, Musk, Fuchsias, &c., can be looked out either for pricking off, as in the case of the Ferns, or for starting to get cuttings from, as is the case with Fuchsias. Seeds of Tomatos for indoor planting, of Melons and Cucumbers, and of Carrots, Radishes, Onions, Cabbages, and Parsley should now be sown. Carrots and Radishes may be sown where Potatos are being forced.—*Argus.*

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. George Walker, The Beeches, 43, Circus Road, St. John's Wood, for his article on "Cypripedium bellatulum," p. 326. Several other competitive articles were only a point or two behind, and one was a little over the stipulated number of words.

QUESTIONS AND ANSWERS.

**** All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 5 & 6, CLEMENT'S INN, STRAND, LONDON, W.C. *Business communications should be addressed to "The Publisher." Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

How to separate Holly Seeds.—*A. M.*: It would be a waste of time to try and separate the stones or seeds as they are called at the present time. Your best plan is to place the berries between layers of moist sand out of doors in some convenient place where they will be exposed to rain and the influence of the weather to cause the soft material to decay away. If kept in a dry place or in dry sand the process of rotting would be delayed. In spring you can sift the berries out of the sand by means of a fine sieve, and then rub them roughly with a piece of wood so as to crumble the berries. Some of them may still stick together, but if the seedlings come up crowded you will have to transplant them the earlier—say at the end of the first or second year of growth. This need not be done so early unless they are crowded. Sow the seeds next spring in lines 1 ft. apart, or less, so as to leave just room for a hoe to run through between them to keep down weeds.

Plants for Ornamental Edgings.—*E. M. W.*: There are several species and varieties of Thrift (Armeria) that might be used, such as good coloured varieties of A. vulgaris or even the white one, A. v. alba; also A. cephalotes rubra and A. plantaginea, but the two latter are less common. Daisies are sometimes used with fine effect in districts where the soil keeps fairly moist in summer. Then there is Festuca glauca, which has a fine silvery appearance from its foliage. Dactylis glomerata elegantissima would make a pretty silvery-white edging for summer, if you keep the flower stems cut off. Many varieties of Rock Roses if kept trimmed along the edges would be evergreen and very gay in summer when in bloom.

Green Manure.—*R. M.*: This method of renewing the fertility of the soil by means of green manures is by no means a new one, as at first sight it would appear to be. The old Romans used to sow Lupins, allowing them to grow to a certain size and then ploughing them down to rot or decay where they grew. They must have hit upon this plan at first accidentally, but recognising its value they afterwards made a practice of it. They probably knew nothing of nitrogen, but this element of plant food is more extensively collected by the roots of this and other leguminous plants than by those belonging to any other order, perhaps; and stored in the roots and other parts of the plant, so that when the Lupins were ploughed down a rich crop of corn for the next crop was generally the result. The method is sometimes adopted in this country; but with different plants, and the crop is more often eaten by sheep on the ground than merely ploughed down, so that the land gets the benefit of the greater portion of the crop in roots, and in the urine and droppings of the sheep. Turnips, Mustard, Rape, Thousand-headed and other Cabbages, are used in this way. The garden refuse is another plan of doing the same thing, only the plants and weeds are rotted before being put on the ground.

When to Plant Garlic.—*D. Rust*: You can do this at any time during the next three months, that is, during February, March, and April, about the middle of March being the best time for the main crop or supply. If planted in February it need only be done in a warm, sheltered spot, in order to secure an early supply as the result of early growth induced by shelter and the heat of the sun. The Cloves should be separated and planted singly in lines, 6 in. apart either way. Each Clove or bulb should be let into the ground about 1 in. deep by means of a trowel. A very small hole will suffice, as you can push the bulb down with your fingers, thus giving it a firm hold of the ground, and then covering it up. If the soil is soft and friable through previous preparation no trowel will be needed, as you can push the bulbs to the requisite depth and thus proceed rapidly.

The True Granadilla.—*A. C.*: Passiflora quadrangularis is said to be the true Granadilla; but the fruits of several other species are also eaten and spoken of by the same name. Amongst them we may mention P. macrocarpa, P. edulis, P. maliformis, &c.

Names of Plants.—*D. W.*: 1, Coelogyne speciosa; 2 Laelia autumnalis; 3, Cypripedium leeanum.—*R. S.*: 1, Sericographis Ghiesbreghtii; 2, Libonia penrhosiensis; 3, Cestrum aurantiacum; 4, Coronilla glauca; 5, Senecio Kaempferi aureo-maculatus (often called Farfuglum grande in gardens); 6, Erica hyemalis.—*A. K.*: 1, Asplenium Hemionitis; 2, Cyrtomium caryotideum; 3, Asplenium ebeneum; 4, Asplenium lucidum; 5, Asplenium bulbiferum fabianum.—*H. T. W.*: 1, Hippeastrum reticulatum striatifolium; 2, Nepeta Glecboma variegata; 3, Pteris Wimsettii; 4, Scolopendrium vulgare crispum; 5, Lastrea Filix-mas paleacea cristata; 6, Adiantum trapeziforme Santae Catherinae.

Communications Received.—Jas. Moir.—A. M. D.—L. L.—W. Y. B., Edinburgh.—Viola.—T. M.—D. C.—H. W.—A. D. B.—H. J.—Correspondents not answered this week, please consult next week's issue.

TRADE CATALOGUES RECEIVED.

KELWAY & SON, Langport, Somerset.—Kelway's Manual.

HARLAN P. KELSEY, Tremont Building, Boston, Mass, U.S.A.—Kelsey's Hardy American Plants and Carolina Mountain Flowers; also some information about Sang or Ginseng.

FRANK DICKS & Co., 66, Deansgate, Manchester.—Seed Catalogue.

JAMES COCKER & SONS, 130, Union Street, Aberdeen.—Catalogue of Vegetable and Flower Seeds, Bedding Plants, Florists' Flowers, &c.

R. H. BATH, LTD., The Floral Farms, Wisbech.—A New Descriptive Catalogue, with Cultural Notes of Bath's Select Seeds.

H. CANNELL & SONS, Swanley, Kent.—New Chrysanthemums, 1901, raised and sent out by H. Cannell & Sons.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

JANUARY.

29.—R.H.S. Committees.

FEBRUARY.

4.—Wimbledon Horticultural Society Meeting.
12.—R.H.S Committees.
15.—Gardeners' Orphan Fund (Annual Meeting and Election).
26.—R.H.S. Committees.
28.—Kew Guild Annual Meeting.

MARCH.

2.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
4.—Wimbledon Horticultural Society Meeting.
7.—Linnean Society Meeting.
11.—United Horticultural Benevolent and Providential Society's Annual Meeting at Caledonian Hotel.
12.—R.H.S. Committees.
21.—Linnean Society Committees' Meeting; Royal Botanical Society Meeting.
26.—R.H.S. Committees; Brighton and Sussex Horticultural Society Show (2 days).
27.—Liverpool Horticultural Show.
29.—Blackheath Horticultural Society Meeting.

APRIL.

3.—Royal Caledonian Horticultural Society Show, Edinburgh (2 days).
4.—Linnean Society Meeting.
6.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
9.—R.H.S. Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society Spring Show (2 days).
10.—Shropshire Horticultural Society Show at Shrewsbury.
22.—Chesterfield Spring Show.
23.—R.H.S. Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

MAY.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
7.—R.H.S Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.

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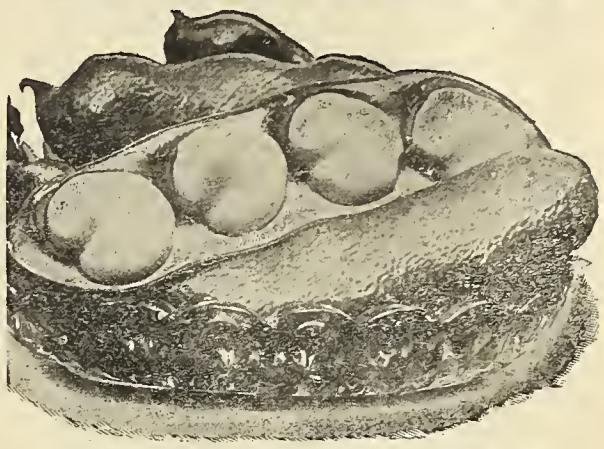

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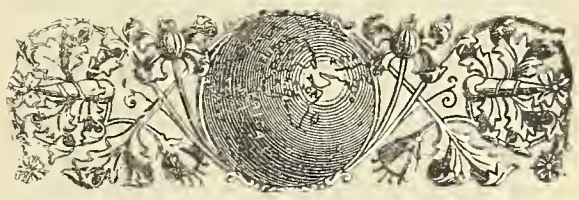

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, FEBRUARY 2nd, 1901.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, February 4th.—Annual General Meeting of the members of the National Chrysanthemum Society, in Carr's Restaurant, 265, Strand, at 7 o'clock. Wimbledon Horticultural Society Meeting.

TUESDAY, February 5th.—Croydon Horticultural and Mutual Improvement Society.

THE VEXED QUESTION OF NOMENCLATURE.—The naming of plants is a subject which frequently comes up for consideration and reconsideration and again dismissed or allowed to remain in abeyance till some more convenient period. Two writers in *The Fern Bulletin* for January have taken up the favourite theme, if such we may name it, "false trinomialism" being the subject at issue. Mr. W. Palmer complains that the "misconceptions of the true values of a species and the rather flippant use of the word variety used by horticulturists," have fostered the loose practice of giving Latin names to distinguish variations amongst plants, either supposed or real. Well, as far as the general run of gardeners is concerned the word "variety" is made to do duty from a group of species to species, varieties, forms, or races of plants; but the class of men, who practise this happy-go-

lucky and easy method of getting over the difficulty of distinguishing between species and varieties, do not usually undertake the naming of plants by the use of Latin words. Of recent years the naming of garden varieties has been considerably simplified in this country. We may take Daffodils as an instance, the nomenclature of which has been greatly simplified; for instead of half a dozen Latin names, the practice of giving English names or the names of persons has largely prevailed, so that except in special cases the varieties are indicated by the garden name only. In lists of course these names are simply placed under the botanical names for the genus and species as a guide to the affinities of the varieties so named.

The writer above named says there cannot be such a thing as a species, considered from the point of evolution. We quite agree that no one has yet been able to define a species with any degree of satisfaction, or by a rule that will apply to all cases or any extensive number of cases. The definition of a variety is equally impossible if laws for it are to be laid down on the same principles that hedge about a species from the evolutionist point of view. The naming of Ferns is the subject under discussion, and the above mentioned writer speaks of local variations being "due largely and often entirely to man's interference with the topography, and freaks and monstrosities have been often calmly described with Latin names." The latter part of this sentence is true enough; but as far as we have been able to discern, freaks and monstrosities amongst Ferns will and do arise in places that have not been particularly, if in any way, disturbed by man. Many of such freaks have been solitary specimems, picked out of the crevices of rocks, out of hedges or, it may be, in woods where the relatives of the Ferns in question are quite normal. How then can it be said that they have originated through the interference of man?

The chief complaint is that Latin trinomials have been given to such freaks, monstrosities and local variations that have neither wide distribution nor permanency to recommend them. The writer thinks or rather says that "a solution of the evil is simple." He would discard all trinomials and quadrinomials for freaks and monstrosities as unworthy of a place in Latin nomenclature. He takes rather a bold step when he says that "all valid described forms should be considered species until proved intergrade." Who is going to settle what is a valid form, or an intergrade? A large number of species as they stand to-day may and often have many intermediates that appear equally as valid species as themselves, and varieties have their intermediates or intergrades. He states that his views do not prevent the close student from naming forms with three or four names when the comparative study of many specimens of a group renders it necessary. The chances are that the systematist will name a new variety at once without waiting to learn how many more are likely to be discovered. Most collectors of Ferns or other plants have an ambition to be first in the field in naming and describing their finds.

Japanese Exports.—From Nagasaki in 1899, Mushrooms to the extent of 178,856 lbs. were exported. Japan has possibilities in this line.

Hybrids.—"Plants that are derived from two distinct species cannot be called varieties of either." The best way to denote that they were hybrids and not varieties of one species would be to insert a × after the generic name, thus: Cypripedium × leeanum, which resulted by hybridising C. insigne with C. spicerianum.

Weather in London.—The state of the elements during the last week has been somewhat varied. Saturday was mild and fine; Sunday was fearfully boisterous and rain fell in torrents; Monday and Tuesday gave us a keen frost, these conditions modified, prevailing on Wednesday, the 30th ult.

Messrs. Lumleys, Ltd.—Messrs. E. & H. Lumley, land agents and auctioneers, for personal convenience in the management and administration of their business, have registered as a private limited company, under the name of Messrs. Lumleys, Ltd., St. James' House, 22, St. James' Street, London, S.W. The constitution of the firm remains unchanged, Mr. Henry Lumley being the governing director.

Native Guano on the Farm and in the Garden.—The Native Guano Company, Ltd., of 29, New Bridge Street, Blackfriars, London, E.C., has issued a brochure of testimonials which are from users of the Native Guano in different parts of nearly every county in the United Kingdom, all of which testify to the excellent results following its employment. These testimonials speak for themselves. We may be allowed, however, to add the results obtained from experiments made by Dr. A. B. Griffiths, Ph. D., F.R.S.E. Two plots of land of one acre each were marked off; and each plot was sown with 7 lbs. of seeds of Mangold Wurzels. Plot A. was treated with 12 cwts. of "Native Guano," whereas plot B. did not receive any manure. The results obtained were: Plot A, 33 tons; plot B, 20 tons. Oats likewise treated gave 56 bushels on the manured plot, and 30 bushels on the unmanured. Potatos gave 9 tons on the manured plot, and 5 tons where the Native Guano was not used. It will be admitted that this sewage fertiliser conspicuously benefits the crops.

West Derby Gardeners' Society.—At a meeting of this society held on the 18th inst., under the presidency of W. Craigle Williams, Esq., when a moderate attendance of members was present, Mr. H. Corlett, of Woolton Wood, gave a plain practical talk on "Orchids: their culture and treatment." Some forty varieties of flowers were placed on the table from which brief notes were given on potting, watering, ventilating, shading, and temperature. As the subject was too large for a general detailed system of management, the notes given were brief, and included those suitable for Calanthes, Coelogynes, and Cypripediums, which were dealt with somewhat fully, and other species were noticed in their more important requirements. The details of culture were those followed at Woolton Wood, and in cases where the results were not altogether as desired the various courses pursued were stated. Many questions on the subject were asked and clearly replied to, which made a most instructive evening on the important inmates of our glass structures. A hearty vote of thanks was accorded to Mr. Corlett for his valuable and instructive address.

The First Christmas Card.—Unlike the playing cards that are well nigh indispensable at Christmas and other parties, the custom of sending Christmas cards is quite modern. The playing cards are as old as the art of printing, but only thirty years ago a Berlin lady of noble birth painted the first Christmas card. It grew out of a strong desire to send a simple remembrance to a cousin of hers who was in the diplomatic service of William I., then King of Prussia and afterwards German Emperor. The lady had loved and been beloved by this cousin, but a strange misunderstanding had parted them. During a convalescence she painted a spray of Forget-me-nots on a fancy card and inscribed a few words in gold letters, the translation of which was: "May the Christ-child rest on your heart and bring you peace and happiness!" This she despatched on Christmas eve to the Court by a trusted friend, who managed matters so adroitly that the lovers were again reconciled and ever after happy. The following year they told their story to some intimate friends at Court. The nobility then adopted this method for sending best wishes and polite greetings during the holiday season. Shortly afterwards printed cards appeared, and it became a trade. The folding card, with happy surprises in sentiment hidden under flowers, was a conception of the French in 1871. The trade still grows in significance, especially since the evolution of the card to the calendar and the booklet.—*The Orcadian.*

Easter this year (1901) falls on April 7th. Time your plants for then.

Mr. Charles G. Girdham.—We are pleased to chronicle the appointment of Mr. Charles G. Girdham, sub-foreman in the Arboretum, the Royal Gardens, Kew, to a position in Messrs. W. Clibran & Son's establishment at Altrincham, where he will take charge of the catalogue department. Mr. Girdham has been for some years at Kew, during which time he has gained the respect of all his neighbours. We wish him good luck in his new duties.

National Chrysanthemum Society.—The annual general meeting of the members of the above society will take place at Carr's Restaurant, 265, Strand, W.C., on Monday, February 4th next, at 7 o'clock in the evening. Charles E. Shea, Esq., Vice-President, will occupy the chair. The business of the meeting is to receive the committee's annual report and balance sheet; to elect a president, vice-president, and officers, and one-third of the committee for the year ensuing; to consider certain alterations and amendments to the rules; and to transact such business as pertains to the annual general meeting. The following are proposed alterations and amendments to the rules:—1. By Mr. C. E. Wilkins, *re* rule III. (Management), second line, to strike out "Vice-Presidents"; and 2. Rule VIII. (Election of Fellows), the last three lines to read:—"Candidates for honorary fellowships must be nominated by the executive committee, and their election shall take place at a general meeting of the society."—*Richard Dean, V.M.H., General Secretary.*

Portfolio of New Chrysanthemums for 1901.—Mr. H. J. Jones, of Ryecroft Nursery, Lewisham, S.E., has again prepared his portfolio of the new varieties of Chrysanthemums that are being distributed now. There are twenty illustrations altogether, printed on stout and well prepared paper, the reproductions being 7½ in. by 9 in. Even though the blooms have a massively grand appearance in the portfolio it is mentioned in the introduction that the actual blooms were larger still. In any case a good idea of the style of the blooms can be obtained, and that is what is desired. It is patent to all that during a short exhibiting season blooms cannot be dispatched to every corner of the land, so that only a comparatively few of the enthusiasts see the season's novelties, and to continue or gain the front rank as an exhibitor you must have the "novelties." For descriptions the reviewer is referred to Mr. Jones' Plant and Seed Catalogue, though perhaps next year he may see it advisable to add the description to the photographic illustration in the portfolio. The varieties best depicted seem to be Mr. F. Greenfield, Mrs. J. C. Neville, Mrs. G. Mileham, Mr. S. Fryett, Mrs. Emma G. Fox, and Edith Shrimpton. The portfolio is issued to those who write for it at a cost of only eight penny stamps.

Woolton Chrysanthemum Society.—The second annual meeting of this society was held on Saturday of last week at the Mechanics' Institute, Mr. Jos. Stoney occupying the chair. The report of the year's work was read by Mr. Learoyd, the secretary, and the balance sheet by Mr. R. G. Waterman, treasurer, *pro tem.*, proved in every way highly satisfactory. Progress was reported in the number and value of subscriptions. The number of entries showed a large increase, especially in the cottagers' section. Cash received at the door was better than the previous year, whilst the amount of prize money was considerably in excess of the previous year. The balance in hand at the commencement of the year was £21 16s., and the present year's working proved £12 16s. 8d. to the good, making a total balance in the bank of £34 12s. 8d. An offer of a silver challenge cup was received from the treasurer, Mr. Neil Gossage, who unfortunately was unable to be present through indisposition; to be competed for by cottagers. This offer was received with acclamation. The secretary was instructed to forward the best thanks of the meeting to Miss Brunner and Miss Tate for their services as judges in the table decorations; and to Miss Manson for her able help in making the bouquet for the Lady Mayoress. Mr. Neil Gossage was re-elected treasurer, and Mr. J. G. Learoyd secretary. A vote of thanks was tendered to these gentlemen for their services, and to others who had freely given their assistance, including the chairman for his services in the chair.

Loyalty at Kew.—On the day after the evening of the late Queen's death the flag was hoisted on the notable flagstaff in the pleasure grounds, Kew. This flagstaff consists of a single tree of Pseudotsuga Douglassii of splendid and graceful altitude. The museums were also closed in token of grief at the death of our late beloved Queen.

Mr. S. Heaton, late technical instructor in horticulture to the Isle of Wight County Council, has been appointed to a similar position by the Oxford C.C. The members of the Isle of Wight Horticultural Improvement Association, th which Mr. Heaton has been intimately connected, being indeed the founder, and for seven years the secretary, presented him with the complete edition of twenty-five volumes of "The Encyclopaedia Britannica," together with an illuminated address with the names of the subscribers.

Beckenham Horticultural Society.— At the meeting held on the 25th January, a paper was read by Mr. H. J. Chapman, Orchid grower to R. I. Measures, Esq., on Cypripediums. Mr. Chapman gave the history of the Cypripedium and Selenipedium, assisted by a splendid collection of paintings of the various species and varieties of the above. He explained to the members those varieties which required warm, intermediate, or cool temperatures, the soil best for potting; keeping plants free from insect pests, &c. He further showed that Cypripediums could be most successfully employed by market gardeners for the cut flower trade. A good discussion followed and a hearty vote of thanks was accorded to the lecturer for his most interesting paper, and the information he gave to the members. Mr. Day, gardener to H. F. Simonds, Esq., exhibited a fine collection of Orchid blooms.

Ware's Seed Catalogue for 1901. — Messrs. Thomas S. Ware, Ltd., Hale Farm Nurseries, Feltham, Middlesex, have issued their Seed Catalogue for 1901, and this also includes full descriptive notes on Ware's unequalled strain of Tuberous Begonias; also Chrysanthemums, Gladioli, &c. In the vegetable seed section will be found the "Feltham" collections in quantities to suit the needs of all purchasers. The catalogue is liberally and well illustrated, so that the enquirer will have some idea of the novelties and good types of older plants to form his conclusions by. The hybrid Grandiflora Cinerarias are here, and the finest of the large flowered Cyclamens, Calceolarias, Liliums, and other hardy border or greenhouse plants find a place amongst the subjects that are figured. The double Tuberous Begonias have attained a well-deserved fame, and on p. 27 will be found a list of mixed seed collections offered by the firm. The catalogue runs to 105 pages, and will be found useful to all who take an interest in gardening.

Liverpool Horticultural Association. — The annual meeting of this authority was held at the office of the society on the 22nd ult., Mr. T. Foster in the chair. The report for the past year is one of a satisfactory nature, in which the quality and number of exhibits had been fully sustained. The number of visitors to the two shows exceeded 8,000. The statement of accounts gives the prize money as £218 13s. 6d. for the two exhibitions, whilst the amount paid for admission was £152 19s. 3d. The general statement includes £92 2s. 1d. as balance from the previous year, £348 5s. 8d. subscriptions, and £15 3s. 2d. advertising and interest, making a total of £455 10s. 1d. The payments include loss on spring show, £123 7s. 3d.; autumn show, £97 5s. 9d.; general expenses. £84 9s. 11d., leaving to the credit of the society £150 8s. 0d., or a gain on the year's working of £58 3s. 11d., although the subscriptions show a decrease of £23 15s. 1d. It was resolved that the usual donation of three and two pounds be given to the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund. A cordial vote of thanks, on the motion of Mr. J. Stoney, was tendered to the working officials for the past year. The following officers were elected for the ensuing year:—President, the Rt. Hon. A. Crosthwaite, Esq., Lord Mayor of Liverpool; Hon. Treasurer, W. F. Rogers, Esq. (re-elected); Sub. Treasurer, Mr. G. Blackmore (re-elected); Secretary, Mr. H. Sadler, 7, Victoria Street, Liverpool (re-elected); Mr. R. G. Waterman, Auditor (re-elected). In referring to the death of her Majesty the chairman announced that the meeting arranged for February 2nd would be postponed.

The Scottish Mushroom Company, Ltd., has been registered with a capital of £2,500 in £1 shares, to carry on the cultivation of Mushrooms. Registered Office, Scotland Street Station, Edinburgh.

The Parks of Liverpool.—In the excellent retrospect of horticulture made by Mr. R. W. Ker at the Liverpool Horticultural Society's dinner, reported in last week's issue, the following statistics were given:—Parks, gardens, and open spaces number 45; window boxes furnished and fixed to the windows in the poorer districts of the city, if placed end to end, would measure one and a quarter miles; the number of boxes containing bushes, &c., placed in open spaces, 500. The staff under Mr. H. Herbert, superintendent, numbers 170. The whole of this work is under the control of the Parks and Gardens Committee, with Alderman Jos. Ball as chairman, who are appointed by the City Council of members of that authority.

South African Seed Imports.—Answering a correspondent who inquired as to the extent of the seed imports into South Africa, the *British and South African Export Gazette* states: "The total imports into South Africa in 1899 of seeds, bulbs, and plants amounted approximately to £40,000. Exact details of the proportions of the various items are not given, but in the case of the Cape Colony a recent Government return of the imports for the first nine months of the past year furnishes the following figures: Seed Oats, £11,900; seed Potatos, £3 800; seed Barley, £300; and seed Wheat, £100. No information is given as to the proportionate imports of bulbs and plants."

A Barley Competition at Ipswich.—The agriculturists of England, Scotland, and Ireland ought not to be behind any of their foreign rivals in the production of good Barley or such other crops, for they, at least, have a fair amount of incentive to cultivate well, in the form of many prizes offered by various interested business houses. We observe that the schedule for the fourth series of Barley competitions, organised by Messrs. William Colchester & Co., the well-known agricultural manure manufacturers of Ipswich, has been issued. In addition to the main prizes there are other prizes allocated to each separate county, so that even the most northernly and southernly areas will have some reward, though they may not be able to beat the counties of Norfolk and Suffolk. The Messrs. Colchester have also sent out their catalogue of special fertilisers. Such competitions as the above are what the Ulster farmers have been suggesting to their County Councils in place of having lecturers perambulating about.

Reading Gardeners' Mutual.—The fortnightly meeting of the Reading and District Gardeners' Mutual Improvement Association was held in the Club Room, Old Abbey Restaurant, on Monday evening last, and was well attended. Mr. Leonard G. Sutton, the president, occupied the chair, and in opening the meeting voiced the feelings of each of the members present by referring to the great loss the country had sustained by the death of our beloved Queen. The subject which had been arranged for the evening was "Garden Roses," by Mr. G. Gordon, V.M.H, but owing to the sad bereavement Mr. Gordon had sustained this lecture was postponed and the evening devoted to impromptu speaking on the following;—Tomatos, Mr. C. P. Cretchley, The Honeys, Gardens, Twyford; Melons, Mr. W. Barnes, Bearwood Gardens; Raspberries, Mr. Moody, Reading; Potatos for early use, Mr. H. Wilson, The Gardens, Lower Redlands, Reading; Zinnias, Mr. E. Fry, The Gardens, Greenlands, Reading; Freesias, Mr. R. Chamberlain, Cressingham Gardens. A great many questions were asked and an interesting discussion followed each subject, in which the following took part:—Messrs. Wicks, Exler, Ager, W. Smith, Neve, Pigg, Tufnail, E. J. Dore, Townsend, Lever, Farey, Butcher, Hinton, G. Smith, Turner and D. Dore. Exhibits were staged by Mr. W. Townsend, Sandhurst Lodge, consisting of Spiraea Louis Van Houtte, Deutzia Lemoinei, Staphylea Colchica, Lihonia floribunda, and twenty-six varieties of Hellehorus; whilst Mr. E. S. Pigg, of Samoa Gardens, Kendrick Road, staged a small but well-flowered plant of Begonia Gloire de Lorraine struck from a leaf; the flowers and foliage being larger than those struck from cuttings. A vote of thanks was accorded to each of the exhibitors. Two new members were elected.

Trade Note.—Messrs. J. S. Rogers & Sons, Ltd., have been registered with £20,000 capital in £10 shares and will carry on the business of artificial manure merchants formerly carried on by Mr. J. S. Rogers, Rossmill, Strathmartine, near Dundee.

Portrait of Rev. H. H. D'Ombrain.—The members of the Horti ultural Club resolved to ask Rev. H. Honywood D'Ombrain, the founder, and for twenty-six years the secretary of the National Ro e Society, to have his portrait painted so that it might be hung in the room of the Horticultural C b at the Hotel Windsor. Mr. D'Ombrain has consented, and Miss Rivers, of Sawbridgeworth, who painted the portrait of the late Dr. Robert Hogg, has undertaken the commission. Th rever nd gentleman is over eighty years of age.

Print Trimming.—Possibly some of our readers who are photographers may be interested in having their attention drawn to an article on "Print Trimming" in *The Photogram*, for February, 1901. The trimming of a photographic print, and the selection of a pretty piece of view are precisely similar operations. The object of "trimming" is usually to concentrate the attention on a subject, by removing surrounding features which compete with the main interest. It is the principle of the vista, or glimpse, as compared with the wide sweeping view. The principle is put into practice in landscape gardening, especially in smaller estates and in the truly gardenesque system of practice, where the detailed features are made to open out little by little in place of any broad general view, which at once would satisfy the mind, thereby detracting from further interest in the composition. By only having a one phase view, the full value of it can be readily appreciated, the mind being whetted and curious to unveil all the other details of the general plan. The writer of the article on "Print trimming" in *The Photogram* recognises these effects in Nature, and in the landscape gardeners' and architects' provinces, and has applied them to the art of illustrating by photography. We cannot say more on the subject here, but would recommend any interested reader to apply to his newsagent for a copy of the above paper.

Kelway's Manual.—More compendious (and as attractive and full of useful information on how to garden well, and what plants are most worthy to be chosen) than any of its predecessors, Kelway's Manual for 1901, from Messrs. Kelway & Son, Langport, Somerset, is being distributed to those interested in the art of gardening. A "manual" on any subject, though not intended to exhaustively detail all phases, yet seeks to provide the user of it with most of the essential information bearing on the subject. And to all who have gardens and who require a good guide to direct them in their general operations in the culture of the more popular flowering plants and vegetables, Kelway's Manual can certainly be recommended. "The Garden Calendar," to be found on the opening pages, condenses the monthly operations in an approvable manner, and certainly less, containing more meaning, could not have been printed. The manual contains three coloured plates, which will in very many cases be framed, and they are worth a good frame too. There are four sections in this publication relating (1) to plants, (2) seeds, (3) bulbs, (4) cut flowers and miscellaneous matters. Hardy plants, trees, shrubs, fruits, greenhouse and other perennials of course are dealt with fully under the section "Plants." By referring to the indexes at the end of the manual, all that it contains can be sought out at pleasure. To specialise any of the features of the long lists herein contained seems rather more than we ought to attempt. Many of the best plants or cut flowers of them are beautifully illustrated on stout, smooth paper, and these give a faithful reproduction of the chosen representatives. The Paeonies, Gaillardias, Delphiniums, Gladioli, Phloxes, Narcissi, and Lilies, together with Calceolarias, Dahlias, Cacti, Passifloras, Ivies, Pyrethrums, and some of the gems of the rock garden, are portrayed by illustrations, and are fully described in letterpress. The novelties in fruits and vegetables also find a place. The "Manual" runs to 316 pages, and is exceedingly well prepared in every respect. This first Langport manual of the new century is issued in stout crimson covers, the title being impressed in gold letters.

The Temple Show will be held on May 22nd, 23rd, and 24th (provisionally).

Recent Fires.—Under this heading an American contemporary reports the destruction of glasshouses belonging to eight firms. These fires are frequent in America owing to their heating systems.

Peach trees for South Africa.—We learn that a shipment of 100,000 young Peach trees from Georgia (U.S.A.) nurseries, bound for Cape Colony and Natal, has just been shipped. The British Colonial Secretary furnished directions to have the trees inspected by the Georgian State Entomologist, who has reported their condition to the British authorities. A shipment of trees from the same State was made last year, but the trees were held at Ladysmith because of the war.

New Year Greenhouse Flowering Plants.—In the greenhouse at Kew the visitor can generally see a greater variety of plants in bloom at the different seasons, than he will find in almost any other greenhouse throughout the land. Mr. Garret, the foreman of this department, has great experience with decorative subjects and always manages to supply an uncommonly fine display. The following is a list of the plants in flower at the advent of the New Year:—Begonia Gloire de Lorraine, B. semperflorens rosea, Reinwardtia trigyna, Justicia carnea, paper white Narcissus, Cytisus racemosus, Salvia Heerii, S. splendens grandiflora, Callas, Senecio magnificus, and Coleus thyrsoides, the latter just opening. There were also a few Chrysanthemums; many varieties of well flowered Chinese Primulas, including a beautiful violet-lavender one which we have only seen at Kew. The Red Currant Tomato was attractive with its long strings of crimson fruits; and so with Solanum integrifolium and the Sweet Orange, Citrus Auranteum. Cyclamens were good; Jasminum nudiflorum was flowering in 5-in. and 6-in. pots; while Primula floribunda, P. obconica (lilac variety); Freesias, Roman Hyacinths, Zonals, Marguerites, Star Cinerarias, Azaleas, Tecoma Smithii, and Abutilon Vesuvius were among other of the pot subjects. Abutilon Golden Fleece still continues to flower from the roof; and so with Tibouchina (Pleroma) macrantha, Hibbertia dentata, and Passifloras. Calceolaria Burbidgei afforded beautiful yellow flowers; Bouvardias were in many colours; the deep mauve flowers of Peristrophe speciosa were very effective, and blue was added by Browallia speciosa. Polygala oppositifolia is one of the best of the hard wooded plants, while the Cape and New Holland Heaths, but more particularly the latter, that is, the Epacris, were shown in profusion. The best varieties of Epacris were E. impressa, E. i. alba, E. Model, E. ardentissima, E. rubra superba, and E. Exquisite. It should be borne in mind that everything is grown in large batches which are staged in the mass, not mixedly.

"VICTORIA."

Requiescat in pace. January 22nd, 1901.

Sorrow o'ershadows every home
  Where thy loyal people dwell;
And hearts are filled with sore dismay;
  And grief no words can tell;
And bitter tear drops mingle with
  Our sad and last farewell.

"A noble Queen and woman,"
  With one voice the nation saith;
By land and sea, we mourn thy loss,
  And speak with bated breath
Of thy fearless truth and tender heart,
  Thy blameless life, and death.

No more shall wars and tumults grieve,
  Or cares thy spirit bow;
Thy long and peaceful reign has closed;
  Life's sands are running low;
Thou hast obeyed the Master's call;
  "His Name" is on thy brow.

Mary A. Gamble, Wells.

FRENCH BEANS.

We are required to keep up a supply of this vegetable all the year round, so we have found Sutton's Tender and True Climbing French Bean to be very useful. When we cleared out our last batch of Melons on the 7th of September, instead of clearing out the border we sowed the seeds of this Bean 6 in. apart. After they came up to the first wire they were run up on strings till they reached the top of the house, then they were pinched to induce them to break. They have kept up a regular supply ever since the middle of October, and keep fruiting away yet. For pot culture we find Sutton's Ne-Plus Ultra to be the best. The most of places grow them in 8-in. pots, half filling the pots with soil, and top-dressing as they grow up; but here we have pans 8 in. in diameter, and 6 in. deep. We fill the pans to within an inch of the rim, and the seeds an inch deep, pressing them moderately firm. When they are ready for staking we stake them with old birch brooms broken up, which answer the purpose very well. Nine seeds to a pan will be sufficient. Keep up a moist atmosphere with a temperature ranging from 60° to 65°. Attention must be paid to watering, damping the floors and syringing overhead to keep them clean and healthy.—*John C. Coutts, Danesfield Gardens, Great Marlow, Bucks.*

FORCED MINT.

Perhaps the following remarks on the treatment of Mint for forcing may be of interest to some readers of The Gardening World. Whilst preparing a quantity of roots for forcing some weeks back I was impressed with the idea that it would be better if made into cuttings instead of being laid in under the surface of the soil, as is often done. My experience is that dormant Mint is easily killed, and that, too, when it is wanted to grow. Accordingly the roots, or, to be more correct, underground stems, were cut into lengths of about 5 in., and dibbled thickly into 9-in. pots of soil, taking care to make the cuttings firm, and leaving them with an inch or so of stem exposed. The pots were placed in a Peach house at rest, and now all the Mint cuttings are bristling with growth, and promise a good supply of green Mint in advance of that obtained from the open ground.—*Cor.*

TULIPS.

Tulips for decorative purposes are best grown in shallow boxes in a rich compost about 2 in. apart, with one variety in a box so that they bloom simultaneously with precisely the same treatment as that of pot bulbs, by placing them in a cold frame and covering with sifted ashes, and when well filled with roots brought to the forcing department as required. When fully expanded they may be lifted, bulb and all, and a little damp moss tied around the bulb where they can be placed, several together, in shallow tins or any other receptacle, and dropped into silver decanter stands or any other ornaments either for room or table decoration, or used independently for filling baskets, &c. This will be found a much more convenient method than growing in pots for room or table work, as in this way the lasting qualities are not materially injured and they can be arranged much more conveniently and effectively than when five or six bulbs are crowded together in a 32 or 48-size pot, and last much longer than when cut, and if kept moist last quite as long as a pot of bulbs. Roman Hyacinths and Lily of the Valley will be found equally accommodating if treated in the same manner.—*C. J. Ellis.*

CACTUS DAHLIAS

Have undergone great improvement during the last few years. The colours are better with more numerous and improved shades; while generally speaking the habit of the plants is dwarfer, and the flowers are thrown out of the foliage on long stout foot stalks. Hitherto many good flowers were all but stalkless, and hidden deep among dense foliage. Yet some old Dahlias of the Cactus and decorative sections are still retained, where large quantities of cut bloom are required, one of which is Fire King or Glare of the Garden. It grows about 2 ft. high, and produces little scarlet flowers in abundance. Cactus Dahlias grown to produce exhibition blooms during August are very serviceable after that period, as they may be allowed to grow and flower at their own will, thus providing large quantities of good decorative stuff in the shape of flowers, buds, and foliage, until severe frost cuts them down. After this their tops should be cut down, 8 in. to 12 in. above the ground; the label of each should now be securely attached to a main stem with strong twine, after which they should be carefully lifted, cleaned out with a blunt stick, placed indoors to half dry gradually, then stored away in a cold, frost-proof house. Dahlias like a heavy rich soil, and may be propagated by division or cuttings. The latter method gives much the better flowers, and are obtained from tubers placed in heat during January or February. Here they soon produce young shoots, which are removed. When 3 in. to 4 in. long these are cut sloping at base, and inserted in pots of sandy soil in which leaf mould predominates, placed in a propagating pit, with a temperature of about 60° F., and kept closed for a few days, after which they are gradually hardened off in single pots and finally planted in their flowering quarters in June.—*Henry H. Gibson, The Gardens, Glencairn, Belfast.*

JOURNEYMEN.

I have been a journeyman for about fourteen years and have been in one of the largest places (in Scotland, at least). During the time I was there, to say that I learned more in six months than I did in the smaller places in a year is, to my mind, utter nonsense. In this big place I had the working of the Pine stoves, plant stoves, Melon pits, and a good many hot and cold frames. Now I was never inside the kitchen garden from one week's end to the other, unless a walk through on a Sunday morning. How does Mr. Dick think that I was to learn more there in six months than in the smaller places, as general foreman, where I had a hand at everything that was done during the year. Would Mr. Dick please say what is the *great lot* that could be done by the head gardeners to benefit their willing assistants? As for journeymen gardeners keeping a diary, they that do are the exception rather than the rule. They can tell you all about the latest football results; but, if you ask them if they read the article on planting Curly Kale in The Gardening World—Oh! they never noticed that.—*F. Ross, Strathtyrum Gardens, St. Andrew's, N.B.*

The letter of last week's paper on the above subject reckons the small place inferior to the large establishment for knowledge and practical work. That is hardly feasible. The journeyman or apprentice in the small place (that is, where one or two are kept) has more of the gardening proper to do than the one in the large establishment. It is not lords and dukes that make skilled gardeners, although influence goes a long way in procuring a good situation, which we see in every day of life. In the small place we learn the elements of gardening, the preparation of seed beds, sowing of seeds, various methods of digging, pruning of outdoor fruit trees and bushes, potting, dibbudding, staking, and a host of other practical jobs. The gardener has more time to instruct us in these important matters than one who has the constant worry and responsibility in a large place. With the gardener in such a place, at least 80 per cent. of them, I am afraid it is economy in labour with their work, both inside and out. Being undermanned everything is done in a haphazard manner. The under journeyman and apprentices in such places are next to slaves. Rough and ready is their motto, your work being sheared down by the knife for market. There is a private place, for instance, near Edinburgh, where the apprentice neither learns one thing nor another; his chief work is cleaning the refuse up behind his superiors. The encouragement he receives is past all humanity. That is one of the young gardeners' grievances. A little more encouragement and we will succeed. As for a diary Mr. T. S. Dick speaks about, it is not of much account, unless for the said place or district it was jotted down in. There are scarcely two shires alike for climate and soil. Every gardener has his own pet theories. We must bear in mind that an ounce of practice is worth a pound of theory. There are exceptions on both sides. Good and bad places, whether it be "duke's sons, cook's sons, or sons of a millionaire." Mr. Blair's estimation of young men deserves thanks for. To look for high attainments is not to be got from three-fourths of gardeners. The small place finds the majority of our best gardeners, and some cannot even attain that privilege.—*A. V. M., journeyman, Coltness Gardens.*

Apropos to what is being written anent "Journeymen" in these pages, although the following extract from the *Journal of Horticulture* does not bear directly on the arguments being expressed, it is at the same

time so humorous and so full of truth that we are pleased to print it:—

"After waiting patiently for many weeks the perennial appeal for ignorance at last appears on page 33 to cheer those of us who do not want to improve ourselves; who do not want to study the principles of our profession; who do not want any tests; and, in fact, who do not want to be bothered with anything beyond the three R.'s. That illustration of the far-sighted duke is most refreshing, and must convince all of us that the time has arrived for the foundation of a strong "Society for the Suppression of Knowledge among Gardeners." A charter should be applied for granting power (*a*) To confer degrees of R.R.R. on its members; (*b*) to abolish all scientific education and all examinations; (*c*) to secure priority of employment for its members. It would assist the society materially if powers could be obtained to punish all disturbers of our peace, such as promoters of examinations and of education generally, and especially the irrepressible Scotsman who will persist in improving himself while young with a view to sweeping off all the plums of our profession throughout the world; we stand no chance against him now. All head gardeners of fair education should be dismissed summarily, and so cause healthy promotion for us. Any gardeners who have been so misguided as to obtain the R.H.S. certificates might be punished by fine for a third class; lengthened imprisonment for a second class; but nothing less than penal servitude for life for a first-class certificate. That dreadful person who advertised the other day for a gardener holding the R.H.S. certificate should suffer the extreme penalty of the law, together with "J.S.," who on page 41 has the temerity to thank "An Old Boy" for trying to help young ones. With a powerful chartered society of our own we could sleep in peace, resting serenely calm in the consciousness that, like horticultural Joshuas, we had done our best to make the sun of knowledge stay in its course, and should be proud of our signature."—*R. R. R.*

NOTICE OF BOOK.

A Practical Guide to Garden Plants, containing Descriptions of the Hardiest and most beautiful Annuals and Biennials, Hardy Herbaceous and Bulbous Perennials, Hardy Water and Bog Plants, Flowering and Ornamental Trees and Shrubs, Conifers; Hardy Ferns; Hardy Bamboos, and other Ornamental Grasses; also the best kinds of Fruits and Vegetables that may be grown in the open air in the British Islands, with full and Practical Illustrations as to Culture and Propagation. By John Weathers, F.R.H.S., late Assistant-Secretary to the Royal Horticultural Society, Horticultural Lecturer to the Middlesex County Council, formerly of the Royal Gardens, Kew, &c. With 163 Illustrations. Longmans, Green & Co., 39, Paternoster Row, London; New York, and Bombay. 1901. All rights reserved. Price 21s. net.

This compendious volume runs to 1,192 pages, including a good Index, which runs to twenty-two pages, four columns on each. The book is divided into four parts, the first of which deals with the life-history of plants. The second part is the most important and the most extensive, as it deals with the whole body of ornamental plants, whether of a herbaceous or woody character, including the Conifers, Bamboos, &c., which may be grown in the open air in the British Isles or some part of them. The third part is devoted to fruits, and the fourth part to vegetables, thus making the book inclusive of everything that may be grown without glass or with the aid of a greenhouse in winter for those plants which may be turned outside in summer. A descriptive and freely illustrated glossary, at the beginning of the book, explains the meanings of all the words that are likely to give the amateur any difficulty. The book, we may say, is chiefly intended for the use of amateurs, as well as for those professionally engaged in horticulture. The various methods of propagation are here again described, and illustrated as a guide for the inexperienced, and also what to avoid. Garden operations, plant foods, manures, the making of a hardy herbaceous border and various other practical garden operations have a considerable amount of space devoted to the same. Several lists of plants and flowers suitable for various purposes, and in some cases arranged according to colour, enable the reader at a glance to see what is at his or her command, thereby facilitating selection.

The rock garden, in its various aspects, has a chapter devoted to it, the three leading forms discussed being the "barrow-shaped," the "facing," and the "sunk" rockery, terms which will be obvious to all who have given any attention to the subject. The facing rockery refers to those constructed against a bank of greater or less height, according to the situation, and capabilities of the place. The chapter concludes with a select list of plants which may be grown upon the rockery.

The principal portion of the book, devoted to hardy ornamental plants of all kinds, is arranged upon the natural system, a method seldom adopted in gardening books, and in that respect it differs markedly from those still in print and obtainable from the publishers. Any difficulty which the uninitiated may experience in finding any given plant contained in its pages is easily surmounted by reference to the index which gives the page on which the species commence in alphabetical order. We note under Anemone coronaria that only the two principal sections into which this species has developed in gardens has been given. No doubt considerations of space have prevented the inclusion of any list of varieties. It would seem that horticulturists have been uncertain about the Peacock Anemone (A. pavonina) as it is stated to be a double form of A. fulgens and also a synonym of A. stellata. St. Brigid Anemones might have been described as a single-flowered race of A coronaria, as it was much in vogue recently, and still finds many admirers. An important feature in relation to these hardy plants is that cultural details are attached to each species, where the same differ in any material respect from others.

Hardy shrubs and trees find a place, each in their respective Natural Orders, so that they are sandwiched with annuals, biennials and perennials just as in the case of dictionaries arranged alphabetically, but each class has the advantage of being grouped together just as if a separate chapter had been devoted to each particular group of allied subjects, so that there is method in the arrangement that will appeal to many. Thus the reader finds the Conifers all in Order CXXX. The most recent classification is adopted so that the plants at one time or other classed under Chamaecyparis, Retinospora and Cupressus, are all grouped under the latter name. Only a few of the garden variations are recorded but much useful information is given concerning fine trees of the rarer Conifers in different parts of Britain. Fruits and vegetables are dealt with at considerable length, the best and most useful varieties being described. An immense amount of information on one subject or another has been gathered within the boards, so that we have ample evidence of the industry of the author in all departments of horticulture during many years of work and observation.

THE PLANT HOUSES.

The Ventilation of Plant Houses.—Only a week ago I saw a large plant house with side ventilators of the sash-pattern, that is, the whole sash opened outward to let in the air, and on this occasion the sash was open a few inches and allowed a perfect current of cold air to stream in upon the few hardwooded plants which were unfortunate enough to be victims of combined inconsiderateness. In the first place it was inconsiderate and unwise to have such ventilators there at all, or of that particular kind, and certainly it was unreasonable on a cold day to open the ventilators in the manner they were opened. In houses required to be kept cool at all seasons, there should be a double set of ventilators. One set should be on a level with the hot water pipes; the other set may open on a level with the stages. The former set allows the air to pass into the house below the stages and if the pipes are warm a nice balmy air will circulate around the house. Or in winter the day may be sunny though the air at the same time may be cold, and in cool Heath houses or greenhouses, it will be necessary to ventilate a little. For this necessity the lower side ventilators are used. In summer the extra ventilation is got by the use of the ventilators on a level with the stage; but to admit air through these on any cold day is indeed bad, and no person with a love for plants, and with average common sense would do it.

Then again in constructing warm pits, it very often happens that there is either no ventilators or at most only top ones. Certainly a great deal of lower ventilation is not desirable but there should always be at least one or two ventilating pipes. Ordinary 3in. drain pipes can be built in below the stages, which in warm pits have usually the front brick-faced—that is, the space beneath the stages are not open. These drain pipes thus communicate with the outer air, and conduct it right into the central part of the house.

The pipes can be loosely plugged up with blocks of wood. A square piece of leather or tin, or lead may be fitted on to one end of each piece of wood so as more effectually to exclude the air whenever ventilation is not desired. In the building of all kinds of plant houses besides a good heating system, the needs of the plants in the matter of fresh air, should certainly not be overlooked; and how to supply that fresh air to the most advantage, at all times requires a good deal of careful planning.

The Conservatory.—It will be necessary to pot up further batches of Hippeastrums so as to have additional early flowers of these much-prized plants. The various bulbous plants are conspicuous at this time and those in the ash pits must be looked to, so that they may be prevented from becoming drawn. Richardia elliottiana and R. Pentlandii may also be sought out and potted in a compost similar to that used in the case of Hippeastrums. So soon as the Ericas go out of flower they may be pruned or pinched according to their needs, and if they demand a shift—and young plants most likely will—the potting may be done at this time. Just before the conservatory is rearranged for the spring, it should be cleaned by washing. Climbers on the beams should be thinned and probably pruned if they are going out of flower. All classes of plants show a general tendency to grow a little more robustly after this time of year. Many subjects will have to be propagated, either from seeds or cuttings, while others will require to be potted on, or started or cut back and rested as the case may be. Thus young batches of Petunias, Cyclamen, Balsams, Pelargoniums, Calceolarias and other things will be filling the shelves of one or other of the temperate houses, and these will need to be kept potted. Fuchsias and fancy Pelargoniums should be started into fresh growth; the same with batches of Lilium eximium longiflorum for Easter. Zonals on the other hand may be getting past in some cases, and will be better if they are cut back and kept dry. Cyclamens that are diminishing their yield of flowers should not be at once rested, but may have their corms as much developed as possible (the flowers being kept plucked off) before being finally ripened and rested.

The Stove.—The present is the best time to prune out any superfluous growth in specimen Crotons or other stove plants. Nice straight shoots may be used as cuttings. Dieffenbachias can be cut right back almost to the surface of the pot for use as cuttings. Anthuriums may be top-dressed and the potting of stove plants should be begun.—*J. D.*

ROYAL GARDENERS' ORPHAN FUND.

(*Concluded from p.* 347.)

The chairman referred to the telegram which the treasurer had sent to H.R.H. the Prince of Wales (now King) at Osborne, in the afternoon. A telegram had been received in answer to this from H.R.H., thanking the members and subscribers of the Gardeners' Royal Benevolent Institution for their expression of sympathy in the trying hours. "And then," the chairman went on to say, "just before we sat down to supper we had the news that her Most Gracious Majesty the Queen had gone to her great reward." "We will have no toasts, no speeches, no singing, and I would propose that we unite in sending our expression of deepest sympathy to the Royal Family in their (and our) great loss." The chairman, in a voice that quivered, added to his proposition and announcement a few words on the goodness and greatness of our late Queen during the sixty years in which she has swayed her country and empire. "Her character has raised the moral tone not only of this land, but of the whole wide world. Her name will go down to posterity, and future nations will rise up and call her blessed." The chairman sat down amid almost complete silence; and it was apparent that he echoed the heart-feelings of each man who heard his words. The meeting then slowly dispersed.

HINTS FOR AMATEURS.

INSECTS INJURIOUS TO GARDEN CROPS.

FORWARNED is forearmed, and the purpose of these notes is to put growers on the alert so as to take precautionary or preventive measures against the insect pests that destroy our crops.

Carrot Fly (*Psila Rosae*).—One of the worst of scourges is the Carrot Fly which, when once it obtains a footing in a garden, is very difficult to eradicate. The signs of its presence is speedily marked by the drooping of the young seedling Carrots. The female fly appears in early spring and lays her eggs just below the ground by the side of a Carrot. It is agreed by all who have studied the question that the eggs are laid below the ground, and as soon as the larvae hatch out from them, they enter the roots. They continue to bore up and down in the roots, and usually gnaw through the root, causing the young seedling to collapse. These larvae or maggots are whitish in colour, and about a quarter of an inch in length. Before pupating the larvae leave the root and go into the earth, and in a week or two change to the mature or imago state, that is, it becomes a fly. The last generation of the year, however, remains either in the roots or in the soil, in the pupa condition. When the agreeable spring weather comes, these pupae emerge as flies, and again start the life cycle of a new generation or brood, of which there are several during the summer.

The means of prevention are comparatively few, and are not always very effective. So soon as the bed of seedlings show signs of failure, those that are affected must be pulled up and burned. The Carrot beds should be lightly syringed with paraffin emulsion from the time the young seedlings come through the ground. The emulsion should not be used stronger than at the rate of a wineglassful per gallon of water. The odour of the paraffin acts in warding off the female flies. In large Carrot fields a horse distributor would have to be used. It has also been found of service to place well-pulverised coal ashes, sand, wood ashes, and peat moss impregnated with paraffin oil at the rate of 4 qrts. per cwt., into the drills before sowing the seeds. In badly infested gardens this method is really worth the trouble. Curtis recommends a gallon of spirit of tar to a barrowful of sand for this purpose. Sand or ashes impregnated with paraffin or carbonic acid may be scattered over the plants at singling time to keep the flies from them. If the flies can be prevented from laying eggs the crop can be saved. To prevent the egg laying, obnoxious substances such as soot and sand steeped in paraffin, &c., should be kept sprinkled about.

The Onion Fly (*Phorbia cepetorum, Meade*).—Another well known and persistent vegetable pest is the fly which makes its special attacks on Onions. In some seasons the damage done is much greater than at other times, but every year brings quite a number of complaints about this insect. Winter-sown Onions are noticed not to be so badly subjected as those placed out in spring. Or if the seeds be sown in the open air in February the seedlings usually gain a sufficiently large size, and are stout enough to resist the preying of the larvae. Where Onions are raised indoors for planting outside they should be a good size and as hardy as possible before being set out.

The fly appears about the middle of February in mild seasons, and lays from two to six or more eggs on the leaves of the young Onions. In a week's time, if the weather is favourable, the larvae have hatched and are busy boring into the bulbs. The maggot stage continues for three weeks, or a little more, when the maggot becomes a pupa, and after a further period of three weeks the pupa emerges as a fly. Spraying and dusting as recommended for the Carrot fly also applies in this case.

Kainit sown broadcast over the land may be used at the rate of 5 cwt. per acre. with advantage. The Kainit acts severely upon the larvae of the fly, and at the same time is very helpful to the Onions. Infested ground should be dressed with gas lime when the crop has been lifted. The lime may be used at the rate of 1 to 3 tons per acre, or 5 cwts. per rood, equal to 1 stone per perch or pole. Thus a good barrowload of fresh gas lime would suffice for a plot of two or three poles of land, square measure.

Every assistance and encouragement should be given to the young crop so as to get the bulbs over the period at which they are susceptible and liable to the greatest damage. When once the tunic of the bulb is tough and the bulbs large the maggots have not the same destructive effect upon them.

The Celery Fly (*Tephritis Onopordinis*).—The Celery fly is often enough found in gardens, but happily it does not do much harm beyond disfiguring the appearance of the leaves. Parsnips are also subject to attacks by this insect. When the Celery plants are early attacked they make little headway and become stunted. The fly is on the wing in the balmy days of April, and the female fly soon proceeds to lay her eggs on the upper surfaces of the leaves. Many eggs are laid, and these hatch out in less than a week. The larvae bore into the tissues and mine about in the same manner as the Composite leaf-miner does in the leaves of Marguerites, Cinerarias, and Chrysanthemums.

The pupae usually remain in the soil after the Celery has been been taken up, so that besides deep digging (which can be practised with effect where the soil is good) the land should be dressed with gas-lime, as recommended in the case of the Onion and Carrot infestations. Still, the lime has little effect on these pupae with their leathery, protective coat. If the attack is not very severe a good deal can be done by crushing the maggots, that is, the larvae, when they are in the leaves. Badly infested leaves and stems should be taken off and burned. Thistles are also infested by Tephritis Onopordinis, so that they ought to be cut down or kept under suppression if Celery plants are in the neighbourhood. The plants should be encouraged to active and vigorous growth, because then the harm the larvae do is much less apparent. Spraying the plants with the paraffin emulsion acts very well. A carbolic acid solution made in the proportion of one pint of carbolic acid and half a pound of soft soap to ten gallons of water has proved effective.

The Stem Eelworm (*Tylenchus devastatrix*).—During recent years we have heard and seen a great deal of the mischief done by this species of eelworm. Wheat, Oats, Clover, Hops, Onions, and Cucumbers appear to be the principal sufferers, and until recently at least the mischief appeared to be extending. The habits of the creature prevent the cultivator from being able to reach and kill it without at the same time harming the plant. The full-grown eelworm is about the 25th of an inch in length, and in shape it generally resembles a tiny eel. Eggs, larvae, and fully grown eelworms are sometimes found in the same piece of stem or root. The larva undergoes several changes or moults before it becomes a perfect eelworm. In its various stages, and particularly in its perfect form, the eelworm lives entirely on vegetable tissue. When these tissues either decay or dry up the larvae fall or escape to the soil, where it has been seemingly well proved that they can resume animation and activity after a period of two and three years in a perfectly dry condition.

It is a knowledge of this fact that makes their extermination so difficult and their distribution seem so easy. Boiling hot water, coldness, want of food, and other antidotes have certainly had an effect when applied against them. From the nature of the infestation the eelworms can only be "come at" by applications through the roots. If the plants are maintained in vigorous growth a great deal of the harm is overcome. Nitrate of soda and sulphate of ammonia are recommendable from the point of view of growth production. For Onions or Cucumbers a few ounces per square yard of sulphate of iron, sulphate of potash, and nitrate of soda mixed together should be applied to the soil to be watered in. Phenyle applied in the form of a solution to the roots has had as satisfactory results as any of the applications tried in the case of Cucumbers. Infested plants are much better to be burned at once, after which all the soil should be cleared out, and the house (in the case of Cucumbers) thoroughly washed and syringed with boiling water.

Work for the Present.—So soon as a few days of open sunny weather come to bless our land the horticulturists will be among the busiest of men. The ground will be forked and surface worked to obtain a deep tilth in preparation for the early plantings and the sowings. All work of a laying-out nature, that is, the renovation or altering of grounds, should be brought well up, and should be kept under hand. Planting may go on for a long time yet, but in all these operations do not allow the current cultural work to be neglected.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Treatment of Calanthes after Flowering.—*L. S., Berwick*: After the flower spikes have been removed from evergreen Calanthes, the pseudo bulbs are encouraged by reasonable feeding and attention to dewing, watering, shading and ventilating them, to develop to as large a size and to be as well ripened as possible. Mere size would be ruinous, as indeed it would be with any class of bulbs whatsoever, if they were unripened. All flowering bulbs beside being sound and well developed, should be thoroughly matured by the end of the growing season and then flowers may be expected. Weak liquid manure should be applied twice a week at the least. A span-roofed house and a temperature of 60° up to 70° will answer their demands. They must be kept clean. Stock for Christmas and mid-winter flowering should be potted (single bulbs) about the beginning of April, or from then till the end of that month. The deciduous Calanthes like C Veitchii, C. vestita and others require a thorough rest after flowering.

General Climate of Natal.—*J. S.*: In the low lands the climate is only suited for Zulus, and others of the Kaffir tribe, as well as the Indian coolies who have been introduced to the sugar fields in that country. Europeans find the climate very agreeable in the altitudes of about 4,000 ft. and 5,000 ft. above sea-level. All the European fruits including open-air Oranges and Vines can be grown. Fruit culture is indeed, becoming a great industry there. Millions of all sorts of fruit trees have and are being planted. The native labour is somewhat scarce, or at least the Kaffirs do not care to exert themselves. The seasons are just the opposite to ours, July being mid-winter in South Africa. For five or six months the temperature ranges between 60° and 70° in the highlands.

Improving Grass Lands.—*L. R. N.*: We doubt if anything better than a nice top-dressing of finely sifted rich soil having wood-ashes and well rotted dung incorporated with it, could be used in your case. When soils are very light or are much exhausted, a solid top-dressing exerts a far better effect than merely dusting the surface with chemical fertilisers or soot. Still it is getting late to be thinking of such an operation so that the soil will have to be very fine indeed. It can be brushed in if the rains are not capable of washing the soil down to the roots.

A Selection of Pot Herbs.—*R. Ingram*: Almost any nurseryman's seed catalogue will furnish a complete list of herbs for flavouring and other purposes. Such herbaceous perennial herbs as Mint, and Horehound, can be planted in March, or can be raised from seeds like any of those that are named below. All herbs for flavouring purposes are best when used green, and when they have to be dried this should be done as slowly as possible. The bunches must be kept well aired, else they may turn mouldy. The following are the more popular pot herbs:—Angelica, Bush Basil, and Sweet Basil; Chervil, Fennel, Horehound, Hyssop, Lavender, Marjoram, Rosemary, Rue, Sage, Thyme, and Wormwood. All of these can be raised from seeds and some of the shrubby sorts like Lavender, Rosemary, and Sage, from slips or by layering.

The Pomegranate.—*L. F.*: The Pomegranate does not succeed in this country as a fruiting plant though in dry warm summers it does flower even out of doors, but it requires the protection of a wall.

Can Montbretia crocosmiflora and Gaillardia maxima be included in a collection of hardy herbaceous plants for competition?—*W. Y. B., Edin.*: Yes. Gaillardia maxima or rather G. grandiflora maxima is a variety of the perennial species G.

aristata. The Montbretias are all popular for exhibition in stands of hardy herbaceous plants.

Petunias.—*W. Y. B.*: Your best plan would be to make cuttings of the tips of the shoots of your Petunias. If the shoots are very soft you might not be successful in striking them unless great care was taken. Place them in shallow boxes filled with light sandy soil, and place these in a little frame or greenhouse whose temperature is about 55° or 60°. They can be potted when well rooted. The old plants will carry through and should break into fresh growth. Do not allow them to become "drawn."

Proportion of Pigeon Manure to the Square Yard.—*W. Y. B.*—Though pigeon manure is almost double the value of poultry manure yet you can use the pigeon manure in equal proportion to the other, that is about ½ lb. per sq. yd. A very great deal depends on the mechanical and other conditions of the soil.

What constitutes an 8-in. Pot?—*W. Y. B.*: A pot 8-in. in diameter, measuring from the inside at the top of the pot. It is thus when we speak of 2-in., 3-in., 4-in., 5-in. pots, and so on. Sometimes one writes of 32-sized pots; 60-sized pots. When this form of announcement is used we refer to the number of a certain size of pot that can be had from one "cast" of clay used in the making of the pots. It used to be the practice to divide clay into portions termed "casts." These were all of equal size and thus one cast of clay might make eighty pots or only one according to the size. This practice has been altered, however. We append a table of the

Old names and sizes of pots.

Depth. Ins.	Diameter. Ins.	No. to Cast.	Name.	Ins.
18	20	1	1's	20
14	18	2	2's	18
13	15	4	4's	15
12	13	6	6's	13
11	12	8	8's	12
10	11½	12	12's	11
9	9½	16	16's	9
8	8½	24	24's	8
6	6	32	32's	6
5	4½	48	48's	5
3½	3	60	60's	3
2½	2½	80	80's	2½

Scale on fruit trees.—*A. G.*: Make an emulsion by boiling 1 lb. of soft soap in a gallon of hot water, adding at the same time one wineglassful of methylated spirits of wine. Brush this into the crevices, cracks, and all places of the walls and the branches of the trees.

A LONDON MARKET GARDEN.

Around the outer fringes of the great metropolis, there are a vast number of nurseries and market gardens. Some of these commercial gardens are hugely extensive—at least, according to our English ideas. The acreage of glass over which they span varies from ten up to forty-three acres, the latter being the size of the largest. In the present case we will find enough to detail about the winter working of the ten acres of glass named the Nether Street Nurseries, which belong to Mr. W. J. Batho, out at Finchley, London, N. Finchley is one of the great Grape growing centres, and Vines are therefore the principal subjects in permanent occupation of Mr. Batho's glasshouses. But flower-forcing ranks as an industry now-a-days, and when one is told that fifty dozen bunches, each having twelve spikes of Lily of the Valley is sent daily into Covent Garden Market at this time of year from this individual north London garden, the truth of the above remarks seems to require no arguing. I am quite sure of my figures for I doubly interrogated my friend, Mr. A. G. Maskell, who is Mr. Batho's right hand man, and an excellent chap altogether. Yes, and a cool one and a half million crowns of these "Valley Lilies" are forced annually. Amongst other flowers that are brought forward for market supply are Roman Hyacinths, but so cheap and plentiful is the Lily of the Valley, that gradually the latter is lessening the demand for the former. Duc Van Tholl Tulips, Narcissi, Bermuda Lilies, and Azaleas, are also largely forced.

It was most interesting to me to see a dozen to twenty lads and men bunching and packing all the various flowers in flat boxes to be ready for the van which starts at 4 o'clock for Covent Garden, about eight miles in toward London's heart. One van goes every work day, and another one thrice a week, making nine loads in all—surely a respectable output? Mr. Batho, by the way, has a stall in the market. Apropos to what was written a few lines previously about Lily of the Valley, it is interesting to note that the crowns are put into boxes 4 in. deep by piecework. A great many men were working with unusual heartiness at this occupation; so willingly indeed that I evinced surprise. My conductor smiled as he explained that time meant money, and that each man is paid so much per dozen boxes that he fills. "It is more satisfactory to them and more satisfactory to their employer," said Mr. Maskell. All the best market Ferns, mostly Pteris, as P. cretica, P. c. Wimsettii, P. tremula, and P. serrulata cristata fill quite a number of long, low, span-roofed houses, all of them splendid structures.

The houses indeed are worth a special note to themselves. As will be seen in the accompanying illustration of one of the Muscat vineries, they are spacious and substantial. The figure represents the type of all the others, both the early forced, mid-season, and late vineries. The smaller spans (and all are spans) are equally well constructed and as roomy as is consistent with the needs of the case. The smaller houses are mostly ventilated with the Kinnel gear, the working principle of which is that the top ventilators open upward from the sloping sides of the house, and are worked from one of the ends outside, by a strong lever and a connecting rod which runs through pulleys along the inside of the house.

Muscat House at the Nether Street Nurseries, Finchley.

The Ficus elastica or so-called India rubber plants, both the common and the variegated forms, stretch along the stages by the thousand; and the Zonal and Ivy-leaved Pelargoniums as well as the show and fancy sections are liberally grown at the Nether Street Nurseries. Spiraeas, Solanums, Fuchsias, Lantanas in pots, Primulas and large quantities of bedding plants occupy additional houses. Cinerarias were represented by exceedingly well-grown, vigorous, stout and large-headed plants These were certainly as fine a batch as I ever remember to have seen, and they further strengthened my predilections for confining Cinerarias to small pots, each of the massive plants in this case being in 32's. Once the roots have ramified through the soil in the pots the necessary nourishment is aptly furnished by adding a handful of Ichthemic or other guano to the gallon of water when supplying the plants. It is worthy to note that the public almost universally reject the blue-flowered varieties of greenhouse Cinerarias. They prefer the light coloured sorts—the whites, the striped ones and the warmer shades of crimson, but

the dark blues can scarcely be sold. Something more enlivening seems necessary at this season when everything around us is dull.

Mr. Batho has recently been adding considerably to the number of his houses and has converted a hitherto useless stream to the very essential purpose of keeping his water tanks filled. By damming the stream he gets a sufficient body of water to tax the powers of an engine which has been erected within a square brick building and which works on alternate days. This engine forces the water up to a great cistern placed on high ground at a considerable elevation above the level of the houses, and which holds 32,000 gallons of water. From this cistern a strong force of water is supplied to the pipes through all the houses, every pipe being furnished with a tap. Where the cost of water is so great, amounting to hundreds of pounds sterling per annum, in some of the large vineyards, it behoves the market growers to make use of all the natural helps that are at hand. The winter season is scarcely a fit time to make an inspection of the vineries, but where Grapes are supplied all the year round, it may be said that there is always something to see. The earliest houses had been started in November and were already showing flower bunches. None of the vineries have outside borders. For one reason, these would occupy too much space; and, again, in a market garden where £ s. d. has to be strictly considered in all operations, and where young and fruitful Vines, instead of great old specimens are to be maintained, large borders are not necessary. The grower wants to know just where the roots are that he may feed and water them, and outside borders altogether would necessitate a great deal of unnecessary expense and labour. The inside borders of the early vineries are mulched with short dung. By referring again to the illustration an idea will be obtained of these handsome houses in their summer or autumn condition. Mr. Batho will be noticed sitting in the front, and next him Mr. Maskell, with the foremen sitting further back. Within the last two years the owner of these vineries has entered the lists as a competitor at some of the great fruit shows. He has only exhibited on a few occasions and has come off first or second in each case. He had a much admired dozen bunches on the stand of the Ichthemic Guano Co. (Ipswich), at the September show of the Scottish Horticultural Association held at Edinburgh two years ago. He was first in the open class for Canon Hall Muscats over a year ago at the November show of the National Chrysanthemum Society; first last September at the Crystal Palace great fruit show in the market growers' open class; at the Paris Exhibition the Nether Street Grapes were easily first; and in November last the second prize was gained for three bunches of white Grapes at the N.C.S. show. It will be long before the prestige of the British Grape grower, either in private or commercial gardening, declines.—*D.*

ZONAL PELARGONIUMS,

Better known as greenhouse Geraniums, are a wide and varied class of plants. The plants to furnish our display in summer will require to be looked at. Cut down to a few joints, using the ripened points as cuttings. Insert these in boxes or thumb pots filled with sandy soil, and replace in a brisk temperature of 60°. Water with a rose, which will be enough before they are rooted. It will be advisable to wait a fortnight before repotting after being cut down. Prepare a compost of 1 part loam, 1 leaf-mould, 1 Mushroom dung, and 1 part consisting of lime rubble, soot, bonemeal, sand, and charcoal. Repot firmly in 6 in. and 7-in. pots, that will induce firm, short-jointed wood. The footstalk will be able to uphold its trusses of bloom. Grow on in a vinery or a Geranium house. Regulate shoots and pick off all flowers up to the end of April. The following six months the greenhouse or conservatory will be in a blaze of incessant flowers of all hues. There are innumerable varieties to choose from, both in flower and leaf. Trained specimens of the bicolor and tricolor sections are much in vogue now. At no time damp the leaves of Pelargoniums when watering. When root-bound feed three times a week. Keep clear of greenfly by the use of XL All fumigator. Repot cuttings when struck in 4-in. and 5-in. pots. Plunge outside in an open frame when all fear of frost is away. Allow them to make wood in summer. A few flowers may be had during the last months of the year before you allow them to rest, previous to being potted in spring.—*Adam V. Main, Coltness Gardens, Wishaw, N.B.*

DRESSING HARDY FRUIT TREES.

All kinds of hardy fruit trees derive great benefit from an annual cleaning, yet in some gardens they are left to themselves for years. If the loose pieces of bark on such trees were removed all kinds of grubs and insects would be found concealed, which in the spring time awake to new life and creep upwards to renew their ravages on foliage and fruit. The stems and main branches as high up as one can reach at least should first be scraped with an old trowel, especially if moss is growing thereon, then brushed down with a stiff brush, and afterwards painted, rubbing the dressing well into the crevices and round the angles of the branches. The following is a very good and cheap mixture to use. Cut 1 lb. of Lifebuoy Soap into slices, put in a bucket, pour on two gallons of boiling water, and make this into a thin paint by adding soot and lime, using rather more soot than lime, as plain lime-washed trees are unsightly objects in a garden. The above mixture dries a greyish colour, and is not at all objectionable. Lifebuoy Soap is supposed to be very helpful in healing the cankered parts on Apple trees.—*G. B., Mona Cottage, Holbeach.*

JOURNEYMEN.

I think, with Mr. C. Blair, that smaller places are better for gaining knowledge than large ones; and that if a man gets into another department he is still under the same head gardener, and consequently working in the same groove as before, in many respects, such as, for instance, watering, ventilating, &c. If he has the energy a young gardener should have, he will go into a place and do his utmost for his own benefit, and by so doing he will give satisfaction both to himself and the gardener he is under. Should he be in a large place he will, of course, have charge of a much less variety of plants or fruits, as the case may be, than in a small one. In this case, in my opinion, one year is sufficient. Then if he has done his duty, where is the head gardener that would not do his duty by him in trying to get him a situation suitable to his ability? But Mr. T. S. Dick seems to think that head gardeners look upon their assistants as slaves. This may be the exception, but, I think, not the rule. I think that when he has held a head gardener's place for a few years, he will find it is harder work to please master and man than to fill the place of a journeyman, which he now evidently finds so trying.—*F. G. Brewer, head gardener, Terlings Park, Nr. Harlow, Essex.*

BOTHWELL CASTLE, BOTHWELL.

I recently paid a visit to that fine old noble residence, Bothwell Castle, one of the seats of the Earl of Home. Bothwell Castle has been long noted for a fine show of Chrysanthemums. So late as December 23rd, more like November 1st, I was quite surprised to see such a fine lot of 500 odd plants arranged in the centre of a fine span-roofed house, 50ft. long and 18 ft. wide, rising from 2½ ft. in front, with an even slope to 9 ft., and at the extreme end 6 ft. wide. Plants averaged four blooms each, in 9-in. pots, fresh, and as fine as anyone could wish for so late. Mr. Archibald, his lordship's able and enthusiastic gardener, told me that her ladyship always depends on the Bothwell Castle 'Mums for Christmas, for church decoration, and on the day after 24th of December they would be all cut for that purpose; but on leaving that house we entered another lean-to which was well filled with well grown free sorts which looked like to keep up the supply for at least months to come.

On leaving this house we entered another lean-to, which made me open my eyes, when, to my delight, I saw such a fine lot of Begonia Gloire de Lorraine, about four dozen plants in 6½-in. pots, averaging 20 in. each way, on a sloping stage, relieved very effectively with well grown plants of Grevillea robusta, in 5-in. pots, in the pink of health. This show was very fine. We then passed from this house through a very pretty little stove fernery, also in the pink of health. The front stage had some very fine plants, Gymnogrammes of sorts in fine order. We then passed through a span-roofed plant stove. Here there was a fine mixed collection of plants. Some good Orchids were seen here, such as Laelia anceps, fine type; good Cypripediums of sorts; and Zygopetalum Mackayi, with fine spikes. Here we saw one of the finest plants of Epiphyllum coccineum. Mr. Archibald says it is over sixty years old. The main stem will be quite 4 in. in diameter; the plant will be about 6 ft. through, and I should say carries thousands of flower buds, just all about bursting into flower. It must be a fine sight when in full bloom. We passed into another span-roofed Croton house, which was also fine, all the plants being table size.

Mr. Archibald is at present much interested in Apples and Pears. We found him very busy preparing borders for planting new and replanting half specimens of all the leading sorts most suitable for the district, for which he is well informed. Bothwell Castle Gardens are very extensive, and lie beautifully on the banks of the Clyde, overlooking that fine old village where Dr. Livingstone, the great African explorer, was born. After passing a most enjoyable hour with Mr. Archibald we returned very much pleased and edified with our afternoon.—*J.M.*

SOPHRONITIS GRANDIFLORA.

This little gem deserves a place in every cool Orchid house. When in flower it is everyone's favourite; colour brilliant scarlet. It is a very small growing plant, requiring a limited space only. Now is a good time to purchase plants newly imported. The following mode of treatment I find suits it best, using shallow pans 3 in. and 4 in. and suspended near the glass in a cool house. Delighting in shade it should not be exposed to bright sunshine, as it browns the leaves. In making up the pans place about eight to twelve leading growths together. Drain the pans carefully and use peat and sphagnum moss in equal proportions, with a few small pieces of charcoal to keep the compost open and porous. It should be kept moist all the year through. The best time to pot established plants is when new roots are showing at the base of the last made pseudobulb. When the flowers are showing I remove them into the intermediate house to open, which increases the size of flower and gives better colour. —*Geo. Walker, The Gardens, 43, Circus Road, St. John's Wood.*

MAKING OF SPAWN.

One way of helping to down the expense of the garden is to make our own Mushroom spawn. Take as materials a barrowload of cow dung, rather stiff, and two barrowloads of horse droppings, and half a barrowload of fibrous loam. Mix these into a stiff mortar-like substance until well incorporated, and look like grafting clay. Then make a frame of wood, say ½-in. boards, and in four pieces—that is, two sides and two ends—enclosing a space of 9 in. long, 4½ in. wide, and 1½ in. deep. Obtain a clean board and bucket of water, dip the frame in the water, place on your board, fill it with the prepared mixture, strike level with a trowel, and turn out the bricks, placing them on edge on boards to dry. In a few days make holes in the bricks, but not going through—say about an inch in diameter—turn the bricks until they are very dry, then into each hole place a piece of good spawn and cover with clay or cow dung to prevent from falling out. Next make a hot bed, and build the bricks on edge in piles in honeycomb or pigeon-hole fashion; cover with litter so that a temperature of 80° will be kept. The bricks must be removed (as the spawn runs), and kept in a dry place until wanted for use. This is really a good plan.—*T. S. Dick, Castlemilk Gardens, Lockerbie.*

CAMPANULAS.

Some of our most interesting and beautiful plants for the flower borders and rockeries in the summer are the Campanulas or Bellflowers, so called from the shape of the flowers. There are so many different species, and such a diversity among them that they may be grown by all, the pretty Campanula isophylla and its white variety, alba, being often seen growing luxuriantly in cottagers' windows. Mayi is a newer form, flowering more freely and stronger than the type. Some of the Bellflowers are annuals, among these being C. macrostyla, a half hardy one, and C. attica and its white variety, hardy annuals; the two latter are a pleasing association of colour, and only grow 9 in. high. Of

biennial varieties there are the Canterbury Bells (Campannla Medium), which are worth planting freely in the garden and shrubberies Of the perennial varieties I must first mention Campanula or Platycodon grandiflorum Mariesi, and the beautiful white variety album, two very beautiful plants for the flower borders, which open out their blooms almost flat, and do not care to be disturbed. Then there is the beautiful peach-leaved Bellflower, C. persicifolia, also the varieties alba and grandiflora. Campanula glomerata, a native kind, is fine, and has varieties called alba and dahurica. Very suitable for the rockery are C. muralis, pulla, G. F. Wilson, pusilla, garganica, and Raineri. Although this list is far from exhaustive some of the best will be found among it.—*A. Thatcher, Elstree.*

FRUIT TREE STOCKS.

Stocks are employed (1st) for the propagation of varieties of cultivated fruit trees, (2) to modify the habit of growth, and (3rd) to fit varieties to the peculiarities of different soils.

Without the agency of the stock we should be unable to rapidly increase any special variety, and at the same time retain the fine qualities of the parent tree.

Apples.

Let us for example take a few pips from some fine Apple, say Worcester Pearmain, and sow them. In two years we have a fair sized seedling, and by grafting it on to a fruiting branch of an old tree we are rewarded by some show of fruit in the fourth season.

Were we now to carefully examine the fruits taken from each seedling graft, the chances are that none would come up to the high standard of the parents, and that each fruit would in all probability differ in colour, size, and flavour.

It is thus evident that for the rapid propagation of varieties we are entirely dependent upon the different stocks.

When a stock is of a slower growth than the variety it supports, its vigour is arrested; the tree reaches a fruiting stage sooner, and ripens its fruit and wood earlier.

For each type of cultivated fruit tree we have as a stock its corresponding wild species, which as a rule produces a strong, deep-rooting, healthy tree specially suited for orchard standards.

There are also other fibrous, shallow-rooted stocks which exercise a more or less retarding influence over the varieties they control, and are thus employed for forming pyramidal or bush trees.

The following are the principal stocks used for the Apple:—The Crab, the Free Stock, the Paradise, and the Burr-knot.

The Crab is raised from the seed of the Wild Apple, which should be sown in autumn or early spring in beds 3 ft. or 4 ft. in width; or in drills 1 ft. apart.

When 2 in. to 3 in. high the seedlings are thinned out and bedded where they remain for about two years, when they are lifted and sized, the strongest and stoutest being planted in lines where they remain until ready for "working," *i.e.*, grafting.

The Crab is a strong, quick growing stock, best suited for the making of orchard standards, and varieties on it do not reach a fruiting stage so quickly as on the Paradise, but afterwards compensate for this in that they live a longer life.

The Free Stock is produced from pips of the Apples used in the production of Cider, and is not so rampant in growth as the Crab, while its root system is more fibrous.

The Paradise or Doucin stock comprises many varieties of which the French and Dutch have three each, and the English two. The former is much too weak in constitution for this country, except in congenial soils and sheltered situations. We are dependent upon the latter, both of which come from old English nurseries and are better than the French, &c.; in that they swell with the scion.

The Broad-leaved and Nonsuch Paradise stock, originated by the late Mr. Rivers, are both splendid for the forming of healthy, fruitful trees. This is the Dwarfing-stock for the Apple and is used for the forming of early fruiting Dwarf Bush or Pyramidal trees. It is raised from cuttings, layers, or suckers.

The Burr-knot partakes of the nature of the Paradise, but is little used.

Plums.

For propagation of the Plum the following stocks are used:— The Common, Mussel, Brompton, St. Julien, and Myrobolan or Cherry Plum. Of these the Common, Mussel, and Myrobolan are the sorts most in demand for the general requirements of the nurserymen.

The Myrobolan has many advantages over the others (at least so far as I can speak from experience), in that it induces a free healthy growth, prevents suckers, and when Plums worked on other stocks are affected with aphis, those on this stock are invariably clean.

For the forming of orchard trees the Mussel and Cherry Plum are preferable; and for bushes the others are best. Plum Stocks are raised from seed in much the same manner as Apples, the stones being sown in drills or beds and covered with about 2 in. of soil.

The seedlings are lifted, root pruned and placed in nursery lines until strong enough for working.

Apricots, Peaches, and Nectarines.

The above are raised either on seedling or Plum stocks. Budded on "non-suckering" varieties of Plums, such as Myrobolan or Mussel, the Apricot becomes fitted for almost any soil. The St. Julien is recommended as being the best for Peaches and Nectarines.

Cherries.

Cherries are budded or grafted on the Wild Cherry or Gean, the Dwarf (Cerasus Caproniana) and the Mahaleb. The Gean is perhaps generally used for all varieties but is specially suitable for the "Heart" and Bigarreau Cherries.

The dwarf and Mahaleb being shallower rooted and more of a dwarfing nature, they suit the Duke, Kentish, and Morello varieties.

Cherry stocks are raised in the same manner as described for Plums, only the stores do not require to be covered to the same depth.

Pears.

The Pear is by no means fastidious in the way of stocks, and takes readily on all the species of the genus Pyrus, but for all practical purposes only two stocks are used: the Pear for standards, or orchard trees, and the Quince for dwarf bushes.

The Quince has been largely employed on the Continent for centuries, but was little known in this country until the beginning of the past century. It has long, slender, fibrous roots near the surface of the ground, and is much superior to the Pear stock for the production of rich, melting fruit. The Pear and Quince are raised from seed in much the same manner as described for Apples.

Double Grafting.

The theory of "double grafting" is somewhat like this:—Supposing we wish to graft a certain variety of Pear on to the Quince which we have found to refuse to unite kindly with that stock, we first graft on a variety which *does* take well, and grows vigorously, and when it is established we cut it back, and graft on the desired variety.

The following varieties of Pears do not grow freely on the Quince, and might well be double grafted:— Jargonelle, Gunsel's Bergamot, Autumn Bergamot, Seckle, Marie Louise, Monarch, &c. When at Dalkeith lately I found numerous instances of double grafting, and one variety particularly, Citron des Carmes, which does well on Williams' Bon Chrêtien, being of much finer quality than when only worked singly.

We are thus able to modify the dislike of the scion to stock, and are enabled to grow a healthy, fruitful tree.

There is yet another interesting aspect in double grafting. By grafting a free bearing variety of Apple, such as Hawthornden, on to a Crab, and then at two years re-graft with a fine but shy bearing dessert variety, we are enabled to procure a much greater amount of finer fruits than we could otherwise have.

Double graftings of Cherries can also be carried out with good effect. The common Morello budded on the Mahaleb, and afterwards with Heart and Bigarreau will form a moderate sized tree and fruit abundantly.—*W. L., Edinburgh.*

CULTURE OF CYTISUS.

The species of Cytisus are propagated by cuttings taken in August and placed under bell-glasses or hand lights, these being in the shade. When rooted pot off into thumb pots and place them in cold frames, secure from the frost, till the month of May. They may then be potted on, using a compost of one-third leaf mould and two-thirds turfy loam with some sand. They should be potted rather firmly, and during growth they should be pinched once or twice. Again in September a larger shift, according to the size and vigour of the plants, should be given, but it is wise to use too small rather than too large pots, that is, do not over-pot whatever you do. In October, when frosts are imminent, remove the plants to a cool greenhouse. During their growth the plants delight in being nicely syringed, and this should be done at a time when the sun is not very strong upon them. Cytisus scoparius andreanus, C. racemosus, and C. nigricans are the most popular sorts. A great many plants find their way from Belgium to this country.—*R.*

GARDENERS' GRIEVANCES.

We often hear the remark, "Let us try to leave the world better than we found it." The late Queen Victoria who has just passed away had taken that as her motto, and lived to see it fulfilled to a remarkable degree. I think gardeners, as a class, might make a determined effort towards this achievement also; and I am convinced that before the young century could reach its teens at least some of the gardener's troubles could be lessened, if not altogether removed. Let us have the manliness and courage of our convictions to give our candid opinions on these grievances and how they might be remedied. I agree with "Young Gardener" in last week's issue when he says gardeners are more brotherly than many other tradesmen. At the same time it would not touch our pockets much or exhaust our kindliness if head gardeners would arrange with each other even more than is done to get suitable advancements to their worthy assistants instead of in many instances drive all through the same mill. Your correspondent "Nil Desperandum," seems to think that it is perseverance that is required to get to the top rungs of the ladder. This is true only to a certain degree. With regard to raising the general standard of pay, I am afraid that is a question more with landowners or their factors, and as the most of them are poorer than formerly, gardeners must just accept the wage that is going.—*J. C. Dick, Linlithgow.*

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This is an excellent discussion, and will help many young gardeners who are more or less discontented with the prospects of life before them, but who have a "first, only love" for gardening. These ambitious young gardeners do really want help, either by correspondence or friendly advice; as their lot is not a particularly happy one during the time they are acquiring their knowledge of the profession.

In the first place one of the grievances we have are the many uncertain years of training we have to do in different gardens before we can claim even a third-class appointment as head. I cannot see any remedy for this. We must make it as much as possible a labour of love, and take our calling more seriously as if it were all we live for; also make a firm determination to gain a prominent position in the gardening world.

There are many steps in the ladder of success and all young gardeners who aim at the top, and who have not influential friends, will have many hopes and ambitions dispelled, but he must struggle on and improve his knowledge and education by every possible means available, and remember, that unless he has made himself efficient, he will not be able to give satisfaction even when he has the opportunity.

Then with our kind editor's permission I will add a few words on the training of young gardeners. Well, I am certain that it is absolutely necessary to serve a number of years in large gardens; not necessarily to gain knowledge in cultural skill, but to the wellbeing of the young gardener. My opinion is that a young gardener trained in small establishments (we will suppose there are six or eight gardeners) finds it practically an easy matter to win respect and admiration for his diligent work; whereas in a large establishment he will have fifty or sixty young gardeners, who, like himself, are anxious to win the respect and admiration of their employers. Will he not gain in the long run by competing with other ambitious young men? Certainly he will.

Then another point; in small establishments

there is often a dependence between the gardener and foreman, and very little work is done without consulting each other: whereas in large establishments he will have to think and act for himself, which will be very beneficial to him in after life.

There is not a uniform standard of proficiency, but good references from a number of different well kept gardens will make a good substitute for influential friends, and in whatever position of life we are in we must concentrate our energy and skill for the benefit of our employers, for our own good, and for the country generally. No doubt some may laugh at "for the country generally," but I contend that gardeners are more important, both at home and in the colonies, than they are generally credited for.

Then again, I have an opinion that many gardeners have power, more or less, to improve their own positions, even when they are not in large gardens. There is much patience and perseverance needed, for even a good man's work remains a long time before producing good results. With regard to the small wages, I cannot touch on that point, as I am one of the fortunate gardeners who have a good employer who pays good wages. Hoping our kind editor will find room for this in his valuable paper, and also for other papers on this subject from older and more experienced gardeners, I am—*C. P. C.*

As "Nil Desperandum," I am very much interested in the letters which appear in THE GARDENING WORLD, and I think as regards journeymen preferring small establishments to large ones is a great mistake. Of course, it may be a little more comfortable where there are a few kept in the bothy, but what good is a man if he is afraid of roughing it a bit? There is invariably more to be learned in a large establishment than in a small one, more so if, as Mr. T. S. Dick justly observes in his article on "Journeymen," chaps keep their eyes open. Of course, there are exceptions to the rule, but in larger places there is generally more variety of plants grown, and, therefore, more chance of learning. I also think that the kitchen garden work is too much neglected by young gardeners simply because the work is a trifle harder, but as a head gardener what good is he even if he is well acquainted with Chrysanthemums, Orchids, fruits, and plants, and has no idea of outside work?

As regards money, gardeners on a whole are poorly paid. The general rule for journeymen's wages is 16s. to 18s. weekly, and very often lodge out, having to pay from 12s. to 14s. a week for board and lodgings. What has he got left to depend on or put by for after life? Some, it is true, get 18s and bothy, and certainly these are slightly better off. I also think gardeners should have a little theory as well as practice, and for this purpose technical institutes should be attended, more especially those where interesting lectures are given on gardening topics and botany. How useful it would be to see more young men go in for these things, as many a long winter's evening could be pleasantly passed away doing lessons or studying, instead of squandering them away on useless amusements. One can never learn too much, especially in the gardening line, for, as the old saying goes, "A gardener's work is never done."

Mr. T. S. Dick, in his eloquent article on "Journeymen, is of the same opinion as myself. He strongly advises keeping a diary, and this is very useful, as if memory fails later on how very handy it is to have a diary to fall back upon. I hope we shall hear the opinion of some more of THE GARDENING WORLD readers, as this paper, I firmly believe, is read weekly by hundreds.—*Helper.*

I AM glad to see so many taking part in this discussion, although they for the most part disagree with my opinions. This is well, as a discussion falls very flat if all are agreed. I'm afraid, however, that I am so far unconvinced by any of the arguments brought forward. I admit that in my short article I may not have made my meaning just so clear as might be desirable I do not of course mean that service in large places is in itself a bad thing, on the contrary if there was one chance in a hundred for a young man to obtain the headship in such a place, after he had gained sufficient experience, I say undoubtedly let him always endeavour to serve in large gardens. On the other hand what are the facts? I think I am quite safe in saying that over 90 per cent. of places may be classed as small. This leaves under 10 per cent. of really desirable situations. Now is it not a fact that men trained entirely in these large places, feel a great aversion to become head gardener in a small place? On the other hand a man trained in smaller places, is usually pretty well grounded in every department, and should luck favour him so far as to allow him to gain a headship in a large place, his former training instead of standing in his way is greatly in his favour, as usually the small places are much more economically worked, so when more latitude is gained the relief is great, and any man of spirit and who really loves his profession will get on. The man again trained in places where everything is plentiful and no expense spared, fares but poorly if he has to come down in the world. These are facts that I have acquired by experience. I have served in both large and small places, and I must say that the best and most comfortable places are those where all branches of gardening receive attention, and where the place is well manned. This last, as Mr. T. S. Dick points out, is one of the most vital grievances we have, and unfortunately undermanned places are now-a-days almost universal.

As to my critics, "Young Gardener," and "Nil Desperandum," I may say that I have yet to come across the diary keeping journeyman. I do not mean to say that he does not exist, but I do know that he is a very rare animal. I quite agree that diary keeping is one of the most important points in a gardener's training, and I would like all head gardeners to try and induce their assistants to regularly write down all the different gardening operations as they occur. I am afraid, Mr. Editor, that I am stretching your endurance to the breaking point, so will now desist for the present, and would ask some of the older gardeners to give their experiences.—*C. Blair, Binny, Uphall.*

BUCCLEUCH NURSERIES, HAWICK.

(Concluded from p. 349.)

THE Montbretias seem to do well in the cool, moist climate of the north, as the foliage is not liable to get burnt up, and is therefore able to support flowers. A collection of named varieties is grown. Kniphofias were making a brave display. The hybrid Mexican Lobelias were represented by numerous named varieties. One of the very best was Carmine Gem, with its pleasing, rosy-carmine flowers. The foliage of Distinction is almost black, matching the crimson and purple shaded flowers. Very fine is the intense fiery scarlet of Lord Ardilaun. Very distinct in habit is Orion, the stems of which branch excessively and bear flowers on all the branches at the same time. The foliage is bronzy-green and serves to show off the crimson-scarlet flowers better than dark leaves would. Being only 18 in. high and very floriferous it would make an excellent bedder. Purple Emperor has blue-purple flowers. The typical Lobelia syphilitica has blue flowers; while those of L. s. alba are white, and L. s. rosea, bright rose with a white eye.

East Lothian Stocks were never finer than they were last autumn in all the leading and best colours. They had been a mass of flowers from the beginning of July to the end of September. The finest spikes were 12 in. to 15 in. long. As 85 to 90 per cent. of them turned out double, the difficulty is to get single flowered plants for seed. The varieties in the collection were white, scarlet, rose, purple, crimson, white-wallflower-leaved and crimson-wallflower-leaved.

PENTSTEMONS.

Close on 200 varieties of Pentstemons are grown and all are up to date. A fine plantation of seedlings is raised every year from the best varieties, and very fine they were, with large and wide flowers of good colour, and being later than the named varieties, were still at their best. Amongst the named ones, very fine were the crimson flowers of Andrew, with a large and open white throat. Port Royal was rich rose, with a white throat and margin. President Kruger was crimson-red with a white throat. Paul Cambon, huge, bell-shaped flowers, purple outside and white inside. The rosy-scarlet flowers of Mrs. Oliver have a crimson zone in the throat, and are paler below that. The flowers are produced in very long spikes. A First-class Certificate was awarded this at Glasgow last year. The nearest approach to a white variety was that named Lady Love, which exhibited only a faint pink tint on the outside. Peter Readman is another pale variety, being tinged with rose externally, and the spikes were 20 in. long, the flowers not being all expanded even at that late period. Froelich is purple-crimson with a chocolate blotch in the throat. The very large flowers of James McGee were of a beautiful rosy-scarlet. A bright and beautifully marked variety was that named William Bain, having rosy-scarlet flowers and a chocolate zone in the throat. Sir Trevor Lawrence was brilliant rosy-crimson, whilst the throat was bordered with carmine.

CACTUS DAHLIAS.

Dahlias are so important in gardens all over the land that not even here can they be neglected. The Cactus Dahlia, the most recently developed race, is kept well up to date by adding the new ones. We shall confine our remarks to those propagated and issued to the public from the Buccleuch Nurseries last year. Of good form and habit is Mrs. J. J. Crowe, of a clear canary yellow. Golden Plover is golden-yellow and throws the flowers well above the foliage. The long, deep cerise petals of Cornucopia are very handsome. Others that will appeal to the lovers of this class of plants are Emperor, plum purple, fading to yellow at the base; Innovation, rich crimson in the centre passing to pure white; Lodestone, orange-scarlet with long, pointed petals; Loyalty, warm coral-red; Progenitor, crimson-lake and having the florets curiously fringed at the tip; Exhibitor, soft pink, shaded with cinnamon; Fearnought, lively carmine with incurved florets; Mrs. Carter Page, rich velvety-crimson; Red Rover, intense crimson-scarlet, and carrying its flowers well above the foliage on long stalks; Wisdom, rosy-pink and fringed; and *Zephyr*, deep rosy-pink and variously shaded with other colours. Green's White, Up-to-Date and Mayor Tuppeney, and A. J. C. Hare are also in the collection. Rocket is a deep velvety-crimson variety with very small, freely produced flowers, and is therefore classed amongst the pompons

BORDER CARNATIONS.

No other class of hardy florists' flowers perhaps is more strongly represented by named varieties in these nurseries than Carnations, the border varieties being by far the most numerous. New ones for last year included Mrs. Jas. Arthur, white, edged and flaked rosy-scarlet; Teviotdale, finely pencilled with rosy-scarlet on a white ground; and Acquisition, a dark crimson of refined form and flowering very freely From amongst the older ones we make a selection. Brocklin is a yellow ground Picotee, with a heavy purple edge. A continuous bloomer is Colonel Hope, flaked with crimson-scarlet on a buff ground. Mrs. C.W.Townley is very double and flaked with crimson on a white ground. A strong growing variety is Mrs. Oliver, white, flaked crimson. One of the most choice and refined is the pure white Mrs. Eric Hambro. A yellow ground Picotee is Mrs. J. M. Troup, flaked crimson. Mrs. A. Tate belongs to the same class, but is heavily edged with red. In our opinion Mr. Nigel is one of the most handsome of the yellow ground Carnations on account of its well defined, heavy, crimson edge. Voltaire is also yellow but edged with rose. Another of the first water is Triumph, the creamy-yellow ground being edged with maroon, while the form is refined.

Self-coloured varieties are plentiful in the collection, and one of the finest of them is Scarlet Gem, the flowers being large, vivid scarlet, and of the finest form. Equally fine in its way is Ella Brander, whose rosy-salmon flowers are of refined form and freely produced. In the same category we place Lady Binning, of an intense scarlet colour and fine form. Miss Ellen Terry is pure white, chaste, and fine. Other selfs are plentiful.

The flaked and edged varieties are, however, the most numerous. A good one is John Forbes, of a rich canary-yellow, heavily edged with rosy-scarlet. Golden Eagle is yellow and lined with red. Nedda is white marked with bright red. Primrose Leagne is a large and smooth flower edged and splashed with red, and of excellent quality. A very striking, fancy flower is Professor Gerts, boldly flaked with steel blue and scarlet, and one of the finest in form.

Tree Cabbages, 10 ft. high, are produced in the island of Jersey, and grown in cottage gardens there as fences. The stems are often used as walking-canes.

SOCIETIES.

ROYAL HORTICULTURAL.—*January 29th.*

THE frosty morning on Tuesday last prevented the bringing out of many tender plants. Chinese Primulas, Cyclamens, hardy herbaceous plants, and Orchids were in considerable evidence considering the weather. A fine lot of highly coloured and well preserved Apples was also present.

Orchid Committee.

PRESENT.—Harry J. Veitch, Esq. (in the chair), with Messrs. De B. Crawshay, James O'Brien, R. B. White, H. J. Chapman, F. Sander, H. A. Tracy, W. H. Young, E. Hill, Walter Cobb, J. Colman, Jas. Douglas, J. G. Fowler, and H. Ballantine.

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, had the largest group of Orchids exhibited. Prominent amongst them were Phaius tuberculosus, Aerides vandarum, Laelia anceps, L. a. Williamsii, L. a. alba, Phalaenopsis amabilis, P. grandiflora, Cypripedium insigne Harefield Hall var., Miltonia bleuana, Phalaenopsis schilleriana, P. s. vestalis, an albino, with green leaves and silver marbling and white flowers, P. stuartiana, P. schilleriana gloriosa, Oncidium Warscewiczii, and Laeliocattleya Hypatia, Laelia Mrs. M. Gratrix, and other very interesting things. Some of the above are very uncommon, so are Phalaenopsis Boxallii and Vanda lamellata Boxallii which were shown (Silver Flora Medal)

Messrs. H. Low & Co., Bush Hill Park, Enfield, staged Cypripedium Prewetti and a white variety of Cattleya Trianaei. Captain C. C. Hurst, Burbage Grove, Hinckley, exhibited Cypripedium grovesiana punctatissima, C. Adrastis punctatissima, C. A. giganteum, C. A. burbagense, C. A. Hurstii, C. A. Dakinii, C. A. viride, C. grovesianum Dakinii, and C. deedmanianum.

De B. Crawshay, Esq., Rosefield, Sevenoaks, exhibited Odontoglossum Hallio-crispum aureum, O. navadense rosefieldense, O. Rossii Lionel Crawshay, nd O. Rossii Raymond Crawshay, all very choice and handsome of their kind. The Director, Royal Gardens, Kew, exhibited a fine plant of Phaius tuberculosus, carrying two spikes of flowers, which attracted a considerable amount of attention from the visitors. It was identical with the original plant named Limodorum tuberculosum by Thouars, as stated by Mr. R. A. Rolfe, of Kew, and was recently introdnced for the first time by M. Warpur, of Madagascar. Mr. Rolfe also says, "The epiphytal species known in gardens under the above name, and figured in several works, is not the original plant, and I have renamed it Phaius simulans (Rolfe) in allusion to the remarkable resemblance which its flowers bear to those of the original species."

E. de Q. Quincey, Esq. (gardener, Mr. G. B. Lees), Oakwood, Chislehurst, exhibited Odontoglossnm londesboroughianum, a very uncommon species and difficult to grow. J. Forster Alcock, Esq. (gardener, Mr. Foster), staged Cypripedium harrisianum superbum × Charlesworthii. Mr. H. A. Tracy, Orchid Nursery, Twickenham, showed Lycaste Ballae superba ,a fine dark variety. Norman C. Cookson, Esq. (gardener,Mr. Wm. Murray),Oakwood, Wylam-on-Tyne, staged Calanthe Oakwood Ruby, and C. Phoebe.

Messrs. Heath & Son, Cheltenham, exhibited a group of Dendrobiums and Cypripediums, including well flowered pieces of D. splendidissimum leeanum, D.Edithae Chamberlain's var., Cypripedium lathamianum giganteum, C. insigne var., &c.

Floral Committee.

PRESENT: W. Marshall, Esq., in the chair, with Messrs.Chas. T. Druery, R. Dean, G. Reuthe, Wm. Howe, J. Jennings, J. F. McLeod, C. J. Salter, R. B. Lowe, E. H. Jenkins, E. T. Cook, Geo. Gordon, C. E. Shea, J. W. Burr, H. Cutbush, and Geo. Paul.

F. D. Lambert, Esq., J.P. (gardener, Mr. J. Tulford), Moor Hall Gardens, Bookham, Berks, obtained a Silver Banksian Medal for a well flowered group of Cyclamens.

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, were again to the fore with a tasty little group of hardy plants in pots. The newly certificated hardy Cyclamen libanoticum was here shown; also Iris bakeriana, I. reticulata, Freesias and Narcissi were shown. N. calathinus was represented together with N. cyclamineus and Hyacinthus azureus. Paeonia Moutan var. Hector, a pink or flesh colonred flower, was included.

From Wm. Smyth, Esq., Basing Park, Alton, Hants., came Passiflora, Basing Park hybrid, which, however, being immature and a dull lilac-mauve colour, was not attractive.

Mr. C. J. Wakefield, 58, Hindon Street, London, S.W., again exhibited his "Floral Aids."

Messrs. James Veitch & Sons, Ltd., Chelsea, S.W., sent up an attractive group of Coleus thyrsoides. The plants on this occasion were much dwarfer than on former times, and were only in 4-in. pots. They also showed a new variety of Javanico-jasminiflorum Rhododendron named King Edward VII. (Award of Merit.) They also showed a box of trusses of the older varieties of these Rhododendrons.

Mr. J. Russell, Richmond Nurseries, Richmond, showed Cupressus erecta lutea.

Mr. John R. Box, West Wickham and Croydon, sent up a splendid strain of Chinese Primulas with beautifully fimbriated and large sized flowers. A number of the varieties were named, of which Wickham Beauty, pale mauve; Niobe, crimson-purple; Box's Giant White, with beautiful white trusses; and Box's Giant Pink, the latter being more admired than any of the others. (Silver Banksian Medal.)

Messrs. Thos. S. Ware, Ltd, Hale Farm Nurseries, Feltham, London, were forward with a tasteful exhibit of seasonable hardy plants. Colchicum libanoticum with its pale lilac-pink Crocus-like flowers; and the various Irises that are now in bloom, together with Cyrtanthus intermedius, Primulas, and bulbous plants were included. (Silver Banksian Medal)

Messrs. H. Cannell & Sons, Swanley, Kent, had a lovely exhibit of Primula pyramidalis in its many varieties, with mauve, crimson, pink, and white flowers. Princess Eva, with smooth-edged petals, and of a white colour, together with Miss Irene, pink, were two of the best. (Silver Banksian Medal.)

Messrs. Barr & Sons, King Street, Covent Garden, were amongst others who had groups of hardy spring flowers largely composed of hybrid Hellebores. The winter Heliotrope was also shown, and scented the hall most sweetly. Of the Hellebores the varieties named Dr. Hogg, purple; and H. guttatus sub-punctatus, whitlsh; were most admired. The Early Roman Hyacinths, Crocuses, and Narcissus Bulbocodium sulphureum were shown.

Fruit and Vegetable Committee.

PRESENT.—Geo. Bunyard, Esq., in the chair; with Messrs. H. Esling, W. Bates, S. Mortimer, Alex. Dean, Geo. Kelf, W. Pope, H. Marsham, W. Poupart, E. Beckett, F. Q. Lane, Geo. Wythes, Geo. Woodward, A. H. Pearson, J. Willard and W. Wilks.

Messrs. H. Cannell & Sons, Swanley, Kent, sent up four minor groups of large-sized Onions, all of them very finely formed and firm. The varieties were the well-known Cranston's Excelsior, Ailsa Craig, Reading Improved and Cocoanut.

A collection of Yam tubers were exhibited by Miss Breton (gardener, Mr. Robt. Handley), Forest Hill, Sandhurst, Berks. These were planted in December, grown in common garden soil, the average crop yeilding about 3 lb. per sq. yd. This may come to be a vegetable of importance in British gardens.

Apples in dishes were sent from Mr. Matt. Nicholls, Solyus Hill Nursery, Redruth; from T. Bibby, Esq. (gardener, Mr. J. Taylor), Hardwicke Grange, near Shrewsbury; from W. Strugnell, Esq., Rood Ashton Gardens, Tunbridge Wells; Capt. Case (gardener, Mr. Geo. Farmer), Beckford Hall, near Tewkesbury; and from Capt. Carstairs (gardener, Mr. Chas. Ross), Welford Park, Newbury.

Roger Leigh, Esq. (gardener, Mr. Geo. Woodward), Barham Court, Maidstone, sent up three beautitul dishes of the Apple Beauty of Kent, which received an Award of Merit.

From Messrs. H. Cannell & Sons, of Swanley, came also a remarkably fine display of Apples, all of them shown in dishes of from eight to a dozen or twenty each. Every fruit was sound and richly coloured—evidence of the sunny braes of Kent. The collection comprised some sixty dishes and well deserved the award of Silver Knightian Medal.

Crimson Rambler Rose, under gentle forcing, supplies an early flowering subject for the greenhouse, and is used largely in America in this respect.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to "K." for his article on "Amaryilis," p. 346. Two of the essays were again over the stipulated number of words, namely, 250.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 5 & 6, CLEMENT'S INN, STRAND, LONDON, W.C. *Business communications should be addressed to "The Publisher." Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Directions for Making the Bordeaux Mixture.—*L. H.*: The Bordeaux Mixture is prepared from "sulphate of copper, 6 lb.; unslaked lime, 4 lb.; and water, 50 gallons." The method of preparation is: Dissolve the sulphate of copper in a few gallons of warm water; then in another vessel place the lime and add water to it gradually until it forms a thick paste; then put the two mixtures in the same vessel when cool, and add sufficient water to make the whole up to 50 gallons of water. It will save you a deal of trouble in choking up the spraying apparatus if you put the two mixtures, namely, the sulphate of copper and the lime (now in the form of a paste) into a gunny bag, guano bag, or any other coarse cloth that will allow all the liquid matter to pass through and retain the lumps. Fasten the mouth of this bag to the mouth of the barrel, and then pour the water into the bag so that the mixture will run into the barrel and retain all sediment or lumps of any size. To test the mixture to find out whether it has sufficient lime in it dip the blade of a knife into the mixture and hold it there for one minute, then examine it to see whether there is any copper upon it. If so add more lime and repeat the operation till no more copper remains upon the knife. This is to safeguard the young leaves of the trees against injury. Keep the mixture stirred all the time you are spraying.

The Time to Apply Bordeaux Mixture for Peach Blister.—*L. H.*: It would not be of much service to apply the Bordeaux Mixture at the present time because the trees are resting and so is the fungus in the branches. You will have to commence applying the remedy when the leaf buds are first expanding, and repeat it at intervals till the fruit is about the size of marbles, when you should discontinue it till after the fruits are gathered. If there are no fruits upon the trees infested with Peach Blister you can continue to apply the remedy at intervals of ten days or a fortnight till the leaves fall. If you could carry on the spraying till the end of July it would be more important than confining the spraying to the second half of the season. In dry weather you need not spray so often, as the Bordeaux Mixture will not get washed off the trees. If they are bearing fruits worthy of being saved you should wash the trees with clean water several times after the fruits are about the size of a pigeon's egg till they commence to colour, when you must leave off. This will wash off any remains of the Bordeaux Mixture there may be upon the fruits. Use the syringe or garden engine to do the washing. Your other questions next week.

Forcing Mint.—*A. M. D.*: Without knowing further the circumstances of the case we should imagine that your cuttings had not been rooted early enough to have sufficient roots to be able to stand forcing, as the reserve is largely stored up in the roots and underground stems for giving the plants the power of making a good start the following spring. When you put the late struck cuttings into heat, they quickly get exhausted with the forcing and the weak light of winter. Your only plan now is to lift some roots, put them in a gentle hotbed, or in shallow pans or boxes to be plunged in the gentle hotbed, say with a temperature of 50° to 60°, not more, as the Mint is a hardy plant and not very tolerant of high temperatures under unnatural conditions, such as forcing it in winter. Cover the roots 1½ in. deep with soil. In place of the hotbed

you may stand the boxes in a stove at a temperature of 60°, placing the same near the light. Introduce fresh batches of a quantity according to your requirements every three weeks, as forced roots under any circumstances soon decay. Never hesitate to let us know how you succeed or otherwise.

Solanums Losing their Leaves.—*H. I.*: There is little or no occasion to be alarmed on account of the leaves falling, as it is usual for most of them to fall some time during the winter in a cool house, more particularly if they have been kept in a high temperature any time last summer or autumn. If there is nothing wrong with the roots the plants will come all right again when they commence to grow next spring. About the middle of March you should cut all the young shoots back to within two or three buds of the base of last year's shoots. Do not give them much water till they begin to develop leaves again, but soon after cutting them down place them in a little more heat to encourage fresh growth. As the season advances gradually harden off the plants by putting them first in a cool greenhouse and then a cold frame, so as to prepare them for planting out in June, when the weather is fairly settled and warm. Plant them in the open garden in a bed of well prepared garden soil, watering them occasionally in dry weather. Lift them carefully about the middle of September, with balls of soil at the roots, and pot them up firmly; place them in a frame, water them with a rosed watering pot, and keep the frame closed for a week or ten days till the plants get established in the fresh soil.

Marguerite Cuttings going bad.—*H. I.*: We believe from what you state that your cuttings have been badly attacked by the Chrysanthemum Leaf Miner (Phytomyza nigricornis). We have seen annual and other Chrysanthemums more or less completely, and some of them totally destroyed in quantity by the mining of this insect in the leaves. Would you be good enough to send us some specimens just beginning to go bad, and a good specimen showing the plant in a bad state of decay, and we shall be able to determine whether the attack is due to insects or fungi? In the meantime you could make preparations for making a fresh start with clean cuttings in February or March, according to the command of heat you have for rooting them. The heat you mention would be sufficient towards the end of March, as the sunheat would then be stronger, and enable you to root fresh cuttings. If you send some of the cuttings with roots, stems and leaves, as above desired, we shall examine them and be pleased to assist you by describing remedies either for the remainder of your stock, or for future guidance.

Names of Plants.—*D. W.*: 1, Reinwardtia trigyna; 2, Begonia incarnata insignis; 3, Begonia Rex var.; 4, Pteris cretica Mayl; 6, Lastrea decomposita glabella.—*D. C.*: 1, Picea orientalis; 2, Picea excelsa; 3, Abies glauca; 4, Abies nordmanniana.—*A. C.*: 1, Cypripedium leeanum superbum; 2, Cypripedium callosum; 3, Denbrobium nobile var.; 4, Odontoglossum andersonianum. — *T. B.*: 1, Daedalacanthus nervosus; 2, Begonia knowsleyana; 3, Carex Morovii variegata; 4, Othonna crassifolia; 5, Chlorophytum elatum variegatum — *R. M*: 1, Fatsia japonica is the correct name of the plant; 2, Polystichum angulare proliferum.

Communications Received.—D. McGregor.—H. Pratt.—M. Temple.—Walter Hogarth.—Sutton and Sons.—A. L.—R. M.—A. J. B.—R. H.—S.—

TRADE CATALOGUES RECEIVED.

Z. Coleman, High Street, Sandwich, Kent.—Descriptive Catalogue of Select Vegetable and Flower Seeds

H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham.—H. J. Jones' Chrysanthemum Guide; also Descriptive Catalogue of New and Choice Plants, also a Concise List of the Best Vegetable and Flower Seeds for 1901.

Louis Van Houtte Pere, The Royal Nurseries and Seed Establishment, Ghent, Belgium.—Catalogue of Begonias, Gesneriaceous Plants, Palms, &c.

Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, Middlesex.—Seed Catalogue, 1901, Begonias, Chrysanthemums, Gladioli, &c.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

February.

4.—Wimbledon Horticultural Society Meeting.
12.—R.H.S Committees.
15.—Gardeners' Orphan Fund (Annual Meeting and Election).
26.—R.H.S. Committees.
28.—Kew Guild Annual Meeting.

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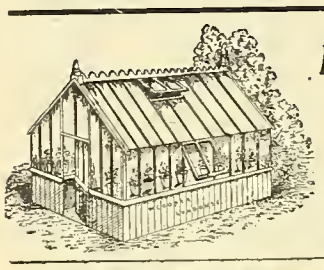

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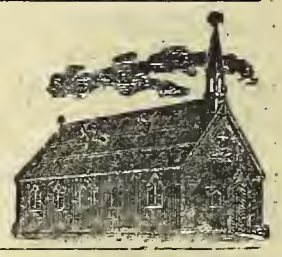

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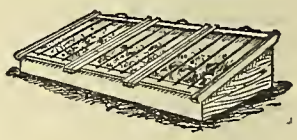

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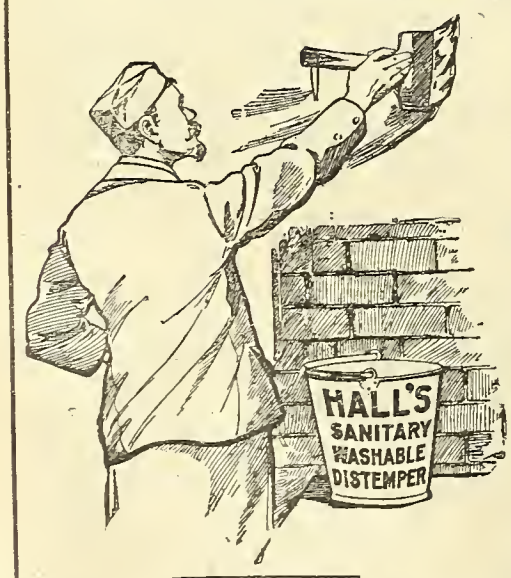

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, FEBRUARY 9th, 1901.

NEXT WEEK'S ENGAGEMENTS.

Tuesday, 12th.—Meeting of the Royal Horticultural Society's Committees; also the Annual General Meeting at 3 p.m.

Friday, 15th.—Annual General Meeting of the Royal Gardeners' Orphan Fund.

Daffodils in Australasia.—The Daffodils and their congeners are truly plants of the northern hemisphere of the Old World, the bulk of them, indeed, being confined to Europe. That they should first have reached the height of their fame in this country is no cause for surprise seeing how well Britain and Ireland are suited to their requirements. If one is to judge their history from the records left by various writers, they have had various waves of fame, though none greater than that which has been accorded them from 1884 to the present time in this country. Mr. Peter Barr, V.M.H., who is at present making a tour round the world, and who is at present sounding the praises of the Daffodil in Australia, brings to mind various items in their history once more. The Horticultural Association of New South Wales, realising the importance of the various chats

they have had with Mr. Barr on the subject of Daffodils, at length conceived the idea of embodying the general history of the subject in the form of a pamphlet, so that the information imparted should not slip into the limbo of forgetfulness and obscurity. This has been done and copies offered to all the Horticultural Societies and Gardeners' Associations of Australia, New Zealand, and to the public generally. Any profit that may accrue from the printing and sale of this brochure will be spent in adding to the library of the Gardeners' Association, which is open not only to its members, but to members of all horticultural societies and kindred associations throughout Australasia, who may visit Sydney. Here also horticulturists from every part of the King's dominions, as well as from every other part of the world, have the right hand of fellowship extended to them, when on a journey to study horticulture in that part of the globe (Sydney); and arrangements will be made at any of their weekly or monthly meetings to call together the members of the association, to meet a brother from a distance, provided he be disposed to honour the association with an address. Should this brochure meet with success at the hands of those for whom it is intended, the association may undertake other hand-books for the benefit of the gardening fraternity.

Possibly this idea caught up from the labours of Mr. Barr may be the beginning of a career of gardening literature for this young association and community at the south-eastern point of the globe. To return to the Daffodil, the brochure in question reminds us that Gerard in his *Herbal* mentions only one Daffodil, Pseudo-narcissus of English Meadows. In 1578, that is, long before Gerard's time, we have a description as well as an illustration of Narcissus luteus or Pseudo-narcissus in *The New Herbal* of the learned D. Reinbert Dodoens. This work is only a translation of a German book, but evidently the Daffodil there mentioned was well known in this country, for it had Bastard Narcissus, Yellow Crowbels and Yellow Narcissus as English names, evidently indicating that it was well known to the people of this country before that time. The Poet's Narcissus, some of the varieties of Narcissus Tazetta, and N. juncifolius are also figured by Dodoens, although it is probable that the last named figure really represents N. Jonquilla. Early in the seventeenth century Parkinson described about 100 varieties, though some are now admitted not to be Daffodils or Narcissus. Even after these have been removed, there remain sixty to eighty Daffodils, which Mr. Barr says are still in cultivation. From Parkinson's day until the beginning of the last century little or no addition had been made to the public knowledge on the subject of Daffodils. Early in the nineteenth century, interest in Daffodils greatly revived when the subject was taken up in succession by Salisbury, Ellicomb, Sweet, Haworth, Herbert, &c. Sweet died in a lunatic asylum some time after having paid a visit to his friend Ellicomb, at Bitten, when the Daffodils were in bloom. It was said that he got so confused with the number and variety of Daffodils that he had to be put under restraint when he returned to London. Even in Parkinson's time it seems that "no two catalogues agreed as to names," and amateurs were as much at sea amongst them as to-day with all our botanists, books and general enlightenment.

With the advent of Dean Herbert, of Manchester, came the era of artificial hybridisation amongst Daffodils; for it is here recorded by Mr. Barr that to Dean Herbert we are indebted for all the beautiful new Daffodils raised up to 1884. Something like general order amongst the various members of the genus was restored by Mr. John Gilbert Baker in his monograph of Narcissus, given in brief form in his *Hand Book of the Amaryllideae*. The collections of Daffodils raised by Backhouse, of Darlington, and Leeds of Manchester, prior to 1884, had passed into Mr. Barr's hands who classified and named them. Then came the Daffodil Conference of the Royal Horticultural Society, at South Kensington, in the spring of 1884. After the conference a committee was appointed to put the new classification on its trial, and the outcome was that Mr. Barr's classification was adopted, and all the hybrids and forms since raised have been put under the leading divisions then formed.

An article is devoted to the culture of the Daffodil, in which Mr. Barr advises his southern audience to select a position having a cool bottom, failing which they were to select the coolest part of the garden and annually lift and replant the bulbs. So long as he could get good flowers he would leave the bulbs undisturbed. In a hot climate like Australia he thought that deep planting would be advisable. Fresh stable manure was very objectionable, but in order to give the ground holding power he would use farmyard manure at the rate of 40 to 50 loads per acre, and then crop the ground with Potatos, Cabbages or other vegetables, which would take the stimulus out of the manure and the humus would remain as a holder of moisture. A light soil would have to be more sharply looked after than a heavy or medium one, and mulching in summer, where the bulbs were left undisturbed, was recommended.

Orchards.—When an Apple orchard is being planted different varieties ought to be mixed together in adjacent rows to insure cross-fertilisation of the blossoms by bees. (See our issue for December 29th, 1900, page 285.)

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will take place on Tuesday, February 12th, in the Drill Hall, Buckingham Gate, S.W. The various committees will assemble at noon as usual, and at 3 o'clock the annual general meeting of the society will be held at the society's offices, 117, Victoria Street, Westminster, S.W.

The Royal Gardeners' Orphan Fund. — The annual general meeting of the subscribers to this fund will be held at the Essex Hall, Essex Street, Strand, London, W.C., on Friday next, February 15th, for the purpose of receiving the report of the committee and statement of accounts for the past year; to elect officers for the ensuing year; to elect twelve children to the benefits of the fund; and to transact such other business as may arise. The chair will be taken at 3 p.m., and the poll will close at 4.30 p.m. At 6 p.m. the annual friendly dinner of the committee and friends will take place at Carr's Restaurant, 265, Strand, under the presidency of Mr. Herbert J. Cutbush.

Wych Elm Root.—I enclose a drawing of a Wych Elm root which we pulled out of the tennis court while we were relaying it, without breaking the root. It is 16 yds. long, and was cut off 6 yds. from the trunk of the tree, so that makes the whole length 22 yds. Have you heard of one root being got out of the ground the same length without having been broken? — *W. Walker, Purston Hall, Pontefract, Yorks.*

[We have seen some very long roots, but cannot remember having seen one taken out of such an enormous length. Usually it would cost a great deal of labour to take out such a root entire as it would go down to some depth and get interlaced with other roots. In your case the root, we should imagine, had run under the surface of the soil owing to the softness of the ground there, or its richness in plant food. If you had given particulars it might have thrown some light on the case. ED.]

Mr. George Macdonald, general foreman to the Duke of Buccleuch and Queensberry, at Bowhill Gardens, Selkirk, N.B., has been appointed gardener to H. Villiers Stuart, Esq., of Dromana, Cappoquin, Co. Waterford, Ireland. He entered on his duties early in January.

Araucaria imbricata Seed.—A correspondent writes that he has some seed of this noble tree gathered from unique specimens last season. He would be pleased to dispose of the same at a reasonable price, so that anyone desirous of raising trees from home saved seed should apply stating "what offer" he would be prepared to make, to "A. B.," GARDENING WORLD Office, 5 and 6, Clement's Inn, Strand, London, W.C.

Royal Horticultural Society of Ireland.—Last week a meeting of the Irish R.H.S. was held at the society's offices in Dawson Street, Dublin. After some discussion the following resolution, proposed by Mr. Ross and seconded by Mr. Bewley, was carried by seven to four:—"That the resolution passed by the council on December 20th last (to the effect that unless the members and general public guaranteed the sum of £100, the spring show should not be held) be rescinded, and that the spring show with the present guarantee of £64 be held." Accordingly, the show will be held on Friday, April 12th.

Trinity Grove, Edinburgh.—This pretty suburban residence on the north side of Edinburgh, looking out upon the Firth of Forth and the coast of Fife, has, we are informed, passed into the possession of Provost Mackie, of Leith. We believe Trinity Grove is within the burgh of Leith, and we are pleased to think the old place has fallen the property of so respected a gentleman as the Provost. Until recently the residence belonged to the late Alex. Thomson, Esq., brother to ex-Lord Provost Thomson, of Edinburgh. Mr. Alexander M'Kenzie, who has managed the gardens so ably for nigh ten years, retains his position as heretofore.

Royal Recognition.—Amidst the multifarious duties in connection with his exalted position at the present solemn time, it is a pleasure to record that his Majesty King Edward VII. has had the grace to remember those who have served him and our lamented Queen in their various humble responsibilities. On the morning of the removal of the mortal remains of our late Sovereign, his Majesty personally presented Mr. G. Nobbs, head gardener at Osborne, with a gold breast pin in recognition of services rendered in connection with the obsequies of his late royal mistress. The pin is a crown of sapphires surmounting the interwoven letters V.R.I. in pearls. Mr. Nobbs has had the management of the floral arrangements of the Chappelle Ardente. It is such marks as this royal recognition that endear the Royal Family to those who have the honour of serving under them.—*C. Orchard.*

Ealing Gardeners' Society.—"Stove and Greenhouse Flowering Plants for Exhibition" was the subject of the meeting of this society on the 29th ult. Mr. C. Long introduced it, while the chair was occupied by Mr. C. Edwards. Both are well known as local exhibitors, and have often been in opposition at the annual shows. A very pleasing feature, however, is the *bonhomie* which has always existed between them—a state of things not always apparent when premier places have to be stubbornly contested. Mr. Long, however, dealt with his subject suggestively rather than exhaustively, his idea being to create discussion, in which he succeeded admirably. Of stove plants the Allamanda received a good deal of notice; grandiflora, Hendersonii, and Williamsii being much discussed. Bougainvillea glabra, Clerodendron Balfouri, Dipladenia amabilis, Stephanotis floribunda Elvaston var., and many others were brought under notice, and several interesting points both as to culture and training duly emphasised. The greenhouse plants, round which discussion centred, were Plumbago capensis, Hydrangea hortensis — especially the blue var.—Kalosanthes coccinea, Lagerstroemia indica (which Mr. Long does very well), Brugmansia Knightii, and such-like favourites. Soils, propagation, culture, &c., were suggestively dealt with, Mr. Long and the chairman receiving the usual cordial votes of thanks from a well-attended meeting and an appreciative audience.

Weather in London.—On the whole the weather has been cold, with sharp f osts on one or two days. Monday was bitterly cold, resulting in snow on Tuesday.

Extension of Ground at Beechhill Nursery, Edinburgh.—We learn that the firm of Mr. John Downie, Beechhill Nursery, Murrayfield, is laying out twelve acres of land at Belgrave Park, Corstorphine, Midlothian, as an addition to the present nursery grounds. This is in close proximity to the existing nursery, and will be devoted to the usual class of nursery stock.

Register of Nurseries, Market Gardens, &c.—Messrs. Protheroe & Morris, Horticultural and General Auctioneers, &c., 67 & 68, Cheapside, London, E C., have issued a register of nurseries, market gardens, farms, florists' seed businesses, and partnerships to be let or sold. We have had occasion to refer to this register before. Each of the estates or businesses are fully described, and any particulars not given in the present list can be at once had from Messrs. Protheroe & Morris by writing to them. Those on the look out for an opening in business should immediately secure this register for perusal.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of the society was held at St. John's Parish Room, on Thursday, January 31st. Mr. A. J. Hancock presided over a good attendance. The lecture was given by Mr. A. Moore Sara, of Stoke Bishop, on "Leaves." With the aid of diagrams, as well as many green and dried specimens, he was able to make the subject at once interesting and instructive. He dealt in very clear detail with the many and varied forms of leaves, their arrangements, the leaf veins, leaf appendages, method of water secretion and the action of chlorophyll. Mr. Moore Sara's lecture was much appreciated, he being heartily thanked for it. Prizes for two foliage plants, suitable for table decoration were secured by Messrs. Sutton, Shaddick and Price. Certificates of Merit went to Mr. White for Dendrobium nobile, and Mr. Quick for Laelia anceps.

Plant stems underground. — Mr. R. Lloyd Praeger, in the course of an interesting article on Flowering Plants, in the current number of *Knowledge*, says: "Subterranean stems may conveniently be grouped similarly into those which produce leaves and flowers throughout their length, or at intervals. In the subterranean stem a further modification takes place as compared with the erect stem. Most erect stems—and prostrate stems, too—are coloured green with chlorophyll, that they may assist the leaves in the manufacture of plant food. The underground stem has no opportunity of doing this, owing to the absence of daylight, and it is usually white, or of the dull colours that most roots affect. Underground stems have likewise little need of strength, except the quiet but well-nigh irresistible strength of growth, by which the apex of the stem forces its way through the soil. Their surface, too, being buried in damp earth, is less exposed to heat and dryness, and need not guard against excessive evaporation: hence we find that underground stems are frequently brittle, with a very thin epidermis or skin. These stems are excellent places for the storage of food materials, which is the more necessary in such plants since, the stem being below ground, the leaves and flowers have to grow up often to a considerable height above the surface to secure a due amount of light and air, and perfect the fruit; hence subterranean stems are frequently thick and fleshy—look at those of the Butter-bur, for instance. An extreme case of the storage of food in stems is found in tubers, such as the Potato. In these, a great amount of food material is stored around a few buds, which lie dormant during the winter, and use the food store in their rapid growth during the following season. Stems may altogether supplant leaves, and undertake the manufacture of the whole of the food of the plant. The Gorse furnishes a well known example. The seedling Gorse has little trifoliate leaves like the Genistas, to which it is related, but as the young Gorse increases in size these leaves disappear, and the green stems carry on the work of leaves, and in addition undertake the defence of the plant against grazing animals by means of the stout thorns in which the branches terminate."

The Weekly Florists' Review for January 10th devotes its pages to a special Carnation number.

Croydon Horticultural and Mutual Improvement Society.—We are glad to hear that the arrangements for the first annual dinner and social evening to be held by the above society on February 27th, 1901, at the Greyhound Hotel, Croydon, at 7 o'clock, are well in hand, and tickets are selling fast. Applications for tickets (price 2s 6d.) should be made to Mr. J. Gregory, 60, Canterbury Road, Croydon.

Abnormal Types of British Ferns.—Mr. Charles T. Druery, F.L.S., V.M.H., a short while ago published a list of abnormal forms of British Ferns which he has at one time or another found in his searches in Scotland, England, and Ireland. These abnormal forms, be it observed, were found growing absolutely wild among the common or normal forms. The list, which will be of value to those of our readers who are Fern students, stands as follows:—Blechnum Spicant, with varieties concinnum, polydactylum, strictum, contractum, subcruciatum, crispatum, revolvens, congestum, anomalum, trinervium, and analepis. Athyrium Filix-foemina had the varieties oreopteroides, laceratum, cristatum, mediodeficiens, deltoideum, revolvens, and caudato-cruciatum. Dryopteris Filix-mas had polydactyla, cristata, mediodeficiens, and gracilis. Dryopteris montana gave cristato-gracilis, depauperata, truncata, congesta, and variegata. Dryopteris dilatata produced the varieties polydactyla, stipitato-lacinata. Scolopendrium vulgare showed five forms—corymbiferum, grandiceps, traverso-cristatum, marginatum, and lobatum. Asplenium Trichomanes had cristatum and depauperatum. Then Polypodium vulgare gave rise to the forms marginatum, bipinnatum, minimum, and longipinnum. Lastly Polystichum angulare had deficiens, and sublineare. "Curiously," adds Mr. Druery, "though this species has been particularly generous in varieties I have found nothing thoroughbred."

Utility Poultry Club.—We have received a copy of the Year Book for 1901 issued by the Utility Poultry Club to its members. Among the various features that go towards making it of value to the utility poultry keeper is an advisory board consisting of twenty members who have consented to advise on poultry matters. They include the lecturers of fifteen county councils. Particulars of the club, a table poultry standard, information as to the granting of specials for table poultry and eggs, and also as to obtaining working plans of poultry appliances (so that members can make their own coops, fowl houses, &c.) are given. An arrangement has been made for the insurance of member's poultry against burglary, theft and fire, and this may be popular with those living in districts where poultry stealing is not unknown. A resumé is given of the work of the club during the past year from which we gather that although the club was unsuccessful in obtaining a recognition of the value of poultry manure in the recently passed Agricultural Holdings Act, a good deal of useful evidence on the subject was collected; and the club hopes to add to this from time to time for use when opportunity offers. During the year £16 were given in prizes for the "laying competition" and specials at local shows for table poultry and eggs; while a course of lectures on utility poultry keeping was given at the last Dairy Show. A successful year has been brought to a close with the formation of the West Sussex Utility Poultry Society by Mr. M. Barnes of the club. Sir Westman Pearson has consented to be president, Sir Henry Harben, Dr. Tancourt, Barnes, and Mr. Robert Luck will be the vice-presidents. The balance sheet shows a cash balance in hand of £13. The book contains the names and addresses of all the members, and we note that after striking off the names of thirty-two for non-payment of their subscriptions, the club has a membership of 320 as against 220 last year and 120 the year before. We think these figures testify to the increasing popularity of the club. The remainder of the book is taken up with a series of monthly notes for amateurs, the register and a lot of advertisements. The register contains over 600 entries of poultry, giving, in the majority of cases, the strain and other particulars. This should prove most useful to the careful breeder. As the subscription to the club is only 2s. 6d., the free issue of this interesting book to members is another reason for utility poultry keepers to join the club. The honorary secretary and treasurer of the club is Mr. B. W. Horne, 49, Gloucester Gardens, London, W.

Wreaths in Honour of the Late Queen.—Never before, surely, has such an enormous quantity of wreaths graced the funeral of any individual as the number that were sent to Windsor during last week as a last token of respect for the great, dead Queen. So great were they that after the full funeral rites and ceremonies had been performed only the floral tributes from the members of the Queen's own family could be retained, the hundreds and hundreds of others had to be burned or buried. London, on the evening of Thursday last, January 31st, was literally smothered with flowers. In Covent Garden great wooden boxes were lying about everywhere and the finished designs were busily being packed within them. In all the florists' shops the women and girls were working as fast as their fingers would move. Along Regent Street the pedestrian traffic was completely blocked in front of several of the great flower shops where the more conspicuous emblems were on show. So great was the crush on that evening that it was found necessary to station policemen in front of the windows to regulate the eager concourse. These policemen caused the sightseers to march close past the windows in single file, no one being allowed to halt for a second. Thus thousands of people had the consolation of being able to say they saw the great wreaths. And great they were in all conscience. Some of the wreaths were from 12 ft. to 16 ft. in circumference. The designs assumed a great variety of forms; some symbolised huge scrolls of parchment with touching mottos over the groundwork; some were in the form of an open Bible, others as cushions, anchors, crowns, royal coat of arms, hearts, lyres and many other attributes, not a few of which were quite unique. The tributes sent by the Australian Commonwealth, the Siamese Legation and the Dominion of Canada were magnificently grand and must have run to a tremendous price.

Mr. H. J. Jones's Chrysanthemum Guide.—Amongst the many yearly publications that contain cultural hints for the "Golden Flower" or "Autumn Queen," in greater or less amount, none we think equals the CHRYSANTHEMUM GUIDE, published by Mr. H. J. Jones, of Ryecroft Nursery, Lewisham. There are reasons which account for this superiority. The first is that Mr. Jones grows thousands of plants himself, and has done so for about twenty years; and secondly, few Chrysanthemists travel about more or hear and see a greater variety of methods and opinions that have a direct bearing on the subject. But perhaps most of all lies in the fact that this Chrysanthemum Guide is not the creation of one man's brains in the ultimate sense, for each separate chapter is written by a "mono-phase" specialist. By "mono-phase" we mean one who concentrates his greatest attention on one phase of a special subject, and the Chrysanthemum affords a "special subject." Coming more definitely to the matter contained in the seventy odd pages of the Guide, the hints on propagation and the lists of varieties that are best propagated from at this, or that month of the year, are especially valuable. The alphabetical list of varieties with explicit directions as to when the stopping and timing should be performed is one of the best features of any, since almost the whole secret of success with the bulk of varieties lies in the proper selection of the buds. Watering and air-giving receive the attention these matters deserve, though indeed even greater emphasis on their importance would not have been out of place. In the treatment of Chrysanthemum Rust we do not observe any recommendation to use Jeyes' Fluid, which, at the rate of a wineglassful to a gallon of water, provides a splendid antidote for syringing over the plants once or twice a week in summer. The Guide contains other chapters on "Japanese Chrysanthemums for Exhibition," "How to Grow Good Chrysanthemums," "Raising English Seedlings," "How to Grow Large Specimen Plants," "Incurved Chrysanthemums for Exhibition," "Preparing Incurved Blooms for Exhibition," "Large Blooms in 6-in. and 7-in. Pots," "Early Chrysanthemums for the Garden," "The Cultivation of Chrysanthemums for Decorative Purposes," and "Rust on Chrysanthemum Foliage." We believe this is the twelfth edition of Mr. Jones's "Guide," making the one hundred and tenth thousand that have been printed, and we confidently recommend it to every grower. The price is 7d., post free.

PRUNING TREES AND SHRUBS.

At the Chiswick Gardeners' Mutual Improvement Society, on Thursday, the last day of January, Mr. W. Dallimore, foreman of the Temperate House, Kew, read a paper on the pruning of trees and shrubs. There was a crowded attendance in the Council room of the old gardens, and at the conclusion of Mr. Dallimore's exposition, the remarks and signs of approval showed how much his effort had been appreciated. The essayist at the outset asked the questions, "What should be pruned? What method should be adopted; and When ought pruning to be performed?" Under these questions he divided his paper. The practice of pruning was defined as being "a separation or deletion of certain parts of trees or shrubs to allow the building up of others." The practice of pruning is unfortunately not well understood by gardeners. As a general rule a tree or shrub should be pruned from the top downwards, the branches either being bodily removed or shortened back. In the case of forest trees the cut or severance should be parallel with the trunk. No snags should ever be left, and all exposed surfaces left after pruning should be coated with Stockholm tar. The various tools used were enumerated, including a selection of saws, standard pruners, steps, ropes, and tackle. The pruning of forest trees is quite as important an operation as the pruning of fruit trees.

In Germany the close planting system of foresters results in a course of natural pruning, yielding beautifully tall and straight-boiled trees, every inch of whose timber can be relied upon. It sometimes happens that timber merchants in this country refuse to buy pruned trees on the ground that such trees are liable to be diseased. The idea should never arise, however, if due care has been taken to cover the cut surfaces. A strong leader should always be maintained above the lower branches. Young trees, especially deformed young trees, require surgical treatment quite as much as a deformed child; and if properly attended they will outgrow their deformity.

As to the time of pruning it matters little when it is performed so long as it is not done during the weeks when the pressure of sap is ascending in spring. Otherwise pruning can be done in summer, autumn, or winter. Conifers rarely require pruning. Young species of Abies after having been grafted and having taken to the stock, should be cut hard back. The best of the leading shoots should then be selected, the others being removed. What can be done in the way of renovating poor specimens has been well shown at Kew. A Turkey Oak with six leads had five of these removed, and now is developing a strong, straight leader. An American Oak with a wide, flat head, was reduced to a width of 16 ft., and shows now a normal development. In another case the decayed part of the stem of a Liquidambar was thoroughly cleaned, and had the hole plastered up. The decay appears to have gone no further. Speaking of shrubs, Mr. Dallimore recommended thinning rather than hard pruning. Specimens of good and bad examples of pruning were shown. Many of the members took an active part in the discussion, and before leaving a hearty vote of thanks was accorded o Mr. Dallimore.

"JOURNEYMEN."

If this discussion, going on in The Gardening World, on their grievances helps to attract young gardeners to read The Gardening World regularly it will have done immense good. It has always been a cheap pennyworth, but it was never so valuable or interesting as now. The little wrinkles and hints on the management of the most useful plants, &c., in those articles for competition each week are well worth the price of the paper itself; and especially to journeymen who wish to gain all the knowledge they can, whether they may be in large or small places. Your correspondent, "Young Gardener," says that probationers in large places are trained by better men than if in small ones. I would ask him first to define large and small places. I know several places that would seem small to "Nil Desperandum," too, but the head gardeners there have from £80 to £100 a year, and their assistants are also well paid. I know also large ones of the "Duke of Cider" sort that have much smaller wages, and I hold that good Scottish gardeners invariably look to the "£ s. d.," therefore the moderate sized places are filled with men as well qualified as those in large ones. These men must produce a succession of as good crops as those in the large places; while the latter have the more experienced journeymen to depend upon. "Mr. Blair's" last letter is simply a current of common sense.—*J. C. Dick, Champfleurie, Linlithgow.*

GLADIOLUS THE BRIDE.

I find this beautiful little bulb one of the very best I have ever grown, and have at the present time two boxes of it in flower, its pure white spikes of flowers and clear green foliage contrasting well together. The best way I find to cultivate it is to pot the first batch the second week in August. For soil I use two parts leaf and one-third turf loam with a small addition of coarse sand, giving it the same temperature as Freesia refracta. It will come into flower, and will form a most useful addition to the greenhouse or conservatory.—*John Ford, 5, May's Villas, Sidcup, Kent.*

BORONIAS

Make another class of greenhouse shrubs which are very often *not* in the list of many. Their culture is very simple, in fact it may be classed with Epacris as far as that goes. The flowers are produced in the early spring and summer. Prune into shape after flowering. They may stand from June to September in a shaded corner outside. Do *not* expose to the full rays of the sun, or a plant of disfigured beauty will be the verdict. In spring, some extra heat is essential to open the flowers if dull weather continues for a time. Propagation can be effected by cuttings of half-ripened wood inserted in a pot of sandy soil, under a bell glass in a temperature of 50°. In this state keep the glass free of moisture. Pot the rooted cuttings in peat and silver sand. Pinch according to the style of plant desired. B. elatior is the hardiest variety and also very showy. Flowers terminal and in clusters along the shoot. B. megastigma is not so decorative, but is a slender plant with flowers borne in clusters giving off a most agreeable aroma. They are all noted for their fragrance. Of other species B. pinnata, B. serrulata and B. denticulata are more or less named after the shape of the leaves.—*Adam V. Main, Coltness Gardens, Wishaw.*

TO CATCH WIREWORM.

The season will soon be upon us when these destructive pests will begin their work of annoyance to the gardener. While some soils are nearly free from them others are quite the opposite. However careful we are in picking them out, still some escape our notice. No doubt most gardeners have seen the effects of their presence in a Carnation border or pot, as they seem to be very fond of the roots of these plants. They are also at home in a border of Melons, Cucumbers or Tomatos, where they seem to enjoy themselves. The plants become sickly looking and flag just as if they had become dry at the root. Of course they get a drink which is one for the lads who are busy at the vital parts of the plant; and very soon you will have the trouble of taking the whole houseful to the manure heap if these fellows are not arrested when their presence is detected. Obtain some oil cake and break it into pieces about the size of a hen's egg. Sink these about 4 in. into the border and cover up. Then examine every morning and you will get a surprise, because they seem to like it and in a short time your borders will be clear. But, of course, keep a little bit in constant use and give it an occasional look. Scrape them off into boiling water, or "kill 'em" in some manner.—*James Reid, Montrose Gardens, Donnybrook, Co. Dublin.*

THE ASTER BORDER.

We have now arrived at a time when the Asters can be cut down, and the stakes and tops taken away if not already done. If it is intended for the border to be trenched, the plants should be taken up with the labels securely attached and heeled in. The rubbish can then be burnt on the border which will make good ash for trenching in, should the soil be at all stiff. The trenching can now be done, adding plenty of good farm-yard manure, and if this operation is carried out every two or three years, the plants will be greatly benefitted, and more so if they are annually divided up into small pieces.

The Asters are this year starting away into new growth very early, and the sooner the replanting is accomplished the better will be the results in the autumn. A very much bolder display is made by planting the more showy varieties in groups, these will include: Asteroides, L. P. Childs, Top Sawyer, Mrs. T. F. Raynor, John Wood, Arcturus, Shortii, Nancy, White Spray, and Robert Parker, among the taller ones. Some of the best dwarf varieties for massing are the cordifolius, ericoides, diffusus, and vimineus types, turbinellus and its white variety albus, Coombe Fishacre, the Amellus section, dumosus, acris, and its taller variety dracunculoides, and Claudis.—*A. Thatcher, Aldenham, Elstree.*

THE GARDENING CRAFT.

Than that of the observant gardeners, what craft more demands the pleasant conception of Nature's most beautiful pictures? Nature is indisputably supreme in wild effect and in descriptive outlining, displaying at all times the exquisite charms of positive informality. It is the gardener's duty—nay, privilege—often to attempt the imitation of such scenes in much smaller space, perhaps in a few acres of home ground, or perhaps the dejected corner of a half-acre garden. His previous knowledge of the mechanical part of the operations necessary in removing an undesired height existing at the very spot a pond shall be, or filling one or a series of hollows, existing where his finished work shall see an elevated rugged erection of rock work, is simple enough yet requires forethought. Draining must be accomplished in such a manner that the lowest part of his completed work is kept dry. Work well planned is half finished. Such forethought is productive of many beautiful mental conceptions, and in the winter of the mess-maker's confusion the true gardener is experiencing the most glorious panorama of Nature's capabilities. Beautiful are the verdant leafy scenes of summer, when millions of flowers perfume the air, feed the bees, and provide cover for the feathered songsters' fledglings. But in summer there are also growing weeds, stealing birds (bothy innocents included), swelling fruits," burning" houses, growing grass, and parching soil, which keep the gardener's energies stretched to breaking pitch, and makes him breathe inaudibly—

Now is the winter of our pure content
Made burning summer with its sweat and work.

—*H. H. Gibson, The Gardens, Glencairn, Belfast.*

FRUIT UNDER GLASS.

Early Pot Vines.—Now that the bunches of fruit on early forced pot Vines are swelling up, a considerable amount of watchfulness is demanded. A few weeks ago the night temperature was advisably lowered to 50°, but now this should not fall below 60° if possible. A rise up to 70° during the day may be allowed. Where secondary or successive batches are in pots and are about to flower, the air may be kept drier. In severe weather the roof of the forcing pits should be covered during the night and a part of the morning with mats to save hard firing. Even when one is firing steadily and strongly the heat, especially on cold breezy days, passes out of the houses very quickly. The mats upon the roofs conserve a large share of the heat, and the trouble required is well repaid. Stop all sub-laterals as they appear and the fruit-bearing shoots should also be pinched at two leaves beyond a bunch. The fermenting matter will now be gradually losing most of its heat, and where it is desirable to continue the bottom heat (the season being yet early) fresh additions should be added. The Vines themselves and all surface spaces should be dewed over once or twice a day. The soil or parts near the pipes should be kept well damped.

Whenever the bunches have been thinned I would advise a bi-weekly watering with Thomson's manure, using a teaspoonful to the gallon of tepid water; or it may be given in the form of a top-dressing.

Vines may now be propagated from eyes or cuttings, preferably the former.

Permanent Early Vines require practically the same attention just now as the pot Vines do. I have previously pointed out the good effects of careful watering, and have insisted on making sure that the soil really needed water before the latter is given. A little more foliage and lateral growth may be allowed on Vines in borders, for their root system is greater and requires a larger amount of leaves to

draw upon it by means of leaf transpiration. As the borders of the early vinery will in the majority of cases be mulched with short, thoroughly rotted manure, the need for applying fertilisers is abolished. Where the mulching system is not practised a dusting of Thomson's manure should be supplied once a fortnight, or oftener. Muscat Grapes should not be so hard forced as Black Hamburghs, as the full flavour is only attainable in Muscat Grapes cut about midsummer. Later Vines should be started in the way recommended in previous calendars.

MELONS.—The earliest batch of Melons will now be sown, and preparations should at once be made to get in the soil to the house in which they are to be planted. For early sowing one can depend on Read's Scarlet Flesh, The Countess and Frogmore Orange.

CUCUMBERS should also be sown to take the place of the winter plants.

STRAWBERRIES, as previously advised, should be brought on successively in Peach houses or Melon houses with a temperature not below 60°. The pinching of Peach tree laterals, by the way, should be regularly attended to. The trees in flower should be fertilised either by smart tapping or by a soft-haired brush. Figs should be maintained warm, close and moist; the growth must also be constantly tied in and regulated. Cherries also demand attention.—*D. K.*

WORK UNDER GLASS

INCREASES daily now, and the would-be head gardener, of which a deal is being written just now, must be on the alert, airing with every care in the early fruit houses as the young foliage of Vines and Peaches is very tender, and so soon crippled with cutting winds from the cooler quarter, which have been prevalent this past week. No front air is necessary in these houses for another month, and not even then in the vinery. Put on a chink of air at the top when the glass reads 68° or 70°, increasing gradually as the sun gains power on the house. The heat should not much exceed 80°, closing soon after 2 p.m., with plenty of atmospheric moisture; night temperature 58° to 60°. Peaches in flower require daily attention as to fertilisation with a camel's hair brush about midday, keeping the trees dry overhead until passed out of flower, but damping down paths, borders, &c., twice daily when bright. Give air at 60°, and avoid the thermometer reading much over 70° at any given time or until stoning is passed. Close between 2 and 3 p.m.; night temperature 45° to 50°. Early Strawberries in this house with us will soon be in flower, when the said brush will find its way amongst these. Push on with the propagation of Iresine, Coleus, Mesembryanthemums, Heliotropes, Alternantheras, Geraniums, &c., until the required number is secured. Plant out Cucumbers raised early last month. Keep near the glass and the house about 70° at night with a rise of 10° or so with sun-heat. Sow a few Melons for a first crop, two or three seeds in 2½-in. pots, and confine to one plant, and that sturdiest, as soon as you can decide. Insert Begonia Gloire de Lorraine cuttings from the base of old plants as soon as procurable. They are not over fastidious as to compost, leaf soil, cocoanut fibre, or silver sand respectively will induce them to form roots. Keep close and fairly moist.—*Experience.*

Kitchen Garden Calendar.

DIGGING operations will be pushed on during the present spell of sharp weather. Wherever more than 2° or 3° of frost are registered, planting should be stopped in the case of all sub-shrubs, but trees and larger shrubs can still be placed in, although every care should be exercised to prevent the roots from becoming frosted. Manure heaps and heaps of decaying vegetable matter, leaf mould and such like can at this season be turned over so as to allow of further decomposition. Vegetable mould should be clean, that is, the vegetables composing it should not have been diseased, and in turning it over at this time a considerable quantity of lime should be spread between each separate layer of the mould. Charcoal fires, and fires of all the garden rubbish for making wood ashes, should be kept going. Light soils are especially benefited by the application of wood ashes. Heavy soils as a rule contain plenty of potash and the only real benefit to them would be the mechanical change that might accrue. But road scrapings would be better than wood ashes if a mechanical agent is desired.

PEAS.—Weekly sowings of Peas can be made during this month, in pots, and in favoured gardens in the southern counties of England, a warm south border may be chosen for an outdoor sowing. These early open-air sowings should be made against a wall if possible and should be protected by Spruce branches. When the seedlings have made an inch or two of growth they should be earthed up, and the branches need only be placed to shelter them during the coldness of the night. Sparse twiggy branches may then be got and placed to support them. The dwarf Canadian Wonder furnishes a first rate early variety for out of doors.

CAULIFLOWERS may also be sown in boxes, along with other sowings of Cabbages and Onions, in separate boxes, for early spring planting. When the soil is in good working condition sowings of the above may be made. Turnips, Radishes, Lettuces, and Carrots may be again made in warm frames for successional supplies. Endive under glass can be blanched by placing pots over the plants; or they can be treated in the same way out of doors. New Mushroom beds must constantly be made and spawned. Seakale and Asparagus roots for forcing should be placed in warm darkened cellars; such cellars can be conveniently arranged alongside of heated Mushroom houses.

The store cellars for root crops, &c., should be overhauled, or at least should be kept clean and airy. In case of severe frost Broccoli in the open-air should be heeled over, or a leaf or two may be broken down over the heads. Parsnips still in the ground should now be lifted.—*Kitchen Gardener.*

Gleanings from the World of Science.

THE undermentioned subjects were discussed at the Scientific Committee Meeting of the Royal Horticultural Society on the 15th ult.

Loss of reserve matter in pruning.—The following communication on pruning Vines was received from Mr. Thomas Sharpe, Westbury, Wilts.:—"The method in vogue of managing the growth and subsequent pruning of Vines appears to result in considerable loss of reserve matter. Physiology teaches that the compounds elaborated in the leaves, after necessary supplies are made to current growth and fruit, are stored for future use. Some of these are stored for the use of buds on the shoot the following spring. No. 1, the lowest or basal bud, is required for fruiting lateral next season, but No. 2, the next and onwards, are not, and are therefore cut off at pruning time, resulting in the loss of all the reserve matter stored in the shoot above No. 1. If I understand aright, every living cell of a plant is a perfect entity, though the connecting strands of protoplasm may manifest a quasi symbiosis, the supreme object of which is perpetuation either sexually or vegetatively as environment may render exigent. A mole, a rat, a rabbit, or even a toad may burrow under a Strawberry plant in summer, destroying more or less of the roots. The plant, deprived of a full supply of sustenance, becomes a suitable host for red spider, which makes its wonted havoc. The plant in consequence makes but miserable growth in August and September. The flowers of this plant next season will be small, but the pollen abundant, the growth of the tori stunted, but it may bear a mass of seeds. Again, a healthy Blenheim Apple tree attracts attention, the owner having arranged a manure heap in such a position that the liquid from it will keep the Blenheim over-supplied. Result: More growth the first season, but a diminishing growth afterwards for a few years, then two heavy crops of wretched fruit, all core and seeds. In these two instances of untoward environment the plants have adapted themselves by concentrating all their stamina to seed production. Can we turn such adaptations to account by the prevention of preparation for vegetative perpetuation above No. 1 bud in the Vine growth? Acting upon these thoughts I disbudded my laterals above No. 1 last July. Apart from really satisfactory appearance the Hamburghs exhibit no striking developments near the spurs, but the Muscat shows protuberances at the bases of the spurs, and these are quite conspicuous on that part of the rod which is four years old."

Mr. Hudson observed that it is always the basal bud which is used for stock purposes, as the eyes or buds are inferior in strength from below upwards along the lateral shoots. The basal bud always gives the most compact bunches of Grapes, the others supplying looser. He added that no pruning should be done until all the leaves had fallen. If the reserve material be contained in the shoot above the basal bud, and it be suggested by Mr. Sharpe that this could be utilised, then every bud must be suppressed except the basal. Experiments would show by comparison with those in which the lateral had been pruned down to the basal buds, whether the Grapes showed any superiority. It is hoped that Mr. Sharpe would continue his experiments, and record comparative results.

Injured Peach shoots.—Mr. James Hawkes, of Osterly Park Gardens, Isleworth, sent shoots with the following remarks:—"During the past two seasons, about the time the house is closed for forcing, a great many of the young shoots of Royal George (age of tree twelve years, growing in an early Peach house, and ripens end of June) have black rings round them, and from the buds small globules of gum exude. The tree in question has cropped well, has plenty of fibrous roots, and the growth is not over-strong. It has not been subjected to high or extremes of temperature, and is well supplied with water, nor has it been overfed with manure."

The specimens were sent to Dr. W. G. Smith for examination and report.

Climbing Cactus. — Dr. Masters exhibited photographs of a spirally climbing Cactus having a flattened stem, and spines, both small and large, proceeding from the edges. It was probably a species of Phyllocactus from Brazil. The photos were received from Dr. Schumann, of Berlin. Mr. F. Im Thurn observed how Cereus in Geuàva at first grows flat against a support, but when it grows freely above assumes a more cylindrical character. It would seem, therefore, to be one of Kerner's so-called "leaning" climbers, often forming a lattice-work by intersection of their shoots, if it have no adhesive roots, such as some species of Cereus possess. Mr. Henslow observed that the change of form is probably correlated with a different distribution of the mechanical or supporting tissue, for he finds that an Ivy shoot when supported has more pith and less wood than one of the same diameter, but growing freely in the air, in which the proportions of wood and pith are reversed.

Carnations, single and double, on one plant.—A drawing was received from Mr. Cuthbertson illustrating this not uncommon occurrence. Mr. Michael, Mr. Sutton, and Dr. Masters had observed similar cases, as in Begonias also, especially late in the season. An analogous occurrence is seen in Clematis Proteus, which bears double flowers early in the season, but single ones afterwards. In all cases it appears to be due to a check in nutrition.

Pinus cone. — Dr. Masters exhibited a fine cone, received from Sir Ch. Strickland, of Pinus ponderosa var. benthamiana. It is a native of California.

Mistleto variety.—Mr. Corderoy, of Didcot, sent a bough of Mistleto bearing longer and broader leaves than those of the usual wild form. It was believed to have been cut from an Apple tree. It was observed that the variety arose from some innate cause, but of course traceable to its parasitism, and that as Apples vary by the change of their environment, so the Mistleto is similarly affected.

Australian Rhubarb.—Mr. Sutton called attention to a variety of Rhubarb from Australia grown at Reading for some few years. It starts into growth every year in November, producing leaves with stalks 2 ft. long and three quarters of an inch in diameter, of a scarlet colour. Unfortunately in this climate it can only be depended upon during a mild season, the late frosts having destroyed it. As Rhubarb is a native of N.-E. Asia, it had apparently quite changed its habit in Australia, where the seasons are reversed; but has for the present retained its period of leafing which it acquired in the S. hemisphere.

Clavaria, rare.—Mr. Bunyard sent a plant growing on Pine wood in a cellar. It is snow white, much branching with pointed ends. Dr. M. C. Cooke reports that it is the rare species C. Krombholzi.

HINTS FOR AMATEURS.

Bulbous Irises.—The sweet little Irises which flower thus early in the year, are chiefly, or all, bulbous Irises. It is well in the first place to note that they *are* bulbous, not rhizomatous as are the various kinds of Flag Irises. The flowering season of these bulbous Irises is quite a long one, beginning as they do (especially if they are grown in pots for the alpine house) in December, and continuing till April. Of course the smaller species in flower at the present time in the rock gardens and hardy plant borders, do not last quite so long, but the English and Spanish Irises come into flower about April, and are at their best about the third week in May, these being also bulbous. When seen at their best the smaller bulbous Irises, like I. bakeriana, I. Danfordiae, I. sindjarensis, and I. reticulata, must be pronounced as excellent and exceedingly beautiful little hardy plants. Their flowers, or rather the flowers of the various species, are either white, or blue, or yellow, heliotrope, plum, or mauve—indeed, they yield quite a varied choice. Moreover, they are as a rule vigorous and free flowering, although in some soils and in some situations they require much care and repeated trials before they become thoroughly established. After they once make a start, however, they seem to go ahead in vigour proportionate to their previous tardiness.

Amongst the earliest flowering species are those I have already named, together with I. reticulata var. Krelagei, I. persica, I. histrioides, I. Heldreichii, and I. lusitanica.

As a rule, a good sandy loam suits all the true bulbous species, while the tuberous-rooted kinds enjoy a soil with an appreciable quantity of humus or humic matter, such as peat, leaf mould, or a little rotten dung. All of the species that I have named are largely grown in pots.

Chrysanthemums.—For some weeks I have said nothing about Chrysanthemums. They are at a very particular stage in their yearly cycle, and ought to be well tended. In the early stages potting should not be neglected, but the chief fact to be borne in mind is to encourage and maintain a steady growth. The plants should be placed on shelves in a greenhouse or other cool structure where they can receive a plentiful supply of light. The first potting from the cutting boxes into the "thumbs" or 3-in. pots should be made so soon as the cuttings are strongly rooted. A large number of the plants will, of course, have been potted off some time ago. They should be dewed over once a day, that is about midday. Pinch out any lateral shoots that may be appearing, and take pains to secure a good leading shoot. Old stools may be shaken out and repotted if the stock of any special variety is limited.

Roses.—Planting can still be performed so long as open weather continues. Stop all operations in this connection if severe frost is experienced. The China or Monthly Roses can at all times have some suitable bed or corner sought out for them. These and the climbing varieties of Roses, not forgetting the Teas and hybrid Teas, ought to be planted more liberally in every garden. There is plenty of space for them. Pruning of many kinds may soon be done.

Conifers.—These represent a section of trees whose too frequent use in grounds has been often pointed out by those gardeners who are striving to have our gardens all lightness and colour. It is a fact that far too many gardens, or parts of our gardens are very dull, chiefly because there are a preponderance of Conifers, usually all of the darkest sorts. While I should like to see the bright leaved and meritorious flowering shrubs ten times more liberally planted, yet I should be sorry to think that such fine Conifers as Abies grandis, A. Pinsapo, A. nordmanniana, A. concolor, and many other dwarfer kinds of Conifers, would be ousted, or even less numerously planted. There is room for all the best subjects: it is the grouping, the placing, and the general treatment of them that is so often at fault.

Present Work.—Sowings of vegetable seeds under glass will demand the active attention of all, at this time. Should hard weather stop outside operations, there will be sufficient work in the houses in potting, plant cleaning, washing and painting houses, or in the sheds in preparing besoms, labels, cleaning machines, and general preparations for the early spring work.

NOTES ON NARCISSI.

The flowering season of the beautiful Narcissi extends over a period of nearly six months by the efforts of man in co-operation with Nature. The earliest flowers from abroad, or from home-grown forced bulbs, begin to make their appearance early in December, and till the middle of April the supply steadily increases; then declines with the same month. The object in writing of the Narcissi at this time, is to bring our minds into form for taking notice of, and learning something about so highly specialised a genus of hardy plants as this is. During the last few months Mr. Peter Barr, V.M.H., has kept the thoughts of gardeners, both in our own dear land, and in the kinship lands of Australia and the United States, fresh for the sleeping Daffodils and Narcissi; and has more than ever won for himself the well-known title of "Daffodil King." All that he has done need not be repeated, but it should be borne in mind how that he, a man over seventy years of age, has written papers and discoursed on the culture and uses of this genus in every town and city in which he has stayed during his lately concluded New Zealand and Australian tour.

To consider for a moment the special classification of the genus Narcissus it may be explained that Daffodils are, of course, Narcissi (Narcissi being the plural of Narcissus), though all Narcissi are not Daffodils. We may leave the paradox for the nonce, and we will see what this more fully means.

The Narcissi are classed by systematists in the Amaryllis order (Amaryllideae) to which also belong the Snowdrops, Zephyranthes, Crinums, Day Lilies, Pancratiums and a great many different bulbous plants. However, that is nothing much to the point. I notice in a new book on hardy plants just recently published, that the author starts by dividing the Narcissi into two main groups: (1) with one flower on a stalk; and (2) those with more than one flower on a stalk.

There are three main groups of Narcissi, classified according to the length of the trumpets. These three groups are: 1, Magni-coronati, type the common wild Daffodil; 2, Medio-coronati, type N. incomparabilis; 3, Parvi-coronati, type the common Jonquil or the Pheasant's-Eye Narciss. Under these three divisions all Narcissi can be arranged. The first group commonly receives the name of the large Trumpet Daffodils, the second group forms the medium-cupped Daffodils, and then the third group are the small-cupped or true Narcissi. Thus we see that the true Daffodils are all those varieties with large or medium-sized trumpets, while the members of the Pheasant's-Eye section with little or no trumpet, are never called Daffodils but simply Narcissi. The large trumpet section of Narcissi are all easy to classify, but the other two groups are somewhat strictly sub divided, which sub-divisions, however, need no detail at this time It may be noticed that the commonly called "Eggs and Bacon," "Butter and Eggs" and "Codlins and Cream" belong to the second group or medium-cupped Daffodils—the *double* incomparabilis.

I will not go further in delineating the artificial arrangement of the genus Narcissus, because until there is a supply of flowers in the gardens throughout the land, a great deal of the practical value and interest would be awanting. Perhaps enough has been written, however, to interest some of the readers of "Hints," and to cause them to notice the various kinds of Narcissi as they appear during the coming season. By knowing even a little of the classification of genera, it is easier to recall the names and characters of the members of them. Nearly all the Narcissi at present in the market are either double Romans (white with a yellow cup), the Paper White, and other sorts of the Polyanthus or bunch-flowered Narcissi, all of which are varieties of one original species, N. Tazetta. A few of the commoner trumpet and medium-cupped Daffodils are also on sale, and in our conservatories.

The following is a summary:—

NARCISSUS.

Daffodils.

Group I. *Magni—* (Type) Common Daffodil. (Syns., Ajax or Trumpet Daffodils).	Group II. *Medio—* (Type) N. incomparabilis. (Syns., Medium-cupped, Chalice-cupped, or Star Narcissi).	Group III. *Parvi coronati.* (Type) Pheasant's-Eye. (Syns., Small-Cupped or True Narcissi).

—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Selection of Rhododendrons for Spring Planting.—*R. T.*: The following are very choice and, indeed, are the finest you can get: Pink, Concessum, Ingramil, C. Walsh, Lady Eleanor Cathcart, Minnie, and Mrs. Holford, which is a rosy crimson; Mrs. Tom Agnew, white with orange throat; Perspicuum, white tinged with lavender; Princess of Wales, rosy; Nero, bright purple; F. B. Hayes; Beauty of Bagshot, white; J. Penn, salmon-pink; roseum elegans, H. W. Sargent, crimson; and Pink Pearl, one of the choicest of all hardy Rhododendrons, and of a pretty pink shade. These we have seen in the collection of Mr. John Waterer & Sons, Ltd., Bagshot, Surrey.

Cultural treatment of Ericas and Epacris.—*H. T.*: The present and for two or three months to come, is the chief flowering period of the South African Ericas and Australian Epacrises. It has been well said that the way the watering of these hardwooded plants is performed may mean the making or the ruining of them. But a very great deal depends on the way in which they are potted. They must be potted firmly and evenly. Good, fibrous peat broken into lumps the size of Chestnuts and having the addition of ⅓ part of equally fibrous loam and ¼ part of coarse silver sand, should be used as a compost. Never subject them to a close, stuffy atmosphere, but at all times furnish as much fresh air as the weather and other conditions will allow. A temperature of from 40° to 50° is sufficient. When Ericas and Epacris have done flowering prune them back to hard but vital wood, at least all except the weaker kinds. In summer they may be plunged in ash beds out of doors open to all the sunshine. Established, late flowering sorts are usually potted in autumn, and young plants on the other hand are shifted when new growth starts in spring. Young plants should not be pot bound before being shifted. The culture on the whole demands a great deal of care and some special knowledge. For fuller hints you should refer to a good standard work, such as "Thompson's Gardeners' Assistant," or others.

Pegging Down Roses.—*J. S.*: If your H.P.'s are very strong it would certainly be wrong practice to cut them hard back and, as you suggest, the better plan would be to shorten back the points of the shoots and to peg them down horizontally. When pegged down they should be within 1 ft. of the ground. They will then throw up lateral shoots upon which the flowers will appear. Do not prune any of your H.P.'s very hard if the shoots are long and strong, unless large blooms are desired in place of a profusion of them.

Moss on Lawn.—*L.*: The lawn may be damp, in which case drain it; or it may require to be enriched by a top-dressing of fine soil. Rake out as much of the moss as you can.

Manuring Roses.—*L. F.*: In the meantime you could heavily mulch the border especially around the stools of the plants. The rains will wash out the liquid proportion of the manure (farmyard dung being used) which will benefit the Roses. In the month of April you could remove the roughest of the manure—the straw and undecomposed portion—forking in what remains. Pig dung has always been held up as being specially beneficial for the growth of Roses. This should be forked into the border in spring. Night soil is also good. Cow, horse and sheep dung mixed may be applied with benefit. Amongst artificial fertilisers superphosphate of lime, bone meal and sulphate of ammonia could be applied at the rate of 3 oz. or 4 oz. per sq. yd., or, perhaps, the safest and best way would be to use these fertilisers in the form of liquid applications, at the rate of a teaspoonful to the gallon of water. These should be watered-in during dry weather but it will require much judgment to use them judiciously. Their too liberal use will cause sappy growth, destitute of flowers.

Pruning of Hydrangea paniculata grandiflora.—*Admirer*: For the production of very large trusses,

the best quality of truss indeed, hard pruning is absolutely necessary in nearly all cases. Where the plants are only slightly pruned one can generally expect a greater profusion of flowers, but quality is sacrificed at the expense of quantity. The needs of the case, or the taste of your employer, should determine how the work should be done.

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Old trees to be pruned.—*Admirer*: We know that many old gentlemen are loathe to allow anything to be done to what they call their "grand old trees." Still when you see that the trees are degenerating, and are indeed dangerous o the lives of persons, it is but fit and proper of you to point ont where the remedy lies. If you sug ested how the removal of the limbs wonld act, and pointed ont the after effects, we should think your employer would be only too pleased to sanction your proposals. If he is not, you can simply retain yonr own counsel, which, however, will not be quite satisfactory.

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Sulphate of ammonia.—*G. H. M.*: Farmers and market gardeners use large quantities of tbis valuable fertiliser for their crops in springtime. As sold it is a greyish white salt-like substance, and is manufactured from ammonia liquor at the gas works. It is easily soluble in water.

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Sulphate of lime.—*G. H. M.*: This product is commercially known as gypsum. It can be applied advantageously to all soils deficient in lime. The silicates in the soil are decomposed or distintegrated as it were, the potash being liberated. On light soils it has a slight effect in making tbem more retentive; and of course the lime acts in sweetening peaty or humic soils.

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American Blackberries.—*J. T. R.*: The good varieties of Blackberries, *i.e.*, Brambles (Rubus fruticosus) are mostly of American origin, this being one of the fruits which the British grower has rather left alone. Those mostly in favour are Dorchester, Lawton, Kittatinny, Wilson Junior, and laciniatus. Wilson Junior is sometimes grown under glass in Scotland. The fruit of all of them makes excellent tarts or preserves. The culture is in nearly all respects similar to that of the Raspberry. We have grown some of these Brambles against a west wall with good results. A trellis might even be more commendable, however. Several of the British Brambles are also cultivated in some gardens.

A BRITISH FERNERY IN WINTER.

In the summer of 1894, I had the honour of contributing a few notes to The Gardening World on British Ferns, tbe same being accompanied with a photographic reproduction entitled "A Peep Into a British Fernery." In those notes I dealt mainly with the *summer* aspect of these beautiful Cryptogams. On this occasion I desire to emphasise their value for *winter* decoration, which I think the present illustration will enable me to sufficiently prove.

Anyhow the print in question represents tbe rockery side of my fernery which is 20 ft. by 12 ft., and will at least show something of the quality and varietal quantity of this charming class of plants. Mr. J. H. Wright, Essex Road, Acton—himself a lover of British Ferns—is the author of the photo, which was effected on January 6th last, under adverse weather.

The thermometer registered three degrees of frost, accompanied by a biting blizzard, while fitful snow-clouds veiled effectually our life-inspiring luminary. Moreover the glass structure was covered with ice and the depositions of the fog, although it had been washed down a few days before. Hence it will be observed that the poor amateur—or professional gardener for that matter—has much to endure in and about the purlieus of our modern and monstrous Babylon. Glass, tben, is a *sine qua non* in tbe successful cultivation of British Ferns in affected areas, if only to intercept those tar-like carbonaceous particles of filth which, otherwise, would be deposited on the Ferns.

Given this protective covering, and an intelligent interest in their otber requirements, there is no reason wby anyone should not become possessed of a similar collection. To amateurs with unheated houses, they ought to be a "boon and a blessing." And as there are thousands of such houses in our garden loving land, which are more or less of a stigma on their owners, I would suggest, as one way of redemption, the subject of British Ferns. What more enjoyable when "on pleasure bent," to turn aside and "hunt" for ferny forms? What more interesting tban to "find" a worthy souvenir? Many such adorn my rockery; and even if tbe quality is not, as yet, resplendent, the time, the place, the circumstance, is recorded as a happy memory!

Most of the Ferns, however, on the rockery are seedlings and, in consequence, are doubly interesting.

The Hartstongues (Scolopendriums) are, just now, in fine form and great variety; too numerous, in fact, to show their individual merits. A single specimen pot plant of S. vulgare var. crispum, however, may be specially mentioned.

The Hard and Soft Shield Ferns (Polystichums) exhibit much cutting and grace of character. Tbe one on the extreme left of the picture—one of several—is P. angulare var. decompositum (Pearson), an elegant Fern; while the one in the hanging-basket at the end of the house is Wollaston's proliferous variety.

The Male Ferns (Lastreas) are noted for their masculine character, tbe "King" of the section (L. pseudo-mas cristata) is, however, somewhat out of focus, although it may be dimly discerned in the neighbourhood of the hanging-basket aforesaid, towering upwards towards tbe light. It has quite a tree-like habit.

A seedling specimen occupies a prominent position in tbe foreground. In a winter picture, too, the Polypodies (P. vulgare) always lend their charms, and grown in wire baskets suspended from the roofs these charms are largely augmented. The first one is a wild find having broad fronds and acute pinnae; the second comes from Cornwall and rejoices in tbe name of P. v. var. cornubiense, otherwise known as elegantissimum; the third is of Welsh origin, and represents the plumose form of the species—P. v. var. cambricum; the fourth occupies a broad shallow pot, and is tbe result of a cross between a crested and a bifid form; the fifth basket is a miscellaneous assortment of *self-sown* Ferns, mostly Hartstongues. This is crowded with plants in all stages of growth, and shows tbe lightness and microscopic character of the spore, for all these plants are tbe result of wafted spores. Enough, however, has been said to indicate the value of hardy Ferns for town and suburb. The construction or configuration of the rockery itself is of little moment, for if tbe other conditions are favourable the Ferns will soon obliterate all irregularities of outline, or defect in the builder's want of art. In a limited area it would not be wise to attempt tbe "Alps," but all can aim at a "bit of nature" that would not disgrace a Devon or Cornish glen. If, perchance, more light is needed, or if more facts, more names, or more details are in request, I have no hesitation in stating that all these, and more, may be found in Mr. C. T. Druery's (F.L.S.) artistic and authoritative little book on "Choice British Ferns," which is published

A British Fernery in Winter.

by L. Upcott Gill, 170, Strand, W.C., at a very modest figure. Mr. Druery's fine collection was reviewed recently in the pages of THE GARDENING WORLD.—*C. B. G., Acton.*

ROOT PRUNING.

THE subject of root pruning has been a matter of interest since my earliest recollection, and very varied opinions have been adduced in the gardening press, and by lecturing at gardening associations. The reasons for root pruning are to remove roots from feeding in unwholesome subsoil, to prevent trees from producing wood minus fruit, and very often to maintain a dwarf habit of trees in gardens, where tall spreading ones are always objectionable. In orchards, roots are generally left to run outward and downward without interference, and in the majority of cases it is by the active feeders descending into inert or unwholesome soil of some sort which in course of time brings them to ruin.

Having lived in seven counties in England in districts hundreds of miles apart, I have had many opportunities of witnessing the cause of decay of many English orchards, the majority of which are discreditable to their owners. I am supported in these assertions by reports which have been made of late years by skillful and painstaking men well qualified to give correct statements as to the cause of failure and decaying state of so many orchards. If means were taken to keep the roots in the upper strata of soil and from growing down into unwholesome or inert subsoil, a very different state of things would exist.

I would (by Mr. Editor's permission) be pleased to make a few remarks on root manipulation, and while doing this I freely admit that root pruning in any form always appeared to me as a necessary evil, and should be avoided if possible. My first lesson on fruit tree planting was about the best I ever had. When a schoolboy I was sent a message by my father (a gardener) to one of the best known gardens in Scotland. I was struck by the work which was being performed by several men who were making wide holes along borders by the walks. They had what appeared to be a quantity of ashes, lime rubbish and other material mixed and formed into plaster. They put a quantity over the bottom of each hole made it thoroughly firm and smooth. Over this they put a quantity of good loam on which Apple and Pear trees were placed, the roots being carefully laid out and the soil made firm about them. The position being low and damp it appeared to be necessary to keep the roots above the general level of the ground, and special care to keep them from rooting downwards was taken. I looked upon these precautions as the best means to prevent the necessity of root pruning to any extent at least, and I have always considered that preventive measures were the best means to guard against failures.

A number of years after the tree planting indicated, I had to take action in a Wiltshire garden where fine walls were covered with beautifully trained Pear and other trees, but they grew immensely and bore little fruit which was cracked and of poor quality. I was an underling then and had to obey commands. I started to lift the Pears but the labour was great. A better method to save labour was to allow the surface roots to remain untouched and those under the trunk of the trees removed from the cold wet clay in which they were deeply imbedded, filling the space with good surface soil making it as firm as ramming could pound it in. This was what I considered economical, and in every way proved to be a most successful method in inducing fruitfulness and rendering trees (which were suffering from what the roots endured in the cold clay far from the surface) perfectly healthy. That is many years ago, but I have done the same kind of operation to many hundreds of fruit trees since then; but when I had the opportunity I improved my method by adding a quantity of lime rubbish to the soil, and making the ground impervious to down growing feeders by placing a firm floor of this material over the bottom soil before the tunnel was filled in, which keeps the roots to the surface where they can be manured and otherwise fed as circumstances may render necessary. Sometime after the performance with the Pears on the walls, I acted on my own responsibility with a fine lot of espalier Apples. They grew with such great vigour that the gardener who had charge of them for many years used the prunings as stakes, but they were gradually getting out of bearing. They were tunnelled and the down growing roots removed. Finely coloured fruit in great abundance was the reward from the labour indicated. Growth became short, in fact only spurs, and the foliage was large and remarkably healthy. I took another course of root pruning, which I considered a better one. When any trees showed indication of gross unfruitful growth which was manifest in June, if there was no fruit worth remaining I worked under the trees, clearing away the downward growing roots, and, like Mr. Nisbet, got the full benefit of the operation without loss of time. The roots (when carefully managed) sent out a mass of fibres, and the growths of wood by the end of the season were studded with fruit buds. This was the practice of a market grower who was noted for the excellence of fruits (chiefly Apples and Pears), which he took to Covent Garden. His practice was commented on by the editor, at that time, of a leading gardening paper.

I have practised this method of inducing fruitfulness of trees with Plums and Morello Cherries, as well as with Apples and Pears, with all the success which I could desire. Peaches and Apricots I have lifted during the growing season, and gained much advantage by the practice. One half may be lifted, say, early in July. They will have made fine new roots by the end of August. Then the other half of roots can be lifted and replanted, which will have got a good hold of the soil before they have shed their foliage. I could now refer to scores of cases which have given good results from summer lifting and root pruning in the manner which I have submitted; but would prefer to give a brief statement how Apples, now under my charge, have been treated. These trees have fruited finely every season during the last seventeen or eighteen years. Nearly nineteen years ago I had to make a complete renovation of an old place which had been left almost untouched, so far as gardening was concerned, for nearly sixty years. Large decaying trees had to be grubbed out (including an old orchard in its last state of decay), but all fruit-bearing trees good for anything were retained. The most of the latter had roots plentiful near the surface but the main feeders had gone deep into what seemed to be something like mud and sand—inert and useless for supplying life to trees of any kind. These roots were cut clean away. Most of them were in a state of decay and none appeared to be worth the trouble of saving. A good bottom of lime and brick rubbish was firmly placed under each trunk, and good surface soil was firmly rammed to keep the trees from sinking. Then the surface soil was removed and over the roots to a good width was spread a coating of decayed farmyard manure. This was made firm, and over which was placed a few inches of soil to prevent waste of the manure.

Good results appeared the first season after these operations were performed, and ever since then we have each season gathered abundant crops. Young standard trees were planted in rows across the garden, and if any of them show indications of gross unfruitful growth action is taken to prevent it from being harmful by an examination under the trunks of the trees. Generally there has been little the matter. One or two strong shoots going straight down has been all. Roots are always persistent in finding their way into damp soil. Some of the trees to which we refer were hollow in their trunks, and have been filled with cement. It is fair to state that fruit trees suitable to the locality and district only are allowed. This should always be a matter imperative when planting is performed.—*M. Temple, Carron, N.B.*

POLYGONUM BALDSCHUANICUM.

So beautiful is a well developed plant of this recently introduced climber that even after the many notices it has received in all the gardening papers, one wishes to bring its qualities to the minds of present planters. The position in which I have seen it succeed most fully was on the east side of a bushy Cryptomeria tree where its roots were maintained cool by the lower branches and by the shade and shelter of a south wall, and belts of shrubs, &c., near by. The long, climbing, reddish stems of the Polygonum stretched up and up from tip to tip of the branches of the Cryptomeria till it finally attained a height of 12 ft. or thereabouts. It now flowered with the utmost profusion and principally at the top. The flowers are whitish to begin with but they soon become tinted a beautiful pink colour, and as they are small and in wreaths, or clusters, they are distinctly ornamental and conspicuous from a distant and very pleasant at a near hard view. This description applies to an eminently fine plant—a specimen; and all do not equal such. Yet even where it succeeds even moderately it is one of the finest of the newer hardy deciduous climbers.

FLORAL DEMONSTRATION.

AT the Royal Horticultural Society's meeting, on Tuesday, January 29th, Rev. Prof. Geo. Henslow, M.A., gave a floral demonstration. Thirteen new fellows were elected. J. T. Bennet-Poë, Esq., occupied the chair. Mr. Henslow first alluded to Messrs. Veitch's Javanico-jasminiflorum Rhododendrons to show how from a couple of distinct species to start with, the present varieties in their sections have originated. Rhododendron jasminiflorum, with long white tubular flowers, was first crossed with R. javanicum, a crimson species with a short corolla. The first hybrid was Princess Royal, whose characters were almost strictly intermediate. Sometimes one of the parents of a hybrid seedling exhibits marked prepotency. This was the case when another attempt was made by Mr. John Heal, V.M.H., Messrs. Veitch's hybridiser of these greenhouse Rhododendrons. He had got to the limit of his tether in hybridising and crossing from the two first species that are named above, and he found it necessary to introduce an entirely distinct species with new "blood," so to speak. Hybridists always find it necessary to do this after a continued course of cross-breeding, for there is a point beyond which it would seem the cross-breeding efforts are futile. Nature seems to say you have played with me long enough, now go and try something else. But to refer again to the Rhododendrons, and to show how prepotency asserts itself, it was attempted to hybridise a "composite" hybrid, that is, a hybrid derived from a trio or more of species and hybrids by repeated breeding, with a fresh and distinct species, to wit, R. malayanum. The first seedlings resulted in giving members identical with the seed bearer, which was the species. The latter had crimson flowers, the "composite" hybrid had golden coloured flowers, yet the seedlings in the first generation had not the least trace of gold colouring in their flowers. These seedlings, however, crossed another time with R. malayanum, *did* show the effect by a number of variations.

The Winter Aconite was next described, and the Professor had chosen it, he said, because it took us to the very beginning of the classification of flowering plants on the grounds of evolution. Systematists classify plants according to a theoretical plan of evolution. The members of Ranunculaceae, or the Buttercup order, are placed (in classified order) next to the Gymnosperms, that is, the Conifers, &c. The first flowers we know of in the chain of evolution had no pistil. The ovaries were naked, and the Gymnosperms afford us these examples. When the first pistils came into existence we do not know; this is a great gap in botanical knowledge. The theory of the development of the little scale bracts of the Gymnosperms becoming calyx leaves was announced by Prof. Henslow, and he showed that the Winter Aconite has no petals (botanically) but has in place these beautiful golden sepals that we all know so well. The carpels are very conspicuous. Hellebores, which are also members of the Ranunculaceae, point out to us how petals were derived. In all cases petals are merely metamorphosed stamens; a fact which can be traced very well in many of the Christmas Roses. But the "petals" in the latter are more correctly described as "honey-bags," and from these "honey-bags" to the real petals of the Buttercups there is a perfect transition. In the latter case the honey or nectar is confined to a little bag which may be observed at the "claw" or base portion of the petals. The petals of Ranunculaceae are, strictly speaking, expansions of the anthers of the stamen; whereas, in the Water Lily order (Nymphaeaceae) it is the filaments that become the true petals.

To go just one step further into this question of the evolution theory, the Christmas Rose, as a rule, shows a primary type of flowers in so much that in their early stages the petals do the assimilative

work of leaves—for they are green. Then when the stamens and pistils are matured the petals have changed to pure white, solely for the purpose of attracting a pollinating agent. Then when the gynoecium has been fertilised the petals again become green and do the work of leaves.

The new Coleus thyrsoideus was selected to show the peculiar arrangement for fertilisation common in the members of Labiatae. In the case of this Coleus, however, the form of the corolla and the position of the stamens is just the reverse from the general rule found in other Labiates. The stronger and broadened lip for the support of insect visitors, together with the conspicuous guiding lines that are so often to be seen in funnel-shaped flowers, was commented upon in this connection.

The persistent, co-related characters of Crocuses. Irises, Freesias, and Gladioli brought these all under the Iris family, for botanists classfy not by one character only, but by a number. A concluding notice was given to Primulas, to point out how the P. pyramidalis type is simply a reversion to that which existed fifty or sixty years ago.

STATICE PROFUSA

Is a hard-wooded greenhouse flowering plant of great merit, and should be in every collection where blue flowers are appreciated ; and it would be news to learn where they are not. Shoots from 3 in. to 4 in. in length taken now, prepared in the usual way, inserted in 4-in. pots of sandy peat and loam, watered in and placed under a bell-glass in an ordinary greenhouse, and stood in a shady corner, root and are ready to pot off in about six weeks, using similar soil and pots 2½ in. across, keeping close for another week, when they should be ready to stand on a shelf or other suitable place near the glass. Moved into 5-in. pots as soon as fit, they will make nice little plants by next spring, and should carry two or three spikes of bloom. Little or no pinching is necessary, as it is of a branching nature. Good decorative plants can be grown in 8-in. pots, with a little feeding when full of roots. One or two stakes are necessary as the wood is rather brittle. In a good light greenhouse and not over-shaded they will flower from early spring quite late into the autumn. Mealy bug and scale are the chief enemies. These must not be allowed a footing; soapy water, a sponge and aphis brush will remove them, exercising care that the leaves are not broken off in the operation.—*Grower.*

TRACHELIUM CAERULEUM

Comes from *trachelos*, the neck, from its supposed efficacy in diseases in trachea ; hence the English of the genus, Throatwort. It grows naturally in shady woods in Italy, and was introduced to Britain in 1640. It is not quife hardy, and is a biennial or a short-lived perennial. Its roots are fleshy, tuberous, and send out many wide spreading fibers. Its radical leaves are ovate-lanceolate, serrated, pointed, about 2 in. long, and 1 in. broad. Its stems are irregularly garnished with similar leaves to the radical ones, and have a height of from 18 in. to 25 in. Its flowers grow in compound many-flowered nmbels, have a small funnel-shaped corolla of an azure blue colour, bloom from July to September, and will before long take the place of Gypsophila paniculata in the making up of floral decorations. It can be propagated from seeds and cuttings in cold pits in the autumn, and will make fine strong flowering plants the following summer. It is best planted under a south wall in good rich soil, where it will grow and flower profusely. It also makes a fine appearance upon old walls where its seeds and roots can find a lodgment.—*R. N.*

SPRING ANEMONES

Are amongst the most beautiful of our outdoor flowers. The cultivated varieties are suited to garden adornment and provide quantities of cut stuff. Anemone fulgens produces quantities of single bright scarlet flowers and succeeds untransplanted. Anemone coronaria has prettier foliage than fulgens and produces large petalled flowers of white, blue, scarlet, lilac, maroon and purple colours with hundreds of all intermediate shades. Anemone St. Brigid is a beautiful variety producing flowers with two to three rows of narrow pointed petals which, when fully expanded with the inner row curving inward and sideward, are large, graceful and attractive. They produce similar colours with coronaria but brighter with clean vivid shades. For garden purposes seedlings give best results. Seed should be sown during May, nursed and planted into their flowering quarters by September. After flowering they do better planted in grass, than if retained in the garden. Anemone apennina is very hardy and produces beautiful cushions of soft blue star-like flowers above and inward of a fringing of deep green indented foliage. There are white and rose coloured varieties of the apennine type. The above Anemones, when placed in informal masses in juxtaposition with others of Anemone nemorosa, on the sloping banks of a pond containing "Flags," where an odd shrub has been planted, behind which tall trees throw shadows of gray on their folding flowers at evening, or break the red gold radiance of a rising sun on the opening blooms in their endless tints, are something charming.—*H. H. Gibson, The Gardens, Glencairn, Belfast.*

THE AURICULA.

Auriculas in frames ought to be carefully looked after at this period of the year by removing all dead and decaying leaves, scraping all green moss off top of soil, and keeping as near the glass as possible. Be very careful in watering, better too dry than too wet. Those that are intended for exhibition had better be removed to shelves in the greenhouse to get them forward. But on no account force them, as it makes flower spikes weak. Let them have the sunniest part of the house, and apply weak liquid manure when they require any watering, but always keep the foliage dry, especially the stage Auricula, which is very powdery on foliage. If any throw up two spikes the weakest had better be removed. This does not apply to Alpine varieties, these having as many as possible. After these are done flowering remove old flower spikes except where seed is wanted. Potting had better be performed in June or July, dividing them up into single crowns, potting into as small pots as possible, depending on the size of the plants. Be very careful in drainage, which is the cause of failure often. Use good turfy loam and leaf mould in equal quantity, adding silver sand, charcoal, and old cow dung, using clean pots always. Let the frame be looking north after potting, when they will not need so much shading and watering.—*James J. Staward, Junr., The Gardens, Belwood House, Milton Bridge.*

ACALYPHA SANDERIANA.

Last season's plants of this handsome variety should now have attention. From my experience the following treatment gives good results :—Cut down the plants a foot from the pots, and keep rather dry till the buds vegetate, when they should be repotted into smaller pots, using a compost of three parts loam, one of leaf mould, and enough crushed crocks to keep the soil open. Place them in a light position in day temperature, 65° to 75°, and water sparingly until growth demands an increasing supply. They are not injured by moderate exposure to sun, but syringing is harmful. When the young growths are about an inch long, select the four best, which are invariably those on the top, and therefore serve the better in securing the elongating catkins or "flowers" from damage by contact with the soil. The weaker growth should be dishudded when the plants require. Pot on into 9-in. or other suitable sized pots, using soil composed as above, with the addition of a little bone-meal, potting the plants firmly. After the roots are in full possession of the soil, liquid manure once a week will benefit them. The growths should be arranged and neatly staked. We have grown plants in this way, producing fifty catkins, some of which were 2 ft. long. Cuttings root readily in bottom heat of 80°, and potted on into 5-in. pots, make useful decorative plants quickly.—*W. Hopkins, Leighton Gardens, Westbury, Wilts.*

WINTER FLOWERING IRISES.

Iris stylosa (syn. unguicularis) comes from Algeria on the borders of the Mediterranean. Every winter when I see it bloom (which it never fails to do, being remarkably free flowering) it always makes me wonder why it is not so extensively grown as its merits deserve. In the open ground early in January this hardy plant begins to throw up its flowers, which keep unfolding without intermission to the end of February. The flowers are borne on long stems, and are very fragrant. The standard and falls are bright lilac, and the throat veined with yellow and lilac on a white ground. The foliage is graceful and of a dark green, helping to form a picture unequalled by any plant in the open at the present time. I. stylosa speciosa is a showier form, the flowers larger, the petals broader, and of more substance, in colour a lively pale sky blue, veined towards the base with yellow. They are sweetly scented and suitable for vases. I. stylosa alba is an ivory white colour, and very beautiful ; it possesses the free blooming qualities of the others. They all do well in pots, but do not stand much heat. If wanted for inside they can be taken up with a ball when showing bud and potted, then the flowers open readily. Ordinary garden soil suits them well, but it must be well drained, a warm and dry situation being the only essentials to free flowering.—*C. F. B.*

WALLS AND TREES.

The cleansing of garden walls and fruit trees is very often neglected. While the trees are away from the walls a thorough cleaning of both walls and trees should be done. Especially in old stone walls insects are hidden in crevices and holes between the stones and lime. These should be filled up with durable mortar or cement, so that the walls present an unbroken surface on which to train the trees. The stonework or brickwork ought to be well syringed with soft soap and sulphur solution at a temperature of 130° or more to destroy as far as possible all kinds of insects appearing. The trees deserve attention next, dressing them with some effective insecticide. A good and simple one consists of sulphur, soft soap, paraffin, and hot water. To prepare the mixture dissolve half a pound of soft soap in two gallons of water, mix half a pound of sulphur to a paste, adding two wineglassfuls of paraffin oil, mix thoroughly so as to combine the oil with the solution. Soot or clay added will give a better colour to the mixture, and bring it to a more desirable sort of paint, when it is easily applied to the wood by the aid of a painter's brush. On the younger portions of the wood the brush must be worked upwards, and the smallest bud will not be displaced, while every inch of wood can be covered. All iron or wooden fruit fences should be tarred.—*T. S. Dick, Castlemilk Gardens, Lockerbie.*

GARDENERS' GRIEVANCES.

I hope, Mr. Editor, you will pardon me if I again make an attempt to encroach on your space, as I, too, like Mr. Blair, am still unconvinced. I again disagree with him when he says that men trained in large gardens, say where twenty to thirty or more hands are employed, are averse to accepting a situation as head gardener in smaller ones. I think few young fellows who have had fifteen or more years in the routine of large establishments would wish to *start* as head in a similar place. They realise too well the difficulties of such charges. As a matter of fact it is very exceptional for a man to obtain as his first headship a garden of the same extent as those in which he may have acquired his experience.

Some of us keep our eyes on the latter, and I think rightly so, but on the other hand a great many have no wish to assume the responsibilities such places entail, and as a natural consequence drop quietly a few rungs in the professional ladder to where they find their greatest happiness.

Some are not happy unless "harassed" (a queer predicament, I own), and with regard to comfort, if that means ease and freedom from care, I doubt if anyone expects that who aspires to the charge of a large garden ; they will make a mistake I imagine if they do.

I do not agree that economy is better taught in the smaller gardens. My experience is the reverse. As to obtaining a headship in a large establishment after serving in small ones, I am afraid it is perfectly hopeless to think about it. If, as "A. V. M." says, the small gardens are the best for knowledge and practical work, and that the best gardeners are to be found in them, why is it that we never hear of these men having "angels' visits" and securing some of the Plums of the profession ? I never see these visits chronicled ! No, "A. V. M."! for the reason that "Nil Desperandum" points out, that the "survival of the fittest," as applied to gardening, is indeed a truth. I hardly suppose that anyone is

prepared to argue "that lords and dukes make skilled gardeners," but noblemen are sometimes prepared to pay a good wage for the services of one. "A. V. M." discounts the value of a diary because of the diversity in climate and soil of different shires. It would be just as logical to argue that a capable gardener who acquired his experience in the north would be but an indifferent one in the south. What do my "irrepressible" Scottish friends say to that?

Perhaps our lot as probationers is not a very encouraging one, but why make it worse with useless grumblings? If grumbling will remedy a grievance, there is some purpose in grumbling, but I think it would be more profitable, as "C. P. C." says, "to struggle on and try to improve our knowledge by every means available."

I confess to have some sympathy with the lad who cries for the moon if he sets about to obtain it. He *does* know what he wants. He may not get it, but perhaps will secure something near it which will satisfy him. I know as well as many what deficient education, long days, small pay, long weary months of waiting on miserable nursery pittance means. The young gardener must be prepared for much of that, but none the less let him map out his path and his goal and start to win—and win. He may not break any records. It is not always necessary to do that in order to receive a prize.—*Young Gardener.*

Mr. Editor, I hope you will allow me space in our useful paper The Gardening World to answer some of the questions put to me by some of our readers in last week's issue. I am very pleased to see so many good writers taking an interest in this discussion. Certainly I do not agree with Mr. Ross in some points. I have been in places where I was both inside and outside, and I say that I never yet could take an interest in either department, simply because I had too much to attend and give attention to. It was a case like this—Watering in the morning till breakfast, then digging or planting "Curly Kale" for an hour or so, then had to run and take the "air" off the "plant stove" and "Melon pit" (the sun had gone down), and so on like that. No one could take an interest in his work in a place like that, could he? Besides, the minister or doctor does not like to see his men running so often from their work.

The "diary writing" is an old habit, and I know a great many good and able head gardeners that have shown me their diary after keeping it for years. I I have met the "footballers" too, and five out of every eight kept his diary, the most of them being good tradesmen, yet, still, could enjoy a game at cricket or football after his hard day's work was finished. The "great lot" that could be done by head gardeners is a very wide question, and I am afraid that space will not be granted to go into the question thoroughly, but the chief one is "Get his men comfortable both in bothy and in wages as far as possible." I may say that if chaps were a little more looked after in comfort, &c., they would do far more in return to their masters. In the most of big places in Scotland, where a number of journeymen are kept (not including inside or outside foreman) their wages are all the same, namely, as a rule 16s., no matter whether Peter Green has just served his time, or John Experience been ten or twelve years at the "profession."

Could it not be possible to give John Experience a shilling or so more a week, although Peter Green had only to get 15s. for a start? This is where matters could be improved by many a head gardener. A.V.M. seems to think that making of seed beds, sowing seed, digging, pruning, potting, disbudding, &c., is not taught in large places. I am afraid he has been one of the unlucky then, as I have always, and will always give the apprentice a chance, while I am in a big establishment or not. As has already been said, "we are a brotherly lot," yes; and "one good turn deserves another." I hope no ill-feeling will exist between the writer and his critics as this is *only* "an argument."—*T. S. Dick, Castlemilk Gardens, Lockerbie.*

I think "C. P. C.'s" interesting article on "Gardeners' Grievances" encouraging to young gardeners who are struggling onwards in the hopes of getting a good position in gardening. For myself I do not think there is any profession that has more grievances than gardeners, who have long hours of work and anxiety, and, as a rule, poor wages. Just consider what a gardener has to learn before he can obtain the post of a gardener, compared with a mechanic. As a rule a young man may go into a trade and in six years be a first-class workman, and take top wages. Not so with gardeners. They have to start as garden boys and work their way up to head gardeners. This takes as a rule fifteen to twenty years to obtain, and then only with hard work and study. Of course some are more lucky than others, and often we find some of the best men in small places, perhaps through no cause of their own.

"Gardening" I consider a game of chance, and nothing else, and my advice to young men is to take up some trade, without they have their heart and soul in gardening. With a trade they are far better off than the poor journeyman gardener, and have a better prospect in view. More situations open to them than journeymen when they have served their time, better pay and less hours, and when they leave off work they have done for that day. Not so with the gardeners, who have scores of little things to do and think about after leaving-off hours.

Another side of the question is large versus medium places. Which are the best for a young man to enter? Well, if I had this to answer, I should say the medium one. I have made a careful study of young men in different gardens (large and medium) that I have served at in various parts of England, and have no hesitation in saying that some of the best men are found in medium-sized places, where eight to ten men are kept. And as many readers of The Gardening World know from looking round places, that better stuff (both inside and out) is found in these places than the larger ones, and men get a far better knowledge all round. It is all very well telling you to keep your eyes and ears open, but that is not all. I quite agree with what Mr. F. Ross, p. 358, says about journeymen keeping a diary. How many do? They are few and far between. Recently I asked a young journeyman why he did not keep a diary of the work he did, and very soon I had the answer:—"Did I think he was going to trouble his head about such things for 16s. per week? And when he had served twenty years to get a single-handed place, and be generally useful for the large sum of a pound a week; for as things are now I can go and earn 6d. per hour without references, &c., that would be required if I keep to gardening."—*J. Botley, Blythewood Gardens, Maidenhead.*

PLANTS RECENTLY CERTIFICATED.

The awards mentioned below were made by the Royal Horticultural Society on the 29th ult.:—

Orchid Committee.

Cattleya chocoensis alba.—The typical form of this Cattleya is closely allied to C. Trianaei, the chief or leading distinction being that the sepals and petals, but particularly the latter, are nearly erect, that is, they almost take the same direction as the lip. The petals are notable for their relative shortness, great breadth and crisped margin. The lip is funnel-shaped. The variety under notice has a yellow blotch in the throat, and a faint blush tint on the lip, otherwise the whole flower is white. (Award of Merit) Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

Calanthe Oakwood Ruby.—The flowers of this hybrid are of an intense carmine-red, with a white eye to the lip, the petals being darkest. It is probably the darkest Calanthe now in cultivation. (Award of Merit) Norman C. Cookson, Esq. (gardener, Mr. Wm. Murray), Oakwood, Wylam-on-Tyne.

Odontoglossum nevadense rosefieldense.—The lanceolate sepals are revolute at the tips, and of a deep shining chocolate with a yellow margin and tip. The petals are similar, but have yellow markings at the base. The lip is white, with canary-yellow fringes on the margins, and the disc and side lobes are blotched with brown. (Award of Merit.) de B. Crawshay, Esq., Rosefield, Sevenoaks.

Phalaenopsis Boxallae.—The lateral sepals are much broader than the dorsal one, all being yellow and barred transversely with deep purple fading to brown with age. The lip is white, fading to pale yellow. (Botanical Certificate.) Sir F. Wigan, Bart.

Floral Committee.

Rhododendron King Edward VII.—The parents of this greenhouse hybrid were R. javanicum (female) and R. Teysmanni (male). The flowers are of great size, produced in massive trusses, and of a deep golden-primrose colour. The filaments are darker yellow, and the anthers violet-purple.

Fruit and Vegetable Committee.

Apple Beauty of Kent.—The fruits of this fine old variety are of large and handsome size, the skin being yellow and covered from one-half to two-thirds with a rich suffusion of red, with crimson splashes and markings. The flesh is tender, juicy and of excellent quality. The fruits shown were of unusual size, very handsome and received a Cultural Commendation as well as an Award of Merit. Roger Leigh, Esq. (gardener, Mr. Woodward), Barham Court, Maidstone.

Apple Brabant Bellefleur.—The conical fruits of this variety are yellow, and deep, shining, crimson-red on the exposed side. It is a cooking Apple of good quality, in season from November to April. (Award of Merit.) Lord Poltimore (gardener, Mr. T. H. Slade), Poltimore Park, Exeter.

Apple Reinette du Canada.—The five-angled fruit of this variety is dull yellow, suffused and spotted with russet. The flesh is of sufficient excellence for table use and is equally available for cooking purposes. (Award of Merit.) Mr. W. Strugnell, Rood Ashton Gardens, Trowbridge, Wilts.

Apple Claygate Pearmain.—The ovate fruits in this instance are of medium size, dull yellow and heavily suffused with russet on one side, and splashed with red on the other. The variety is a good dessert Apple and continues in usable condition to the end of next month. (Award of Merit.) Mr. W. Strugnell.

GARDENING MISCELLANY.

APPLE BUTTER.

Apple butter should be made from new Cider, fresh from the press, and not yet fermented. Fill a porcelain-lined kettle, and boil until reduced one half. Then boil another kettle full in the same way, and so continue until you have sufficient quantity. To four gallons of boiled Cider, allow half a bushel of nice juicy Apples, pared, cored, and quartered. The Cider should be boiled the day before you make the Apple butter. Fill a very large kettle with the boiled Cider, and add as many Apples as can be kept moist. Stir frequently, and when the Apples are soft beat them with a wooden stick until they are reduced to a pulp. Cook and stir continuously until the consistency is that of soft marmalade, and the colour is a very dark brown. Have boiled Cider at hand in case it becomes too thick, and Apples if too thin. Twenty minutes before you take it from the fire add ground Cinnamon and Nutmeg to taste. It requires no sugar. When cold put into stone jars and cover over.—*Rural New Yorker.*

LOBELIA POISONOUS.

The sweet and dwarf little edging Lobelia, which in gardens everywhere is one of the first favourites, has been found, says *The Irish Farming World*, particularly dangerous for sheep to eat. At the end of last October it had been determined that this plant had been the cause of death of a considerable number of sheep in the Western district of Victoria, where the plant grows wild. The symptoms are convulsions and rigid stiffening of the limbs, similar to strychnine poisoning, and a sheep very rarely survives an attack. The Lobelia so commonly grown in gardens (L. Erinus) is a native of South Africa. L. gracilis, of *Andrew's Botanical Repertory*, t. 340, is a native of Australia. L. tenuior comes from W. Australia.

LENTIL RISSOLES.

Put quarter pound Egyptian Lentils in a pan with a gill of water and simmer till tender. Pour into a dish and add a little Thyme, Parsley, fine-cut fried Onion and seasoning. Stand aside till cold. Roll some short paste thin, and cut into small rounds, place a little of the Lentil mixture on each, and form into little turnovers. Brush over with beaten egg, and fry in oil or butter. Pastry may be made by adding three ounces of nucoline or albene to half pound of flour.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE annual general meeting of this foremost of the special floricultural societies of the United Kingdom, was held at Carr's Restaurant, 265, Strand, W.C., at 7 o'clock on Monday evening, Chas. E. Shea, Esq., presiding, and supported by fully seventy members. Amongst the well known faces were Messrs. T. Bevan, P. Waterer, C. E. Wilkins, C. Harman Payne, J. H. Witty, Brian Wynne, T. W. Sanders, H. J. Jones, D. B. Crane, W. Howe, J. W. Moorman, W. Cutbush, R. C. Pulling, J. W. Simmons, G. Langdon, J. T. Simpson, J. W. Wilkinson, J. R. Cholmeley, G. Cuthbert, W. Logan, W. A. Holmes, D. Ingamells, W. Mease, A. Taylor, A. J. Foster, C. H. Curtis, H. J. Wright, J. F. McLeod, and R. Hooper Pearson.

After reading the notice convening the meeting, the secretary read the minutes of the last annual general meeting. The chairman then arose amid applause, and said that he hoped the meeting would be a pleasant one. The society by its own statements was great, he said, and he was sure they would allow nothing undignified to pass in any of their transactions. The death of the Queen was fittingly alluded to, and though the chairman did not propose that an address of condolence be conveyed to the Royal house, he yet knew that every member of the N.C.S. felt deeply the loss of the great Sovereign, and everyone would certainly echo the Queen's last words, "Oh, that peace may come soon."

Coming to the business of the evening the chairman went on to say that death which touches the sovereign does not leave the subject. He regretted the death of the eldest son of one of their oldest members, Mr. R. Ballantine. He proposed that a resolution of sympathy be sent to Mr. Ballantine from the members assembled at the annual general meeting. Mr. J. W. Moorman seconded this. Letters were received from Mr. R. W. Wright, Croydon; Mr. H. A. Needs, and Mr. R. Ballantine, expressing their regret at being absent from the meeting.

The report and balance sheet was put before the members, and after a good deal of talk it was unanimously adopted with one alteration. The clause beginning at "If its membership does not increase, &c.," was altered so as to read that "The membership of the society maintains a fair average, &c." The chairman, before moving the resolution, said that undoubtedly the society had had a check, and it was well to find out the cause of it. The main work of advancing the culture of the Chrysanthemum was, however, progressing very remarkably. (Applause.) He thought further steps might be taken to break away from the trammels of the formal exhibition style of staging. Mr. H. J. Jones seconded the resolution. Amongst others who spoke in this connection were Messrs. J. W. Moorman, who pointed out that financially the society was better than ever; Mr. P. Waterer, Mr. C. E. Wilkins, and J. T. Simpson. The report and balance sheet was then agreed to.

The election of officers was proceeded with, and occupied the rest of the evening. From what was uttered by various of the members it was most patent that the National Chrysanthemum Society is still in a very discordant condition. Everybody wishes harmony, yet few seem to know how it is to be secured.

REPORT OF THE EXECUTIVE COMMITTEE, 1900.

AT the commencement of the first year of a new century, your committee can heartily congratulate the members upon the National Chrysanthemum Society still maintaining its position at the head of the special floricultural societies of the United Kingdom. If its membership does not increase quite so rapidly as in previous years, a fair average is maintained; and there is but little, if any, evidence of a waning interest generally, either in the society's work or in the improvement of the Chrysanthemum.

This is illustrated in the high order of merit which characterised the society's exhibitions in the past year. The Great Autumn Fete held in November last showed no falling off in the aggregate of blooms staged, while the numbers and quality of the incurved varieties surprised everyone. The "Vase" class lost none of its attractiveness; the new arrangement of groups about the fountains was a striking success; there was a spirited competition by affiliated societies in the "Trophy" class, and the exhibits in the classes in which the Holmes Memorial Cups were offered, proved as satisfactory as ever.

The warmest thanks of the committee are due to the president for his generous contribution of a special prize of £20 in the "Group" class; to Mr. H. J. Jones, for his valuable first special prize in the "Vase" class; to Mr. Percy Waterer, chairman of the executive committee, for his handsome challenge cups for amateurs, which the committee hope will be keenly competed for at the next November show; and to all who assist the committee by offering special prizes at the various exhibitions. The committee have the pleasure to announce that the president has generously consented to continue his special prize in the "Group" class; and Mr. G. H. Richards, of Southwark Street, has offered a special first prize of £10 for six vases of incurved Chrysanthemums shown on long stems. The support rendered by private growers and the trade, who send highly meritorious collections, is greatly appreciated by the committee.

The schedules of prizes for 1901 have been revised in some particulars, and additions made, especially in the direction of encouraging the production of the early flowering varieties at the October show. The attention of exhibitors is drawn to some important modifications of the conditions of competition in the "Group" class, in which the president's prize is offered.

The floral committee held seven meetings during the year, and awarded to new varieties 18 F.C.C. of Merit, 8 A.M., and 3 Commendations. The production of fine novelties in Chrysanthemums is thus shown to be very active. The new method of appraising properties by means of points is found to work well; as every flower is thereby subjected to a close analysis of its qualities before an award is made.

It has been thought by the committee advisable to postpone the publication of a new catalogue until the spring, in order that the lists of new introductions may be as complete as possible.

A deputation from your committee visited Paris at the end of October, taking with them a collection of blooms of the leading types, which were staged at the Paris Exhibition, and commanded great admiration for their high quality. An interesting account of the visit from the pen of Mr. C. Harman Payne appears in the annual report, &c. A deputation from the French National Chrysanthemum Society also visited the November exhibition of this society, and were much gratified by what they witnessed. They were suitably entertained by your committee, and expressed themselves as greatly honoured by the warmth of their reception.

A smoking concert, held during the spring, proved an agreeable social function. The annual outing of the members to Halton, Wendover, by the kind invitation of Mr. Alfred C. de Rothschild, who most generously entertained them, was greatly enjoyed by a large number of members and their friends. The warmest thanks of the committee have been conveyed to Mr. de Rothschild. The annual dinner was held as usual at the end of November. Mr. T. W. Sanders occupied the chair, and the contributions of fruit and flowers made by several members were highly appreciated.

The committee have to regret the fact that several suburban and provincial societies have ceased to be affiliated, owing to lack of popular support in their several districts. Your committee have had under consideration proposals for making the bond of affiliation even more advantageous to societies, and hope shortly to promulgate some proposals which will operate in this direction.

The committee have concluded arrangements with the directors of the Royal Aquarium by which they will hold three exhibitions in the present year as in 1900, and on similar terms. In conclusion, the committee make an earnest appeal to the members to assist them in adding to the roll of members. It is by means of members' subscriptions that a certain amount of income is assured to the society, and there must be many persons interested in the Chrysanthemum who would willingly join the society were the advantages of membership brought to their notice.

RESERVE FUND.

DR.

	£	s.	d.
To Balance on Deposit Account	50	0	0
,, Balance on Current Account	24	11	2
,, Cash	0	10	6
,, Tranfer from General Account	30	0	0
,, Interest on Deposit Receipt	2	6	5
	£107	8	1

CR.

	£	s.	d.
By Balance on Deposit Account	100	0	0
,, Balance on Current Account	7	8	1
	£107	8	1

ASSETS AND LIABILITIES.

LIABILITIES.

DR.

	£	s.	d.	£	s.	d.
To Spink and Sons—medals	67	2	10			
,, Printing and stationery	2	19	6			
,, Expenses Press Committee ...	3	0	7			
,, Advertisements gardening press	1	15	0			
,, Subscriptions, 1901	6	13	6			
,, Affiliation fee, 1901	0	10	6			
,, Advertisement in catalogue ...	1	1	0			
				83	2	11
Balance of assets over liabilities				233	13	0
				£316	15	11

ASSETS.

CR.

	£	s	d.	£.	s.	d.
By Balance on General Account ...	81	14	0			
,, Balance on Deposit Account ...	100	0	0			
,, Balance on Reserve Current Account	7	8	1			
,, Balance on Petty Cash Account	5	13	4			
				194	15	5
,, Arrears, members' subscriptions, estimated to produce ...	12	10	0			
,, Arrears, affiliation fees	3	13	6			
,, Due for dinner tickets	0	10	0			
,, Due for medals	1	19	0			
,, Due for space	35	17	0			
,, Due for advertisements	9	17	0			
,, Due for special prizes	30	5	0			
,, Due for catalogues	0	8	0			
,, Due for medals	0	3	6			
,, Due for tickets	2	11	0			
,, Due for bill posting Royal Aquarium	9	15	0			
				107	9	0
,, Tickets (80) at cost price	2	0	0			
,, Medals in hand	5	11	6			
,, Jubilee catalogues in hand ...	2	0	0			
,, Various properties at Royal Aquarium	5	0	0			
				14	11	6
				£316	15	11

Examined and found correct { T. J. BERRIDGE, WM. SEWARD } *Auditors.*

Countersigned, CHARLES E. WILKINS, *Hon. Treasurer.*

January 16th, 1901.

STATEMENT OF INCOME AND EXPENDITURE

For the Year ending December 31st, 1900.

DR. RECEIPTS.

		£	s.	d.
To Balance brought forward		76	4	6
,, Annual subscriptions		257	17	1
,, Donations and special prizes		86	16	6
,, Royal Aquarium Co.		375	0	0
,, Entry fees, rent of space		65	11	0
,, Affiliation fees		71	19	0
,, Medals, &c., affiliated society		89	5	7
,, Medals sold		4	1	3
,, Sale of catalogues		3	6	7
,, Sale of tickets		12	1	5
,, Advertisements in schedule		18	18	0
,, Advertisements in catalogue		1	1	0
,, Annual dinner tickets sold		16	10	0
,, Balance of annual outing account		3	3	8
,, Balance in cash book	£81 14 0			
,, Outstanding cheques	119 11 3			
		201	5	3
		£1,098	12	7

Balance at bank, 31/12/00 ... ... £201 5 3

CR.

EXPENDITURE.

	£	s.	d.
By Prizes at October, November, and December shows	485	6	0
,, Transfer to deposit account	30	0	0
,, Printing and stationery	62	17	7
,, Advertisements in Horticultural Press ...	14	10	0
,, Medals and engraving	109	2	3
,, Donations to Royal Aquarium employees	2	2	0
,, Hire of rooms	7	10	0
,, Expenses of audit, 1899	0	19	5
,, Purchase of special prize	5	5	0
,, Expenses of annual dinner	23	12	7
,, Expenses of floral committee dinner ...	6	15	9
,, Entertaining French delegates	1	13	6
,, Bill posting	9	15	0
,, Tickets, Royal Aquarium	8	18	0
,, Cartage	2	2	6
,, Cost of exhibit at Paris Exhibition	15	10	9
,, Expenses of foreign corresponding secretary	1	19	10
,, Fire insurance	0	7	6
,, Secretary's salary	100	0	0
,, Show, and minor expenses, &c.	67	12	7
,, Petty cash expenses, &c.	54	6	8
,, Bank charges	0	18	4
,, Balance in hand	5	13	4
,, Balance at bank	81	14	0
	£1,098	12	7

The following were elected scrutineers of the ballot:—Messrs. Wm. Cutbush, J. McKerchar and J. W. Wilkinson.

Sir Edwin Saunders was re-elected president; Mr. T. Bevan, chairman of the executive committee in place of Mr. P. Waterer, who resigned and could not be persuaded to take office. Mr. J. W. Witty was elected to the vice-chair; Mr. C. E. Wilkins was pressed to take the treasurership again but would not. Mr. J. W. Moorman was elected to the office. Mr. C. Harman Payne was elected to his old office. The elected members returned thanks; and regrets were expressed that Mr. Waterer and Mr. Wilkins would not offer their services. Mr. J. W. Moorman proposed that an address be presented to Mr. Waterer at a future date for the excellent services he had rendered to the society; he was furthermore elected an Hon. Fellow, and this was

heartily agreed to. Mr. C. E. Wilkins declined thanks. Mr. Richard Dean, V.M.H., was re-elected general secretary. Mr. E. C. Jukes and Mr. T. Bevan were also elected Honorary Fellows.

There were no new affiliated societies to name on this occasion. The alteration to Rule VIII. was approved of (see last week's issue, p. 356), Rule III. remains as it was. The secretary announced that the annual outing of members would take place about the first Monday in July to Downside, Leatherhead, the seat of A. Tate, Esq., where Mr. Mease is gardener.

The ballot for the members of committee was then taken. Seven members of the late committee offered themselves for re-election, namely, Messrs. F. Gilks, W. Howe, G. Langdon, R. C. Pulling, J. T. Simpson, A. Taylor, and T. L. Turk. The following are the names of the new members:—Messrs. E. F. Such, Maidenhead; J. T. Berridge, Upper Tooting; W. Owen, Maidenhead; J. W. Euston, Ilford; F. Milsom, Tulse Hill; F. Bush, Totteridge; A. Seabrook, Buckhurst Hill; R. Ballantine, Hackney; D. Phillips, Woodford; and W. Logan, Lewisham.

The evening's business terminated about 9 30.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. John C. Coutts, Danesfield Gardens, Great Marlow, Bucks, for his article on "French Beans," p. 358.

QUESTIONS AND ANSWERS.

**** All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 5 & 6, CLEMENT'S INN, STRAND, LONDON, W.C. *Business communications should be addressed to "The Publisher." Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Marguerites going bad.—*H. I.*: The specimens you sent us showed unmistakably that the Chrysanthemum Leaf Miner (Phytomyza nigricornis) has been the cause of the mischief, as we suspected. We found the grub itself as well as the pupa case from which a fly had emerged. The latter was in a leaf stalk, showing that the grub is omitting nothing in which it can find food; greenfly was also present. Cut off the worst of the leaves that are tunnelled with gray lines, and try and find the grub in the others. A swelling will often show where the grub or pupa is lying in the tissue of the leaf. Squeeze the same between the finger and thumb to kill it. Examine all the leaves of the cuttings carefully and treat them in the same way. Then get some weak tobacco water and syringe the cuttings about every ten days so as to prevent the female flies from laying their eggs upon the leaves. By perseverance you will keep down the flies, and may yet save a good few of the cuttings. If there are live flies in the house it would be a good plan to fill the house with tobacco smoke some calm evening when there is no wind, and leave the house closed till morning. The temperature you mention is high enough for keeping rooted cuttings. When you want to root more cuttings you can put them in sandy soil in the warm house, but you must remove them to cooler quarters when rooted to prevent the plants from getting drawn.

Show and Cactus Dahlias for Exhibition.—*H. Pratt*: A dozen good show Dahlias should include the following or most of them:—Harry Keith, rosy-purple; Henry Walton, yellow-edged vermilion; James Cocker, purple; John Hickling, bright yellow; Mrs Gladstone, soft blush, always popular; Mr. Chamberlain, rich maroon; Nugget, orange, tipped scarlet; R. T. Rawlings, clear yellow; John Walker, the finest white in cultivation; Countess, blush-white; Florence Tranter, blush-white, edged rosy-purple; and Mrs. Saunders, yellow, tipped white (the best fancy Dahlia). For good Cactus Dahlias you might select: Arachne, white, edged crimson; Magnificent, cream, suffused salmon-buff; Laverstock Beauty, vermilion; Daffodil, canary-yellow; Mrs. John Goddard, crimson-scarlet; Standard Bearer, fiery-scarlet; Keynes White, the best ivory white; Stella, vivid crimson; Harry Stredwick, deep maroon tipped fiery crimson; Countess of Lonsdale, rich salmon; Mrs. J. J. Crowe, clear canary yellow; and Mayor Tuppeney, yellow, edged pink in the centre, the rest being orange-fawn. If you desire a black or nearly black variety you could choose Nigbt, and leave out Daffodil, as Mrs. J. J. Crowe, of the same colour, is better.

Preparing Leaves of Saintpaulia for Propagation.—*L. H.*: It would be a better plan to commence propagation from leaves in spring than in autumn, because then the light would be better and the leaves would make a more determined effort to grow. We do not think that very great heat is an advantage. At the same time if the atmospheric moisture is continuously too great the leaves will be liable to damp off. The moisture must be moderate, but at the same time the leaves must not be allowed to dry up. Cut the midrib of the leaf across in two places and peg the leaf on to sand or sand and peat just kept moist in a moderately warm stove. Cover the leaves with a hand-light or bell-glass, and see that condensed moisture does not drip upon the leaves in too great quantity. Use full grown leaves, but not those that are beginning to get yellow or to decay.

Painting Hot-water Pipes.—*L. H.*: According to the testimony of many practical gardeners lamp-black and oil is the best mixture for painting hot-water pipes. Do not use any of the ordinary paints whatever.

The best Thing to Syringe on Small Fruit Trees.—*L. H.*: The birds may be kept away from your trees by syringing the latter with petroleum emulsion. The principle of the latter is petroleum or paraffin, as it is usually called; but in its ordinary form it would most likely injure the trees and bushes by penetrating the buds. The best way therefore is to make it into an emulsion in the following way:—Boil ½ lb. of soap in a gallon of water, pour the boiling mixture into 2 gallons of petroleum, and stir it violently with a force pump or syringe for five or more minutes until it forms a white creamy-looking liquid like thin paint. Allow this to cool, and to every gallon of the mixture add 9 gallons of water, and syringe the trees with this. You need not make it all up to usable form at once, but only such quantity as you may require. The rest may be kept in bottles until required. If any paraffin should appear on the top of the creamy liquid after standing for a little time you must boil some more soap and add to it, churning the same with the syringe or force pump. See to this before you prepare to make any use of it. You will find petroleum emulsion very useful for various other purposes, such as cleaning stove plants, greenhouse plants, &c., from bug and scale.

Celeriac Having Little Brown Spots Through It.—*L. H.*: Could you send us a specimen to examine? We should probably find out the cause from the examination of a tuber.

Hardy Annuals for the Far North.—*D. Dingwall*: Half a dozen useful kinds besides those named in your list should include Shirley Poppies in mixture, Scabiosa atropurpurea in mixture, Clarkia elegans in variety, Malope trifida grandiflora, purple and white vars.; Centaurea Cyanus, the Cornflower, in variety; and Sweet Sultan, yellow. We take it for granted that you grow Sweet Peas in variety. There is nothing finer for cutting. Many of the fine strains of biennials ought to do well with you, including Canterbury Bells, Sweet Williams, Foxglove in fine spotted varieties, and Wallflower. A large number of perennials ought to succeed well in sheltered borders and furnish flowers for cutting.

Names of Plants.—*R. M.*: 1, Lonicera fragrantissima; 2, Viburnum Tinus; 3, Cryptomeria elegans (the winter hue of the foliage, not injured); 4, Veronica pinguifolia.—*A. L.*: 1, Eupatorium weinmannianum; 2, Pteris hastata macrophylla; 3, Selaginella emilliana.—*W. R.*: 1, Calathea zebrina; 2, Zygopetalum Mackayi; 3, Dendrobium nobile var.

What Price to Pay for Binding "The Gardening World."—*H. I.*: This will vary greatly according to the nature of the binding and the arrangement you may make with your local or or any other bookbinder. We have heard of a reader getting it done in cardboard and cloth for 1s. 3d. per volume; but these must have been very special terms. Cases for binding may be obtained from this office for 2s. 6d. each, in the style we ourselves use. Then the additional work of fixing on the covers could be done by any bookbinder for about 1s. per volume.

Communications Received.—A. J. Stonemans.—S. of W. A.—P. C. M. Veitch.—Kelway & Son.—David Eaton.—A L—R. W.—A. J.—A. M. D

TRADE CATALOGUES RECEIVED.

JOHN RUSSELL, Richmond, Surrey.—Catalogue of Choice Garden Seeds.

JAMES SPICER & SONS, 50, Upper Thames Street, and Queenhithe Dock, London, E.C.—List of Jobs and Surplus Stock.

VILMORIN-ANDRIEUX & CIE., Quai de la Mégisserie, 4, Paris.—General Catalogue of Seeds, Strawberries, Flowering Bulbs, &c.; also List of Novelties.

W. ATLEE BURPEE & Co., Philadelphia, Pa., U.S.A.—Burpee's Farm Annual.

JOHN FORBES, Nurseryman, Hawick, Scotland.—Catalogue of Florists' Flowers.

ALEXANDER CROSS & SONS, LTD., 19, Hope Street, Glasgow.—Cross's Selected Garden Seeds.

PINEHURST NURSERIES (Otto Katzenstein, Manager), Pinehurst, North Carolina, U.S.A.—Seeds of Conifers, Trees, Shrubs, Perennials; also Surplus List of American Seeds in stock at the Pinehurst Nurseries.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

FEBRUARY.

12.—R.H.S Committees.
15.—Gardeners' Orphan Fund (Annual Meeting and Election).
26.—R.H.S. Committees.
28.—Kew Guild Annual Meeting.

MARCH.

2.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
4.—Wimbledon Horticultural Society Meeting.
7.—Linnean Society Meeting.
11.—United Horticultural Benevolent and Providential Society's Annual Meeting at Caledonian Hotel.
12.—R.H S. Committees.
21.—Linnean Society Committees' Meeting; Royal Botanical Society Meeting.
26.—R.H.S. Committees; Brighton and Sussex Horticultural Society Show (2 days).
27.—Liverpool Horticultural Show.
29.—Blackheath Horticultural Society Meeting.

APRIL.

3.—Royal Caledonian Horticultural Society Show, Edinburgh (2 days).
4.—Linnean Society Meeting.
6.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
9.—R.H.S. Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society Spring Show (2 days).
10.—Shropshire Horticultural Society Show at Shrewsbury.
22.—Chesterfield Spring Show.
23.—R.H.S Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

MAY.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
7.—R.H.S. Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting.

BARR'S SEEDS

OF FINEST SELECTED STRAINS AND TESTED GROWTH

Barr's New Dwarf Marrowfat Pea, "The Herald."—A very valuable addition to our early Peas, coming in with *William the First* and other earliest round Peas, and bearing a profusion of large well-filled pods, containing eight to ten Peas of fine flavour; sturdy branching habit; height 10 in. to 12 in. Per pint, 3/6.

Barr's Lightning Runner Bean.—A remarkably prolific Runner Bean and the earliest of all, bearing numerous heavy clusters of long fleshy pods of a fine delicate flavour; a valuable acquisition. Per quart, 2/6.

Barr's Covent Garden Beet.—Medium sized roots, dark crimson flesh, fine flavour. Per packet, 6d.; per oz., 1/3.

Barr's Champion Broccoli.—A magnificent Broccoli with fine well protected snowy-white heads. Sow April and May for a succession. Per packet, 1/-; per oz., 2/6.

Barr's Little Queen Cabbage.—A fine little Cabbage of delicate flavour; highly recommended. Per packet, 6d.; per oz., 1/6.

Barr's Champion Solid White Celery.—Solid and sweet, remaining long in condition. Per packet, 1/- & 2/6.

Barr's Paragon Cabbage Lettuce.—Light green leaves, smooth and succulent, compact medium size, all heart, sweet and tender. Per packet, 1/-; per oz., 2/6.

Barr's Pride of the Market Cucumber.—A grand Cucumber with handsome dark green fruit of fine form; *an all-the-year-round variety.* Per packet, 1/6.

Barr's Thick-Fleshed Tomato.—Surpassing all others in depth of fruit, solidity of flesh, and heavy cropping qualities; the fruit is large and smooth, bright scarlet and of fine flavour. Per packet, 1/-.

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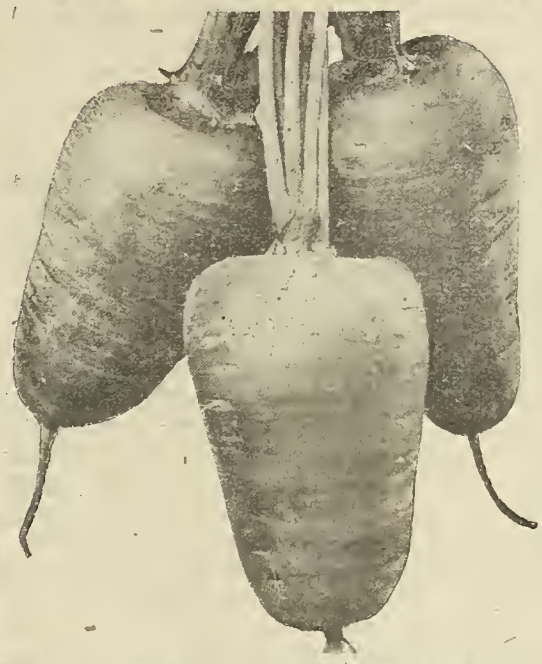

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, FEBRUARY 16th, 1901.

DO ARTIFICIAL MANURES EXHAUST THE SOIL?—From what we have heard at various times in the course of our duty and peregrinations, this is a question that many cultivators have asked themselves and answered in the affirmative. A few have tried it and thoroughly believed that their practice was thoroughly sound; and we have reason to believe that the results of such practice gave them faith in it. Moreover, we have no doubt that the men we indicate were skilled practitioners. The Wilts County Council have been carrying on a series of experiments for the past four years at the Quemerford Station, Calne, Wilts, who, in their reports of the Calne Agricultural Demonstration Stations, for 1900, calmly state that "at the end of the fourth year that the above crops were grown, there was *no evidence of exhaustion* from the continued and exclusive use of artificials." The crops to which reference has just been made were Mangel, Barley, Beans and Oats. The report on the rotation crops of these commences with the statement "that there is no better or more reliable manure than

carefully prepared farmyard manure. But the obverse of this is that the amount of that manure produced on a farm is altogether inadequate for the requirements of all the crops grown upon it; while the hilly nature of some land is such as to render the application of heavy manures an unremunerative labour. The crops in question have been grown at the Quemerford station for five years, the first four of which the ground was manured entirely with artificial manure. The four years' rotation were (1) Mangels, (2) Barley, (3) Beans, (4) Oats. The first and third of these crops might be regarded as garden ones, taking Beet to represent Mangels. Every year one-fourth of each crop was left unmanured by way of a check. The manures employed were kainit (13 per cent. potash); mineral phosphate (30 per cent. phosphate, of which 27 per cent. was soluble); basic slag (40 per cent. phosphate), and nitrate of soda (15·5 per cent. of nitrogen). The kainit and basic slag by reason of their insolubility were applied in autumn whenever possible; the superphosphate in early spring; and the nitrate, on account of its readily soluble, was applied in two or three dressings, the first after the germination of the plants and the others at intervals of three or four weeks afterwards.

The object of the first year's experiments was to determine the most economic quantity of nitrate of soda to use for Mangel, Barley and Oats. Beans were left out of count as they are not benefited by applications of nitrogen. For Mangel this was found to be 4½ cwt. per acre, 1½ cwt. for Barley, and 2 cwt. for Oats, these large quantities being used because no farmyard manure was applied. With similar consistency and predetermination it was resolved to find out the most economical dressing of superphosphate for each of the four crops respectively, during the second year's trials. The results proved this to be 1 cwt. for Mangel; and 3 cwt. each for Barley and Oats, per acre. Little remuneration followed the use of amounts of superphosphate varying from 1 cwt. to 4½ cwt. per acre, when applied to Beans, though in some instances there was a slight increase of crop. During the third year kainit was used as a dressing for Beans, at rates varying from 3 cwt. to 9 cwt. per acre, yet no monetary rewards resulted from either of the trials. For Oats a dressing of 3 cwt. of superphosphate was compared with 4 cwt. of basic slag, the results being in favour of the latter, particularly for Barley. Dressings of common salt were tried upon Mangels, and 3 cwt. per acre was found to be the most economical application. During the fourth year of the experiments, three-fourths of the ground devoted to Mangels was dressed with 4½ cwt. of nitrate of soda, 3 cwt. of waste salt, and 1 cwt. of mineral superphosphate per acre, as the result of previous experience. The remainder of the ground was not manured. The profit netted as a result of this manuring was £7 18s. 11d. per acre. Surely this is a sufficient guarantee for a judicious outlay. A quarter of the ground for Barley and Oats recived no fertiliser; while the relative merits of 3 cwt. of superphosphate and 4 cwt. of basic slag were again put to the trial. Barley again did best where basic slag was applied; but Oats were best on land manured with superphosphate. Beans were not benefited by an application of 4 cwt. of basic slag per acre. Through an accident, however, it may be stated that the basic slag was applied too late to the land to do it justice.

The land used for rotation cropping was divided into four parts, and each again subdivided and numbered 1, 2, 3 and 4. The fourth plot of each division was left unmanured throughout the four years. For the first three years plot 1 was dressed more heavily than any of the others; plot 2 had dressings intermediate between plot 1 and 3, the latter having the lightest application. In the fourth year the dressing on all three plots were alike, and the heaviest crop was harvested from plot 1, the next heaviest from the intermediate plot, and the lightest from plot 3. All these experiments show that the land has improved under the system of artificial manuring; and most of all where the heaviest and most economical dressing was applied.

National Rose Society.—With the kind permission of the treasurer and benchers of the Inner Temple, the metropolitan exhibition of the National Rose Society will be held this year in the Inner Temple Gardens, on Thursday, July 4th, instead of at the Crystal Palace, on Saturday, July 6th, as previously announced.—*Edward Mawley, Hon. Sec.*

Golden Savoys.—A strange sight may be seen in one of the villa gardens bordering on Oxshott Heath near Esher. A planting of Savoys formed hearts in the usual way, but the mild weather previous to the recent snowstorm (which was unusually heavy here) caused the plants to make fresh growth. All the hearts opened out presenting a bright yellow, almost golden colour, and now that the snow has gone they present a striking appearance as far off as they can be seen.—*J.*

The Selling of Poisons.—The case brought by the Pharmaceutical Society against White of Worcester (*re* the selling of Weed Killers), for a revocation of the decision given by Justices Grantham and Channell in the Queen's Bench Division on January, 16th, 1900, engaged the attention of their Honours Justices Smith (Master of the Rolls), Collins and Romer, in the Appeal Court on Wednesday, February 13th. Mr. Danckwerts, K.C., appeared for the society, and Mr. Grey for the appellants. The case was one of great interest and indeed of far reaching importance. The Appeal was carried well into Wednesday afternoon. We shall furnish a more complete report with the decision arrived at, in our next week's issue.

United Horticultural Benefit and Provident Society.—The monthly committee meeting was held at the Caledonian Hotel on Monday evening last, Mr. Thos. Winter in the chair. Seventeen new members were elected. The Actuary's report was read and approved. Mr. J. Clarke, of Taunton, asked to be allowed to withdraw a portion of his deposit account, but could not be allowed, being under seventy years of age. Mr. G. Mouland having reached seventy and being unable to work was granted 8s. per week until the next meeting, enquiries in the meantime to be made into his case. A vote of condolence to his Majesty King Edward VII. on the death of our late Sovereign Queen Victoria was passed, and will be sent at an early date. The treasurer was instructed to invest £650 in the best available stock. The annual meeting will take place on Monday evening, March 11th, at eight o'clock.—*W. Collins.*

Death of Mr. Andrew Mitchell.—We sincerely regret to announce the death of Mr. Andrew Mitchell, at his residence on the seed farm of Messrs. Dobbie & Co., Rothesay, on Saturday evening, the 9th inst. The end came very suddenly, as the result of internal haemorrhage. Of the four partners in the firm, he was the most recent who joined it, his name appearing for the first time on October 16th, 1897, in the Royal Warrant granted to Messrs. Dobbie & Co. The occasion of his joining the firm was when the agricultural department was added to the business of the establishment, Mr. Mitchell being responsible for the immediate personal supervision of this branch. He had a keen insight and knowledge of farming in its various phases owing to an extensive experience gained both in England and Scotland. We have on several occasions met Mr. Mitchell both in London and at Rothesay, and have partaken of his hospitality there, being accorded a highland welcome; and wherever we have come in contact with him we have always been struck with the genial courtesy and cultured conversation of a leal-hearted gentleman of the "land of brown heath and shaggy wood." We here offer our condolences with his friends and partners, Messrs. W. Cuthbertson, Robert Fife and A. McIndoc Burnie, on their great loss.

Appointment.—Mr. F. G. Drew, general foreman, The Gardens, Longford Castle, Salisbury, has been appointed head gardener to H. S. Constable, Esq., Wassand, Hull, Yorks.

Primroses, Snowdrops, Red and White Daisies are now flowering in the cottage gardens of Cobham, Surrey. The yellow winter-flowering Jasmine has been hanging out its starry, yellow blossoms on the walls of the houses for some weeks past.—*J.*

Early Anemones.—Our correspondent, "C. P. C." sends us flowers of a very pretty variety of Anemone coronaria, popularly termed Poppy Anemone, from a cottage garden in the neighbourhood of Twyford, Berks, and asks, "Are they not very early?" We have seen a field or large area of a field of A. fulgens in February after a mild winter; but April is about the usual time for A. coronaria and its varieties. That sent us had bright crimson flowers with a large white zone in the centre, and must have a brightening and cheerful effect in the cottage garden at this early period of the year.

Chislehurst Gardeners' Society.—The Chislehurst gardeners at Park Hall Road, Chislehurst West, had Mr. Henry Cannell, sen., among them on Tuesday evening, January 4th, when the utmost cordiality pervaded the gathering. Mr. Cannell had provided an excellent cold collation which was partaken of before he gave his address. Previously to speaking he also performed the interesting ceremony of investing Mr. J. Lawson, secretary of the Chislehurst Cottagers' Society, with the Kent Championship Belt, presented by himself, which had been gained at the Eynsford Show on August Bank Holiday. The belt also carried with it a money prize of £3. Mr. Cannell spoke chiefly of the rise of horticulture during his lifetime, an advance which he has been one of the foremost in promoting.

Sutton's Farmers' Year-Book is probably the only "annual" devoted exclusively to agriculture which has been published continuously since the early years of the nineteenth century, and it is natural that in the edition for 1901 the important changes the new century may bring should be carefully considered. The prospect is somewhat startling, especially for so conservative a business as farming, but the leading idea is sound. Agriculture is not a mere hobby to be indulged regardless of expense. Farming is intimately associated with the comfort and general prosperity of the entire population, and it must be so conducted as to yield the farmer a fair return for his skill and labour, or the land will become derelict, and this would be a national calamity. A brief and suggestive article on "The Value of the Mangel Crop" will be read with interest. The steady increase in the culture of this root since the year 1868 may no doubt be traced to the usefulness of Mangel Wurzel for all kinds of farm stock, but the increased acreage, especially within the past twenty-five years, is largely attributable to the enhanced feeding value secured by the selection and perpetuation of pedigree stocks by the Suttons, who have long made the improvement of roots one of their prominent specialities. The grazier will find in this edition of the "Farmers' Year-Book" a most interesting feature connected with meadows and pastures. The publishers have issued in natural colours, on a reduced scale, nearly all the grasses which appeared in Mr. Martin J. Sutton's standard work on "Permanent and Temporary Pastures," which first appeared in 1886. These illustrations will prove of great value both to the practical farmer and the student. They are so admirable that the call for the work will no doubt quickly exhaust the edition. Possibly the publishers have been induced to re-issue these reproductions of grasses by the award made to Messrs. Sutton at the Paris Exhibition last year of a Gold Medal for the volume in which the grasses originally appeared. We may add that this is the only Gold Medal conferred by the Jurors on any British seed house. Other leading features of "Sutton's Farmers' Year-Book" are an excellent calendar for the current year, records of remarkable crops which won the leading acreage prizes for roots in 1900, and a series of photographs illustrating the finest types of Mangel, Swede, and Turnip for competition and feeding purposes. The work is interesting, suggestive, and is an indispensable companion for those who conduct their farms on scientific principles.

"Wanted—Synonyms."—One of the American horticultural journals furnishes a paragraph in the interests of the Western New York Horticultural Society, in which the "committee on nomenclature" asks for assistance in collecting material for its report to the next meeting of the society. Members and friends are asked for the names of synonyms or garden varieties, either among fruits, vegetables or ornamental plants that may have come under their notice. Presumably the "committee on nomenclature" means to stop the confusion if it can, and we wish it every success in its very difficult and never-ending task,

Resolution unanimously adopted by the Market Gardeners, Nurserymen and Farmers Association in meeting assembled February 5th, 1901.—The Market Gardeners, Nurserymen and Farmers Association in meeting assembled do most respectfully tender to his Majesty the King the heartfelt sympathy of the members of the association in the irreparable loss sustained by his Majesty and the Royal Family in common with the whole empire in the universally lamented death of her Majesty Queen Victoria and do most humbly proffer to his Majesty the King on his accession unfeigned congratulations and assurances of their profound loyalty and devotion to his Person and Throne.

Hamilton and District Gardening and Forestry Association held their monthly meeting in the Mining Institute on Tuesday evening, 5th inst. There was a good attendance to hear Mr. A. C. Cameron, Gardens, Binrock, Dundee, on the "Cultivation of High-Class Vegetables for Competition." Mr. Cameron can speak on this subject with authority, which Edinburgh and Dundee shows, &c., can vouch for. Mr. Cameron's paper was most concise, his mode of cultivation and selection was most practical. Timing he puts great stress on, and in untiring attention here, he says, lies the secret to success. He is strongly of opinion that all collections ought to be specified, the number of kinds required in this way, collections would be more uniform, and judges would have a better chance of deciding the awards. Mr. Cameron's paper gave great satisfaction, and he was awarded a most hearty vote of thanks. The weather here for the last fortnight has been most seasonable, with about 2 in. of snow with keen but moderate frost at night, which has been just enough to check growth which was coming too early forward.—*J. M.*

Devon and Exeter Gardeners' Association.—On Wednesday evening, February 6th, the members of the above association met in the Guildhall, Exeter, and heard Mr. John Coutts' lecture on "Greenhouse Hard-wooded Plants." Mr. Coutts is gardener to Sir Thomas Ackland, Killerton. In his remarks Mr. Coutts said that almost without exception hard-wooded plants were natives of South Africa, Australia, and New Zealand. So early as 1774-76 Francis Masson, a Kew gardener, had sent home a host of Heaths from the Cape, Vancouver and Flinder, when Peter Good and Robt. Brown (also both from Kew) were with him, sent home the Australian relatives known as Epacris about the beginning of last century. Coming to comparisons, Mr. Coutts favoured the gracefulness of the Australian genus, and remarked that these (Epacris) are more liberally grown than their South African congeners. The cultural needs were in each case explained. Referring to the Himalayan Rhododendrons, Mr. Coutts mentioned that Dr. Wallich sent home the first species (R. arboreum) in 1818. During Sir Joseph Hooker's travels, 1847-51, in the Sikkim Himalayas, he found many species, the seeds of which he dispatched to Kew. In the gardens of Mr. Shilson, Tremough, Cornwall, many of these species found a home, and one of the richest collections of these Rhododendrons at present in this country is to be found at Tremough. At London and northwards these Himalayan Rhododendrons receive the protection of glass-houses. The beautiful Javanico-jasminiflorum intermediate house Rhododendrons, which can be had in flower nearly all the year, received attention from Mr. Coutts. These should find a place in all gardens. They are easily propagated from young growths. The Indian Azaleas, Australian Acacias and Eriostemons, Croweas, Correas, Boronias, Grevillea robusta were all treated of. A hearty vote of thanks was accorded to Mr. Coutts.

Woolton Gardeners' Society.—A meeting of the above was held on the 7th inst., Mr. John Stoney in the chair. Unfortunately, the lecturer, Mr. R. Orret, was unable to be present owing to an attack of influenza. Under the circumstances the question box was utilised to an increased extent, and this formed the means of an interesting and instructive meeting. The queries were: How are we to supply best garden produce to meet the ever-increasing demands on the gardener? How is it that members do not attend our meetings in larger numbers? What progress has been made in horticulture during the reign of Queen Victoria? What is the cause of red blotches or spots on the foliage of Vines and Peach trees? Will the society arrange for an examination to be held under the auspices of the Royal Horticultural Society? These subjects caused a considerable amount of information and discussion, in which Messrs. W. Gamble, H. Corlett, R. Todd, T. Carling, J. Rae, R. G. Waterman, and the chairman took part. In reply to the last question the secretary stated that all arrangements for an examination would be made if three members offered themselves as candidates. A cordial vote of thanks was tendered to Mr. Stoney for his conduct in the chair.

Scottish Horticultural Association. — The monthly meeting of the above association was held at 5, St. Andrew Square, Edinburgh, Mr. Todd, vice-president, in the chair, when there was a good attendance of members. The chairman referred to the death of Queen Victoria, to whose memory he paid a graceful tribute, making special mention of her Majesty's love of horticulture. He hoped and felt sure that the good work the Queen had carried out would be continued by his Most Gracious Majesty, Edward VII. Mr. Todd, in a few well chosen remarks, introduced Mr. Comfort, the new president. Mr. Comfort thanked all present for the honour conferred upon him by his election to such an important office, the duties of which he promised to discharge to the best of his abilities. In keeping with custom Mr. Comfort delivered his inaugural address, the subject being "A Retrospective and Perspective Glance at Horticulture," noting the remarkable changes that had taken place during the past century. It might be confidently affirmed that the horticultural standard had been raised during the past fifty years, and that in the new century more advances would be made as the result of enlightened application of scientific principles were carried out by horticulturists; and that energy and perseverance were more than ever necessary in all departments. Mr. Alex. Mackenzie moved a vote of thanks to the president for his address. He felt sure that horticulturists would adapt themselves to the altered circumstances so ably pointed out by Mr. Comfort. A paper on "The Gladiolus" by Mr. Kelway, of Langport, was read by the secretary, several members taking part in the after discussion. Mr. Kelway was awarded a vote of thanks. Fine blooms of Rhododendron Countess of Haddington were exhibited by Mr. Johnstone, Hay Lodge, Trinity. Some business of a formal nature was gone into; and among other things adopted by the meeting was that the following address be sent to the Home Secretary:—

"Edinburgh, 5, St. Andrew's Square,
February 5th, 1901.

"The members of the Scottish Horticultural Association desire to record their sense of the great loss which the nation has sustained by the removal through death of their ever to be lamented Queen Victoria, and they beg to offer to his Most Gracious Majesty the King, his Royal Consort, and the other members of the Royal Family, their condolence and sincere sympathy with them in this hour of supreme sorrow. The members of the association at the same time desire to offer to his Most Gracious Majesty the King their hearty congratulations on his accession to the throne, and they beg to assure his Majesty of their steadfast loyalty to his person and throne and they fervently pray that he may be long spared to reign over a prosperous, a loyal and a happy people." (Signed in name of the association),

CHARLES COMFORT, *President*,
PETER LONEY, *Secretary*.

A vote of thanks to the chairman brought the meeting to a close.—*P. L., Edinburgh.*

Croydon and District Horticultural Mutual Improvement Society.—The fortnightly meeting was held in the society's room at the Sunflower Temperance Hotel, on Tuesday, February 5th. Mr. W. J. Simpson presided over a good attendance. Fifteen new members were elected. The preliminary business having been disposed of the chairman called upon Mr. W. Simpson, the Grange Gardens, Sutton, who gave a very practical and useful paper on the "Propagation of Vines, and formation of the Vine Border." Having dealt with the propagation of the Vine the lecturer next treated with the selection of the site for the vinery and border, preferring a position somewhat elevated. The formation of the border next claimed attention. Thorough drainage, being of importance, was specially noted. For compost the lecturer chooses a good fibrous loam of medium texture, cut from an open pasture, to which he would add to every ton of loam ½ cwt. of crushed bones, ¼ cwt. Thomson's Vine manure, 2 bushels of wood ashes, and an addition of old lime rubble, the whole well incorporated together. Varieties of Grapes for various purposes were also treated upon. The paper throughout proved the lecturer to have a thorough knowledge of his subject, and on the proposition of the chairman a unanimous vote of thanks was given to Mr. W. Simpson. A very useful discussion followed, in which many of the members took part. The next meeting will be held on February 19th, subject, "Gloxinias." A vote of thanks to the chairman concluded a very interesting and enjoyable evening.—*J. Gregory, Hon. Sec., 60, Canterbury Road, Croydon.*

Sherborne and District Gardeners' Mutual Improvement Society.—At the monthly meeting of the above society held on Thursday, January 31st, Mr. Crook, the well-known head gardener at Forde Abbey, delivered an address on "Seeds." Taking a practical view of his subject he opened by advising growers to propagate from seeds rather than from cuttings or other artificial method of propagation. For out of door display, and for all general purposes, plants can be advantageously propagated by means of seeds. Mr. Crook said that herbaceous plants propagated by means of cuttings or grafting or other artificial process were never so vigorous nor so satisfactory in their growth over long periods as they were when raised from seeds. The lecturer urged that much greater care be taken by growers in the process of sowing. Seeds require to be studied for each likes special conditions for germination, and what these conditions are, ought to be understood. It was furthermore recommended to buy the best seeds, and thus be able to rely on them. Low priced seeds, speaking generally, are never profitable, and the purchase of them may be expressed as "the penny wise and pound foolish" policy. On the motion of Mr. Bishop, seconded by Mr. Phillpott, Mr. Crook was accorded a unanimous vote of thanks. The evening's exhibits were six heads of Seakale and three heads of Celery in the section for gardeners, and a bunch of Violets and two pots of Primulas in the amateur section. There was a good display. The judges, Messrs. A. Sherwin and J. Witherington, made their awards as follows: Gardeners.—Seakale, first, Mr. Leeding, gardener to Mr. A. Clayton, Bradford Abbas; second, Mr. F. Trott, gardener to Mr. T. Ffooks, Totnell. Celery, first Mr. Leeding; second, Mr. Trott. Amateurs.—Violets, first, Mr. H. J. Lewis, Milborne Port; second, Mr. L. H. Ruegg. Primulas, first, Mr. Cooper; second, Mr. Lewis. It was resolved to have the essays which the younger members had been requested to prepare for an offered prize of 2s. 6d. read at the next meeting. These essays can be on any subject or matter connected with gardening. Mr. Crook expressed his pleasure at the offering of this prize, as recognising the importance of encouraging the younger members of the society to take an interest in the art and science of gardening.

EXHIBITION OF PAINTINGS.

THE forty-sixth exhibition of the works of the Society of Women Artists was opened on Saturday, February 9th, in the galleries of the Royal Society of British Artists in Suffolk Street, near Trafalgar Square. There are 782 pictures on view, most of them being of medium dimensions. The variety of subjects chosen by the various artists is very great though, naturally, by far the great majority of them

depict natural scenes, features, or objects. Flower studies have certainly had their full share of attention; while garden scenes and rural views form the subject of many other efforts. There are a great many lessons to be gleaned from a study of these pictures. For example we can see beauty in negligence when it is represented by a winding, untrimmed path, strewn with the brown leaves of autumn, and fringed on either side with grasses and Ferns, as shown in Miss C Hurnall's picture entitled "A path through the wood." Another pretty painting is that of "The Black Pony," a shaggy animal busy sniffing and eating in a garden of Daffodils. The scene of "Ruthwell Mill," in Dumfrieshire, shows what liveliness and attractiveness can be added to a little quiet stream by the formation of a small waterfall. Again in "Noontide," by Margaret A. Heath, one feels quite interested in a great gaping sand "quarry" because of the presence of some picturesque goats and tufted green shrubs. Animal life and forms should always be in landscape scenery. As showing the effect of desolate grandeur, G. Horton's picture entitled "On the coast—Brittany," is a splendid effort. A view of "A Sussex Hayfield" by M. Freeman Kempson is not particularly inspiring; the effect lacks the gayness of the typical hayfield. "The Cloisters, St. Helens, Norwich," by E. M. Percival, shows a fine old fashioned garden within the cloister courtyard, planted with tall Hollyhocks, Bellflowers, and blue Veronicas. M. D. Hurst's "Cotswold Village" has its proverbial pump, a warbling brook over which a rustic bridge is stretched, the latter bearing a pretty Gloucester maid. What the artist's conception of a beautiful garden should be, is conveyed in Helen Thorneycroft's picture, which she names as "My Garden," this being a study in free and untrammeled grace, enriched with masses of sky blue, glowing crimson and lighter blue-white shades to represent the gradually waning colours that appear toward the apex of tall growing flower spikes. An archway of Crimson Rambler Roses at the end of the walk, and round headed, dark green trees that bank up the flower, is Miss Thorneycroft's invention of a pretty garden. There are many other exceedingly interesting pictures. The seasons, that is, Springtime, Summertime, Autumn, and Winter, are symbolised on canvas more than once by different artists.

One of the loveliest scenes of any, shows a view in St. James's Park—"Rus in Urbe," by Dorothy Grover. Londoners need not talk of not knowing what natural landscape effect is, so long as such views are present to their gaze. "Sunset on the Exe" is glorious; while "The Home of the Swans, Ugbrooke Park" is peaceful and ideally beautiful. Besides these types of pictures there are such others as paintings of the "Lady Beatrice Butler," "Earl Roberts, K.G.," the "Arrival of Lord Roberts at Southampton," "Sea gulls, St. Ives," "A storm on the northern coast," "Ruthwell Mill, Dumfrieshire," and others of striking interest, all of which are charmingly executed. The exhibition remains open for some time, and to all lovers of pictures in London and neighbourhood, a very pleasant couple of hours could be enjoyed by a visit to these galleries. Besides the exhibition of pictures there is also a section devoted to handicrafts, which contains some very valuable fine art needle work, sculptures, carvings and paneling.

"JOURNEYMEN."

This is an excellent discussion, and it will serve a good purpose, if it only attracts journeymen to read The Gardening World regularly. Mr. T. S. Dick says he certainly does not agree with me on some points. I hope he agrees with me on one point, viz, that it is impossible to learn as much in six months in a large place, as one can in twelve months in a small place.

I dare say some of the places in which one has to work, both inside and outside, are not very desirable from the journeyman's point of view, although 80 per cent. of them (in Scotland at least) are of that sort. Now it must be in some of these places that Mr. Dick had to serve under the "nervous head gardeners," who wanted to keep their places tidy whether they had sufficient men to do so or not. I think when he gets a head gardener's place, he will find that he must take an interest in all departments, inside and outside, and see to the watering, digging and the planting of "Curly Kale."

I must thank Mr. Dick for letting us know the chief "grievances," viz., the bothies, the pay and that "Peter Green" gets the same pay as "John Experience." Well; I know that most bothies are only *fairly* comfortable, but I would not like to say that the head gardener can make it a palace; as for the pay, the head gardener has very little to do with it.

In most places the "Laird" allows a certain sum and if you are not pleased with it off you go. The proposition to give "John Experience" the 1s. more a week is very good, although I have known in some cases "Peter Green" to be the better man! I have never known ill-feeling to exist between gardeners.—*F. Ross, Strathtyrum Gardens, St. Andrew's, N.B.*

I hope you will allow me space for a few words on the important argument appearing in The Gardening World. I, a journeyman from the north, must say the keeping of a diary is a grand thing. Every young gardener I have come across keeps his diary. There are five of us in the bothy here, and each, from the apprentice upwards, keeps his diary, and has the day's work written down in it before taking supper.

I also say with T. S. Dick, the "great lot" that could be done by the bosses is a wide question. I have seen some poor chaps packed into a den at the back of the garden wall. One end of their trunk had to be the chair, and the other end the table. Nothing for the bothy fire but peats, and being taken from the moss as they were required, just like a sponge full of water.

Perhaps my brother gardeners from the south have never had to put up with this sort of grievance. I have put up with some of them myself, to a certain extent; but with a little silent contentment got over it all right, and very glad to say, am very comfortable at present.—*Wullie, Leckmilm Gardens, Ross-shire, N.B.*

SWEET PEAS

Should be sown now, if they are wanted for early bloom, or the exhibition table. Sow in 32-size pots, placing about seven seeds in a pot, using a rich compost, consisting of loam, leafsoil and sand with a little bone meal added. Place the pots on a shelf near the glass, in a cool greenhouse, keeping them in the same position until the plants are about 4 in. in height; then place a few twigs around them. Pieces of a birch broom answer the purpose admirably, supporting the plants until they are planted out and the final stakes put to them. The plants can then be put in a cold frame until sufficiently advanced for planting out. It will be found to pay for the extra time and trouble if a trench is dug in the garden, the old soil removed, and some rich loam substituted, placing the plants about 3 ft. from each other giving them a good watering, and when they need watering again give water with a little manure added, this helping the plants both in growth and colour immensely. Another important item is to keep the seed pods from maturing, as that takes away a lot of strength from the plant, which cannot be spared if the plants are to keep up a succession of bloom until the autumn frosts set in.—*H. Fleming, Wexham Park Gardens, Slough.*

DWARF COCKSCOMBS.

How often one sees this beautiful annual grown, perhaps with good combs but "leggy." No doubt a great deal depends on the strain one gets, for it is a job to get a good dwarf variety. A great fault is in the growing, for often "for want of room, perhaps," the plants are placed too far from the glass and of course get drawn. The best way to get nice dwarf plants is by propagating. Sow the seed in pans in some good compost and place in heat. When the seedlings are large enough to handle, pot them into "thumb pots" and later into 48's in good loam, leafsoil and sand. When the combs begin to show is the time to propagate. Select the finest plants and cut them off to the desired length (you can cut them off as short as you like) and put them into 60's, filled with loam, cocoanut fibre and silver sand. Dibble one in a pot, water them and place in a propagating case in a nice heat, and keep close and well shaded till rooted. Then put them into 48's with loam, plenty of leafsoil, sand and a little artificial manure. If well looked after and the plants not allowed to get at all dry you have good plants suitable either for greenhouse decoration or exhibition purposes.—*R. Maybury, Silver Medalist, Wolverhampton Horticultural Club, Red Hill Lodge, Compton, Wolverhampton.*

ZONAL PELARGONIUMS FOR WINTER FLOWERING.

Now is the time to propagate these plants for winter flowering. Those having a greenhouse that they can keep at a temperature of 60° through the winter would do well to try them. Cuttings placed in sandy soil in 3-in. pots, three or four cuttings placed round the side of the pot, will root in a short time. Place them in a temperature of 60°; water through a rose. When rooted repot singly into 3-in. pots, in a compost of one part loam, two parts leaf-mould, adding sand to make it porous and a little soot, and some plant food such as Clay's Fertiliser. Give them a cooler atmosphere; after growth has started pinch out the tops. When the pots have become full of roots, repot into 5-in. and 6-in. pots, using a stronger compost and adding bones to make it sweeter. Pot firmly to induce sturdy growth. When all fear of frost is away place them in a frame giving plenty of air. Pinch and pick off the flower buds up to near the end of September. By that time they should be nice, dwarf, compact plants. They should be housed about the end of September, and fumigated to keep clear of green-fly. Watering will have to be carefully done to avoid damping, and feeding will have to be resorted to, when the pots become filled with roots. They make a splendid array with their green healthy foliage and the striking colours of their flowers.—*M.*

ARBUTUS UNEDO.

The Strawberry tree, as this plant is often called, on account of the slight resemblance of the fruit to the Strawberry, is a native of the shores of the Mediterranean and west of Ireland. Its principal claim to the attention of gardeners of this country is the time of its flowering, which is from November to the middle of January, when it makes a gorgeous display of its almost pure white panicles of flowers. In some places fruit is never seen on it. This is, I believe, owing to the absence of insects at this time of the year. The fruit is quite as attractive as the flowers; the colour is reddish-yellow, size about an inch in diameter, covered with warty tubers, which give it a very fascinating appearance. A good sized plant grown in a tub is quite an ideal ornament for outdoor decoration in summer, and few plants, if any, are found more useful for winter flowering in any cool greenhouse where there is abundance of head room for it. Cuttings taken at this season root nicely before spring in a cool house. The plants ought to be grown in soil containing a liberal quantity of peat and sand. One only wants to visit a place where this grand and noteworthy plant is grown and you will consider it one of the best of useful winter-flowering plants. The plant is rather scarce, but I think it can be supplied by Methven & Sons, Edinburgh.—*T. S. Dick, Castlemilk, Lockerbie.*

A BOTANICAL ALBUM.

Young gardeners who have the ill or good fortune to be "far from the madding crowd" and want something to interest and to employ their spare hours with, should try their hand at photography. To begin in a small way a camera is not essential. All that is needed is a half-plate printing frame, a piece of clear glass to fit the frame, a packet of half-plate P.O.P., two or three dishes of same size, and some chemicals for toning and fixing. A solution can be bought which performs the toning and fixing simultaneously. Having fitted the glass in the frame arrange on it the leaves or flowers, and place a piece of printing paper in contact with them. Close the frame in the usual way, and expose to daylight until the white of the paper has turned to a deep black. When these prints are toned and fixed the imprint of the leaves will show as a white outline on a black ground. In order to have the leaf black on a white ground use the print next to the glass of the frame, and place over it a piece of P.O.P. as before. For the printing daylight is necessary, but the subsequent operations can be conducted by lamp-light. It is a pleasant occupation for the winter evenings, and forms a suitable introduction to higher branches of photography. Dried wild flowers collected during summer would supply plenty of excellent material.—*Lux.*

[Accompanying the above were half a dozen prints illustrating the leaves of various plants, including Ferns. Those showing the leaves in white outline

with a black background were in most cases very fine and exact delineations of the same. The three finest were a piece of Gleichenia, the Whitepine of New Zealand, and a leaf named Maku, very similar to that of a Coleus or a Nettle. The venation of the leaf is shown with wonderful exactitude. We have seen prints of this stamp before, but never finer. We think it a highly interesting hobby for a gardener, even if he cannot put it to any other purpose than for study.—ED.]

THE PLANT HOUSES.

THE CONSERVATORY.—The Epacris are still the finest plants in the greenhouses and conservatories at the present time. Cuttings of the various Heaths are now being taken by those who make the culture of this splendid genus a speciality. The plants in many cases have made stout fresh growths, and soon the flowers may be removed for the benefit of the cuttings. These may be inserted around the edges of small pots filled with a sandy compost. They can either be given a little bottom heat or may be merely placed in the stages of cool houses under hand lights. I think a gentle heat, say up to 60°, is advisable. They take a good while to become rooted after which, however, they should be potted on very carefully.

Attention to watering and pinching are the chief demands made by them during summer growth. But when one considers all the trouble with hard-wooded plants in general and the cheapness at which one can buy them, it is excusable if only a very few private establishments propagate their own stock.

The Acacias are coming finely into flower, and until they are fully expanded it is to their benefit to nourish them with fertilisers in a weak liquid state. Cuttings of Polygala oppositifolia may also be taken now that the plants are out of flower. All these hard-wooded plants should have any pruning they may require done to them, performed just after they have gone out of bloom. The Primula season has now about reached its full flush. The splendid gracefulness of the P. pyramidalis varieties call more than ever for notice. It is to be hoped that the florists will not create too many monstrosities out of them! The Butterfly Cyclamens have not been so much seen this season. When strongly grown they are worthy of admiration. I recently saw a newer type still, than either the C. Papilio or the fimbriated or crested varieties. This new form had beautifully twisted petals which were spread out quite horizontally and brought to mind the screw-propeller of a steamer, only that the petals were flatter. I liked the novelty very much, as it was graceful and pretty and gave the plant a very floriferous appearance. Tulips, Hyacinths, Scilla siberica, Azaleas, Callas, Crocuses, Jasminum grandiflorum, Peristrophe speciosa, and Begonias in variety are all gracing the stages at this time.

White Hyacinths mixed with blue Chinese Primulas form a splendid and agreeable contrast. In like manner the Squills with Primula floribunda, or the latter with Lily of the Valley in pots, are also very attractive. We have a great deal to learn yet, so far as the arrangement of the plants goes. Staphylea colchica may be brought on in succession, and so with the other sorts of forced plants. The Chinese Sacred Lily scents the house; and only a week ago I came across the Winter Heliotrope (Petasites fragrans) in a house, the presence of which accounted for the delightful fragrance which one immediately perceived. Our olfactory organ requires "pampering" quite as much as our eyes. That contentment and blessful happiness can be advanced by a judicious system of purveyance of agreeable indrafts through the nasal channels is surely amply proved by the effect that a high class cigar has on a smoker. The contentment arises chiefly from the fragrant wafts in this case, and in a measure the argument applies to the sniffing of floral scents.

Salvia Heeri with its tall herbaceous stems and crimson flowers is a grand plant for the dull months. So is Cestrum elegans as a pillar plant. Hibbertia dentata, with its dark leaves and stems and the bright Buttercup flowers, adds another good greenhouse climber. Few hard-wooded plants either can surpass the Chorizemas. In habit and general appearance, and for floriferousness nothing excels them.

The Oak-leaved and other scented Pelargoniums when well developed furnish nice foliage plants for interspersing with the purely floral plants. A batch of the best kinds should be raised occasionally. Forced Roses are already in the conservatory and the growers will have to watch now, so as to regulate the supply. Amongst the flowering shrubs already in bloom are Spiraea Van Houttei, Prunus japonica fl. pl., Daphne indica rubra, and Rhododendrons, particularly R. indicum var. calyciflorum with great clusters of salmon-pink flowers.

THE STOVE.—At this time the stove is generally in a pretty mess. Potting and top-dressing, re-arranging and pruning, washing and cleaning, are operations that occupy our time in the warm plant houses for the nonce.—*J.H.D.*

Gleanings from the World of Science.

THE undermentioned subjects were discussed at the meeting of the Scientific Committee of the Royal Horticultural Society on the 29th ult.:—

Bryonia dioica root.—Mr. W. G. Smith sent an enormous root of the common Bryony. He says that the weight, after being kept for two months in a dry room, was just over 21 lb., and had not the ends of thick branching roots been broken off it would have been at least 5 lb. heavier. The length of its broken condition was 2 ft.; the circumference at the middle was 22½ in. It was dug out of brick-earth at Caddington Hill, near Dunstable. It appears to much exceed the average size, for Dr. R. Hogg writes in his "Vegetable Kingdom": "The roots are of an immense size, sometimes 1 ft. or 2 ft. long, and as thick as a man's arm." It is occasionally offered for sale as the "Mandrake," but the latter is not a British plant. Though the root abounds in starch, which could be extracted by grating it to a pulp and straining with cold water; but the juice is decidedly poisonous, as are also the berries of the Bryony.

Abies lasciocarpa var. arizonica.—Foliage and bark of this new variety were sent by Herr H. Henkel, from Darmstadt. Though the species ranges from Oregon to New Mexico, this tree only occurs on the mountains of Arizona. The bark is remarkable in being of a cream colour and corky in nature. The foliage is bright glaucous green above, but white from a silvery bloom below, probably due to its mountain habitat. Herr Henkel observes that he has succeeded in importing and establishing this tree, which he names Abies arizonica, *Merriam*, var. argentea. The plants were collected at an altitude of from 7,250 to 10,000 ft., the temperature being as low as — 25° to — 30° (C.) or — 13° to — 22° (F.).

Australian Rhubarb.—Specimens were sent by Mr. Sutton of this Rhubarb alluded to at the last meeting. The stems are very slender, are about 1 ft. long, of a bright scarlet.

Pinus austriaca attacked by beetle.—A branch perforated by some beetle was received from a resident of Fordington, Dorchester. It was sent to Mr. McLachlan for determination.

Croci species and varieties.—An interesting series was exhibited by Mr. E. A. Bowles, of Myddelton House, Waltham Cross, Herts, who contributed the following particulars:—

C. biflorus v. argenteus.—An abnormal bloom with eight perianth segments and five style branches. V. estriatus.—The unstriped form from Florence. V. Leichtlini.—A small-flowered form intermediate between v. estriatus and v. nubigenus, pale blue, external surface of outer segments yellowish with broad band of pale blue down the centre; anthers of a curious shade of greenish grey. This tendency to melanism in anthers of Croci of the section annulati of Maw was further illustrated by specimens of C. Crewei, in which the anthers are a deep chocolate, and C. chrysanthus vars. fuscotinctus and fuscolineatus, with anthers of a dark smoke colour, and the typical form of C. chrysanthus, in which the barbs at base of the anthers are tipped with black.

C. Korolkowi in two vars. *a*, The type as distributed by Dr. Regel, and figured by Maw; a small, shy flowering, late form; external surface of outer segments grained with rich brown, throat externally nearly black. *β*, Larger, paler, very floriferous and robust in habit, in bloom three weeks earlier; external graining grey, greenish blue at throat.

C. ancyrensis.—Type and a specimen externally feathered with brown, a variation not hitherto noticed in this species.

Crocus Fleischeri, a delicate species with long, narrow perianth segments, white, the three outer externally lined purple; v. albus, without the external purple markings except at the throat, and contrary to rule with albino forms, has the appearance of being a more robust form with wider perianth segments.

C. Balansae, an abnormal bloom, semi-double, of the form with outer segments externally rich mahogany colour.

C. dalmaticus, the true plant, with large, very pale mauve flowers, outer surface of outer segments pale buff, veined with grey at the base.

C. tomassinianus, pale and dark vars.

C. Imperati, several varieties.

All from open ground except Fleischeri and Korolkowi type, which were grown in a cold frame.

AT the meeting of the Linnean Society of London, on January 17th, the undermentioned were some of the subjects discussed:—

The Bressa Prize.—The President announced that the "Bressa Prize," offered by the "Académie Royale des Sciences de Turin," would be awarded for the most striking and useful discovery in physical and experimental science, natural history, pure and applied mathematics, physiology, not excluding geology, history, geography, and obstetrics. The value of the prize offered is 9,600 francs, or nearly £400, and the competition is open to experts and inventors of all nations, the competition closing on the 31st December, 1902.

A Hybrid Fern.—Mr. C. T. Druery, F.L.S., exhibited a hybrid between Ceterach officinarum and Scolopendrium vulgare, which he had received from the late Mr. E. J. Lowe, F.L.S. The fronds were of somewhat foliose Ceterach form, but entirely devoid of scales, and with the upper third confluent, resembling the tip of a Scolopendrium frond, the fructification partly Scolopendroid and partly Asplenoid. From this combination of characters, the exhibitor considered the plant to be a true hybrid between the species named. Mr. C. H. Wright, A.L.S., exhibited, on the other hand, numerous herbarium specimens of Scolopendrium vulgare, Ceterach officinarum, Asplenium marinum, Asp. Hemionitis (palmatum), and Scolopendrium nigripes, by which last three species it was demonstrated that sori in faced pairs (Scolopendrium type) may not only appear on species classed as Asplenium but that, on the other hand, simple Asplenoid sori may exist on species classed as Scolopendrium (*e.g.*, S. nigripes and A. Hemionitis as exhibited and shown in a drawing by favour of the Kew authorities). Mr. Wright therefore was inclined to the opinion that the presumed hybrid was merely a form of Aspl. marinum, basing his opinion partly on the leathery nature of both Scol. vulgare and Ceterach fronds as contrasted with the thin papery texture of the exhibits.

Mr. A. W. Bennett remarked that in view of the extremely wide difference between the genera, very strong evidence indeed would be required to establish the fact of hybridisation between them. Mr. C. H. Wright entered at some length into the various modes of attempting cross-fertilisation in Ferns; but the factors of uncertainty are so difficult to eliminate, that until some delicate means have been devised for the actual transference by hand of individual antherozoids to alien archegonia, hybridity in Ferns can hardly be scientifically proved. Mr. J. Fraser added some remarks bearing upon the indefinite classification of genera, evidenced by the exhibits with respect to fructification. Mr. Druery, in reply, considered that the Kew examples demonstrated that a far closer alliance existed between Scol. vulgare and the Asplenia than appeared on the surface, the presumed generic line between the forms of fructification being broken through, and hence the possibility of hybridising. He also pointed out that as A. marinum had also very leathery fronds, this argument per contra failed. One of the specimens of A. marinum exhibited with Scolopendroid sori in quantity, found in France, might also, be considered, possibly be a natural hybrid with S. vulgare, especially as its fronds and some pinnae were peculiarly forked, dilated, and irregularly abnormal; while it is well known that the two species are often closely associated in their habitats, so that their spores might easily mix.

HINTS FOR AMATEURS.

BEGONIAS.

In the old days, the days of our grandfathers' youth, Heath houses were features of nearly all the glass ranges in the gardens of that period. In a few of the larger gardens, or where the very old gardeners still superintend, we can still rejoice in the lovely sight of a complete houseful of Heaths and Epacris or other hard-wooded plants at this, their flowering season. The numbers of fine species and hybrid forms of Begonias that are now at the command of the gardener, have, in a great measure, ousted the slower growing hard-wooded plants from their former hold upon the affections of the garden-loving public. Hard-wooded plants, especially Heaths and Epacris, were introduced from Australia and the Cape at an early date, whereas the species of Begonias were much longer in being brought forward. The first Begonia introduced to this country was the shrubby species named B. nitida. Sir Joseph Banks was the introducer, bringing it from Jamaica in 1777. From that time onwards a great number of Begonias have been introduced from tropical and subtropical Asia, Africa, and South America, mostly the latter. The tuberous rooted species originally hailed from the latter continent. These tuberous rooted species were introduced mainly since fifty years ago, and by hybridising the florists have produced the race of beautiful large-flowered single and double varieties that flower from the time of the Temple Show till frosts appear in autumn. Lately some of the single varieties have shown a tendency to be crested, others to be flaked and mottled, and semi-double. So it happens that from a few distinct species to start with, such as B. boliviensis, B. Daviesii, B. rosaeflora, and B. Pearcei, we have got a large number of hybrids, by cross-breeding and selection. From these, the many named single and double large flowered varieties have originated. The Semperflorens ("always flowering") Begonias, so much used for bedding in summer, because of their very dwarf, neat, compact, and free flowering habit, may be included as a side section of the tuberous varieties. They are characterised by such habit as I have just described, and have fibrous roots without tubers. For autumn and winter flowering in pots they are largely used, more especially the taller and handsomer varieties, gigantea and rosea. Many of the winter flowering Begonias are tuberous-rooted, but they, of course, are too tender as a rule for outdoor culture, even in summer. They are therefore accorded an intermediate or stove temperature. B. socotrana is a good example of the winter flowering section; B. Veitchii is another of the tender tuberous-rooted species. B. Dregii can be had in flower in winter, and would furnish another to the list of useful Begonias. These tropical species of this section have been the progenitors of an entirely new and exceedingly popular winter race of Begonias, among which I need only name B. × Gloire de Lorraine, which lately has given a lot of sports; and besides this beautiful French hybrid the Messrs. Veitch have given us a hardier and stouter type with single and double flowers, which have resulted from crossing the summer flowering tuberous varieties with the winter flowering ones. In the first case the summer flowering tuberous Begonias, which are now-a-days used both in pots and beds, originated from species that came from the temperate regions of America, such as B. Pearcei, B. boliviensis, and B. Daviesii. For a long time it seemed as though these would not cross readily with the tropical tuberous species; but the hybridists have at length broken down the barriers and joined the large-sized flowers to the other qualities of the tenderer species. When looked at broadly we can see the common affinites of all the members of the section.

Then coming somewhat close upon the tuberous Begonias we have those with a thickened rootstock or rhizome, so well typified in the progenitor of this section—the well-known B. Rex. I cannot trace the various hybrids and cross-bred varieties that have evolved from the Rex type, so it will be most convenient to look upon B. Rex simply as the starting point. One of the finest collections of these ornamental leaved Begonias that I know of, is to be seen in the Begonia house at Edinburgh Botanical Gardens. The plants are remarkably well grown at this place, and so appear to the greatest advantage. A dozen varieties of the leading favourites can be had by ordering from most of the leading nursery firms

Lastly there is the shrubby section of Begonias, and this is a group quite as varied or more so than the tuberous Begonias. Most of them furnish good varieties or species for making specimen plants. A number of them are handsome as climbers, as for instance B. corallina, B. President Carnot, and B. fuchsioides. B. carminata and B. coccinea are quite different in the habit of growth and indeed approach to the likeness of B. boliviensis and B. weltoniensis though the corollas are much different in form. B. corallina, B. maculata, B. Igramii, B. nitida, B. Incarnata and B. haageana are species (or hydrids some of them) belonging to the shrubby section.

Outside these three main groups there are a few exceptions of course. B. manicata is a case in point, and might be classed with either the tuberous or the fine leaved Begonias.

Culture.—The genus as a whole presents few difficulties in the matter of culture. The Rex or stemless section are largely used to cover the walls of warm ferneries. A wide-meshed wire covering is placed against the wall, a rich peat and fibrous loamy compost being packed in between the wall and the wire netting. Young plants can then be inserted through the meshes and will take hold and grow well. When the rhizomes become too long and scraggy the top of the plant can be severed and rooted afresh in warm, moist cocoanut fibre. In pots these fine-leaved Begonias require a good deal of attention. It is necessary to keep them turned round so as to get the light on all sides to maintain well-shaped plants. They enjoy a warm, moist temperature but should not be more than lightly dewed over at any time. A temperature ranging between 60° and 70° suits them.

The shrubby section should not at any time receive a check in their early stages of growth, nor should they be retarded for want of potting on. Staking, tying, and very light thinning is all the demands they make. When large-sized specimens have been developed the usual plan is to confine them to the size of the pot in which they may be growing, and to rely mostly on feeding and top-dressing. Nearly all the hybrid Begonias, such as Ingramii, Sedeni, Chelsoni, and eximia, are propagated chiefly by cuttings or by division. They do not produce seeds very freely. We have seen this very markedly in the case of Begonia Gloire de Lorraine, where very few, if any, instances are recorded of seedlings having been raised from seeds borne by this hybrid. As a rule the whole of the shrubby section are propagated from cuttings, leaves being frequently used. The tuberous Begonias if ever they were shy seed bearers have long ago got past that stage, for now seeds are almost the exclusive means adopted for increasing them. The tubers can also be divided in the same way as Potatos are treated, though, of course, each part should have an eye or shoot attached. The great value of the bedding tuberous Begonias is that they can be stored in boxes during winter, and occupy very little space. They are, moreover, floriferous and robust, standing rain and drought very well, Indeed, though they are, perhaps, more liable to break or snap in windy weather than are Pelargoniums or other plants. Their pot culture is a special feature, and improvements both in the strain of plants and the manner of treating them are yearly being advanced. To grow good exhibition Begonias no pains should be spared to secure the very best yellow loam, and the highest strain of seeds. A great deal of care is also required in the watering and shading of them subsequently. The seeds should be sown thinly on the surface of finely sifted soil made light by a liberal addition of silver sand. The pans should be immersed in tepid water to moisten the soil, and then a square or circle of glass should be placed over the pans, after which they should be placed in a propagating pit or in a little frame placed on the stage of a Melon or other warm house. So soon as the seedlings are able to be taken hold of, prick them off into very small "thimble" pots separately. Of course, bedding plants may be more roughly treated by pricking them into boxes. Whenever the seedlings have made good progress and filled the small pots with a few roots they should be potted on into pots two or three sizes larger, say, 3-in. pots. From this time they may be grown on the shelves of a suitable well-lighted pit, having a temperature ranging between 58° at night to 68° by day, air being gently admitted when the temperature reaches 65° and seems likely to rise further. They enjoy a moderately moist air and water sufficient to suit their requirements. A light tiffany shading will be necessary when the sun's rays begin to feel effective to one's own skin. Potting as necessary will demand attention after the plants have made a fair start. When the plants show flower one or two of the buds should be removed. As a rule 6-in. pots are quite large enough for good exhibition tuberous (double or single) Begonias, and any nourishment they may require after rooting through the soil in this size of pot can be supplied in the form of liquid manure.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Chrysanthemums.—*A. G. N.*: After being cut down the suckers shoot up, and the best of these (not necessarily them all) should be retained. They will develop and afford next season's flowering shoots. These old stools should be shaken out now, to be at once repotted. After repotting them (having reduced the old ball to allow of their being placed in the same size of pot), water the soil and place the pots on the stages of any cool plant structure or in frost-proof frames. Pot plants of the early flowering varieties may be broken up, and some of these divisions can be planted in the open borders. This, however, need not be done till the opener weather arrives.

Violets.—*S. L.*: The runners are usually taken in April, the strongest being selected. The old plants may be planted out along the side of walls. The runners should be put into well prepared beds at distances of from 4 in. to 6 in. apart. Keep them weeded, watered, and free from insect pests during the summer.

Linaria Cymbalaria on a wall.—*J. T.*: To introduce this pretty little Toadflax upon a wall you should secure seeds from somewhere or other. This plant produces seeds in immense profusion, and these, if scattered into the chinks and seams of the walls, will in all probability germinate. Soil may be filled in between the looser parts of the stones, to ensure greater certainty of the plants attaining a hold. Almost any sort of wall where there is the least possibility of a root hold, is suitable for the above plant.

Seed order for half acre garden.—*R. L.*: Here is a list of ordinary vegetables and Potatos calculated to furnish one year's supply, and suitable for half an acre of garden land. A household of six persons, including servants, may be furnished from a half acre garden if it is well ordered, though ten persons per acre is the usual standard of supply. In seeds of good quality such an assortment should cost about two guineas. A garden double the size would not require twice the following amount of seed, and indeed three guineas might cover the cost; whilst for a small garden the cost may be anything from 5s. upwards:—Two pints Broad Beans, 2 kinds; 2 pints of Dwarf Beans, 2 kinds; 3 quarts of Peas, 3 kinds; 1 pint of Scarlet Runners; 2 packets Beet, 2 kinds; 1 packet or oz. of Leek; 2 packets Cabbage, 2 kinds; 1 packet Brussels Sprouts; 2 packets Broccoli, 2 kinds; 1 packet Cauliflower, 1 packet Kale, 1½ oz. Onions, 3 kinds; 3 oz. Turnip, 3 kinds; 1½ oz. Carrot, 3 kinds; 1 packet Cucumber (frame); 1 packet Melon (frame); 4 oz. Spinach, 2 kinds; 1 oz. Parsnip; 1 packet Celery; 1 packet Endive; 3 oz. Radish, 2 kinds; 1 oz. Lettuce, 2 kinds; 1 oz. Parsley; 4 oz. Mustard; 2 oz. Cress; 1 packet Tomato; 1 packet Savoy; 1 packet Vegetable Marrow; 3 bushels Potatos (early, main crop, and late). If the above does not suit your requirements you should consult some of the nurserymen's catalogues, for they make out lists to suit all needs.

Early vegetables.—*Linden*: Proceed as directed in the kitchen garden calendars. Carrots, Potatos, Radishes, Lettuces, and Turnips, can be raised from

sowings or plantings made immediately in hot bed frames. Only on very favourable south borders should vegetable sowings be made yet. For Carrots and Onions we advise you to prepare special brakes in the open air. Work the soil deeply and well. Road scrapings, soot, wood ashes, rotton dung, and old potting soil should be added. It is not necessary to rotate the crops every year, although the practice has its merits in this, that diseases and insect pests are largely prevented.

PRIMULA FORBESI COMPACTA.

SOME NEW OR INTERESTING PLANTS.

A GOOD many gardeners have seen and been charmed with Primula Forbesi, known as the Baby Primrose. The latter term is more applicable to the new variety P. F. compacta of dwarfer stature, and flowering with great profusion. The purple flowers with small yellow eye forcibly reminds one of P. farinosa, the Bird's-eye Primrose, but the foliage, stems and general habit of the plant are quite different. Unlike the majority of the Primulas it is a short lived plant, but is easily raised from seeds annually in the same way as P. sinensis, which is also treated as an annual with great success. The accompanying illustration shows the habit of the plant when grown in pots or pans.

Solanum albidum Portmanni is one of the many fine forms of this genus with which our gardens have been enriched within recent years. Most of them are chiefly valued for the sake of their bold and handsome foliage, frequently put to excellent service in the sub-tropical garden. The variety under notice may be so used, or for any other purpose in which fine effects may be obtained by the use of the same. The leaves are 2 ft. long, pinnatifid or deeply lobed as the accompanying illustration will show, bright green above, and white beneath, owing to the presence of a matted felt of white hairs. It was introduced from the Andes of Peru in 1886, so that, although not new to cultivation it is very little known in gardens, but could be used to excellent purpose and prove interesting to every lover of a garden. It is a noble looking and half hardy plant, and might also be made to do duty in large conservatories, greenhouses or winter gardens for the sake of its foliage. The flowers are small, white and freely produced in cymes towards the end of the shoots of the current year. The varietal name is also spelt Poortmanni.

SOLANUM ALBIDUM PORTMANNI.

GLOXINIA HYBRIDA GRANDIFLORA.

TYDAEA HYBRIDA GRANDIFLORA.

Gloxinias are now so variable that it would be difficult to say in what direction new departures might be expected. New Pink Leoparded, otherwise named Gloxinia hybrida grandiflora, is notable for the size and spotting of the flowers, the larger spots being near the margins, and the others gradu-

ally diminishing in size as they pass down into the throat or tube of the flower. The accompanying figure shows a bloom of handsome proportions, and made up of seven segments. This latter feature is, of course, not new, as we frequently meet with such high development, and much imbricated segments in collections in this country.

For summer and more particularly for winter flowering the Tydaeas are appreciated in many private establishments. The plants belong to the same family as the Gloxinias, and are similar in habit to some of the latter, but are usually taller and more woolly or hairy than the ordinary garden race of Gloxinias. Many of the old types are 12 in. to 15 in. high and branched with nodding or drooping flowers. The strain known as Tydaea hybrida grandiflora or Heinemann's new large-flowered dwarf varieties is much dwarfer than the old types as may be seen by reference to the accompanying illustration. The lower flower shows the characteristic markings of these strange but beautiful flowers. The spots, lines and markings often, as in this case, cover the greater portion of the surface of the flower. For the above four illustrations we are indebted to Mr. F. C. Heinemann, Erfurt, Germany, who includes the Pink Leoparded Gloxinia and the dwarf mixed strain of Tydaeas amongst his novelties.

OMPHALODES.

Omphalodes verna, when in bloom, displays that superb shade of blue which is not common in the flower garden at any time. It loves to be planted amongst stones in ordinary soil, and succeeds well in comparative shade or in an open situation. In fact it will do well anywhere except in wet soil. However, its qualities merit the choicest portion of the hardy rock garden. In sheltered positions it often shows its earliest spikes of brilliant blue Forget-me-Not-like flowers in January and February; and during March and April it is a very carpet of beautiful blue, which when under-planted with white Fritillarias and the Meleagris type, and fringed with alternating masses of Winter Aconite (Eranthis hiemalis) and giant Snowdrops is beautiful in the extreme, yielding a variety of colours in different shades and a pleasant blending of foliage, which alone would be attractive. Omphalodes succeeds in the same soil for many years, and is easily propagated by division during September, at which period the best rooted plants can be employed for spring bedding, placing them 10 in. apart and filling in the spaces in due course with white Hyacinths, having a 9 in. margin filled with single red Hepatica and golden Crocuses alternately. These produce an effect in spring by no means to be despised. Alba is a white variety of the above. O. Luciliae has larger flowers but paler blue than verna, and is the most improved and best suited to high culture.—*H. H. Gibson, The Gardens, Glencairn, Belfast.*

SPRING FLOWERING CROCUSES.

Spring flowering Crocuses will always have a larger share of attention than their autumn relatives, simply because they stand so much more isolated by their season of flowering. The autumn has many charms in flower and leaf; the spring has not. Of the twenty-four autumn species of Crocus twenty-two are in cultivation.

They are seen to greatest advantage when planted in clumps amongst the grass. Mr. George Maw enumerates forty-three species of the spring flowering Crocuses, though additions have been made to the lists in recent years. Nigh twenty years ago, there were quite forty species in cultivation. Among yellow flowering species we have C. chrysanthus, C. Olivieri, C. aureus with its numerous varieties, and C. garganicus of an orange shade and having brown stripes on the outer segments. Another striking and pretty species of this group is C. Balansae, whose outer segments are often suffused with bright chestnut.

Those with purple feathered markings on a light ground, are represented by C. Imperati, and C. biflorus and the very handsome C. versicolor with its primrose scented flowers. It is heavily feathered with rich purple, some of the forms being almost suffused with this colour. C. nevadensis, and C. etruscus are other members of the group. C. aerius is a charming plant with lavender-purple flowers. C. tommasinianus is also very like the latter. One of the deepest purple members is C. bannaticus, exceedingly rich coloured.

These few notes describe some of the species now in flower, though the list by no means includes all that we have. Crocuses grow well and show up to the best advantage when planted around the margins of shrubs such as Mahonias, where the grass is very short.—*V.M.*

THE APIARY.

Now that we are fairly into spring, bee-keepers, like gardeners, are beginning to awake to the various responsibilities of the coming season. "Hope springs eternal in the human breast"—and I think that the bee-keeper has an extra supply, so that, despite the bad season of 1900, we are looking forward to better times in 1901. Stocks that were strong in bees in the autumn, headed by a young queen with plenty of food, should give a good account of themselves once the season is on. In the meantime, they should be left alone. Where the least doubt exists in regard to amount of food in hive, a cake of candy should be given—for which I give our own recipe—the first warm day. In a few strong stocks the open weather will have started the queens to lay, and an addition of nice dry quilts on top will help to prevent chilled brood when a cold spell comes. When snow is on the ground, shade all entrances with boards or slates to prevent the sun from bringing the bees out to certain death.

Where stocks have to be removed two or three hundred yards, it is best to wait until the bees have been confined by the weather for two or three weeks before they are shifted. When in their new position, place a board or a few branches against the entrance—anything that will prevent a free flight. The bees will then mark the new position and come back to it. The obstacles may be removed after two or three (flying) days. Now is the time for bee-keepers to map out what stocks are to be kept for extracted honey—how many for sections and how many for queen rearing. This all depends on whatever there is the greatest demand for in the neighbourhood.

In some districts it is extracted or run honey, others, sections; others, again, a little of both, and the bee-keeper will have to work accordingly. Everyone, if he has not stocks to spare for rearing queens, should purchase from a reliable dealer a queen now and again, and he will be surprised to see the improvement in the strain of his bees. Dealers' catalogues should be produced and lists examined, and the various goods that may be required jotted down ready to send off, as there is nothing like being in time. Always see that the bees have never to wait for more room, as a day or two lost when honey is coming in is sometimes a season and shows very bad management indeed.

Recipe for Soft Candy.

To 10 lb. of sugar add one teaspoonful of cream of tartar and two pints of water; put in jelly pan and place on brisk fire. Stir until melted, and boil for ten minutes; remove and place in a tub of cold water. For medicated, pour in one tablespoonful of naphthol beta when removed from the fire. Moulds can be prepared by placing sheets of paper over soup plates. When the moulds are ready, go to the candy and stir until it begins to turn white, and before it has quite set, pour into the mould. You perhaps will not make it quite the thing right away, but with a little perseverance all difficulties can easily be overcome.—*Doonfoot.*

CALANTHES.

That very popular section of Calanthes, which includes C. Veitchii and C. vestita, are now showing their young growths, and should be at once potted up in a compost of equal parts good fibrous loam and peat, some well decayed cow manure, and sufficient charcoal and silver sand being added to make the soil porous. Provide good drainage, and pot so that the base of the new growth is on a level with the surface of the soil. Place in a temperature of 65° to 70°; a shelf in a Cucumber house will do admirably. Withhold water until new roots are produced, but as growth advances copious supplies will be needed, and when the pots become filled with roots a weekly application of liquid cow manure will be found very beneficial. By September the pseudo-bulbs will have completed their growth, and flower spikes will be showing at their base. The water supply should be gradually diminished until the foliage dies off, when it may be withheld altogether, the store of nourishment in the pseudo-bulbs being sufficient for the development of the flower spikes. Flowering as they do at a dull period of the year it is not surprising that these plants should be generally grown, especially as their light and graceful sprays of flowers are invaluable for all kinds of floral decoration.—*E. C.*

WARMING POTTING COMPOSTS.

The potting season is now on. Where a number of plants in one house require to be potted, the best plan is to erect a temporary bench within the house. This saves a great deal of shifting and prevents the harm that might result from the cold checks to which warm house plants would be subjected. Then, again, the potting soil requires to be warmed. To place tropical plants into cold soil, invites failure. The shifting into a cold shed would not do much harm to warm-house plants, if the soil for potting was warmed, especially as they would be replaced in the warm house immediately. But the use of cold soil under any conditions ought not to be thought of. If compost is prepared and placed in a warm house for one night it will be in nice condition by next day. Otherwise soil can be heated or warmed rather by being placed in baskets over hot water pipes or upon the top of boilers. Again, bricks made red hot in a furnace can be taken out and buried in the compost. This is probably the quickest method of any for heating the soil. The bricks are of immense service when the soil happens to be damp through having been exposed in bad accommodation. Three or four red hot bricks buried in a barrow load of damp leaf mould will be found to have brought it into a workable condition. Any charring that occurs will be good rather than otherwise. Success in a great measure depends on the proper condition of the soil at potting time.—*L. T.*

MIGNONETTE POT CULTURE.

Two sowings of seed should be made, the first about the middle of June and the second about the middle of July. Take as many 6-in. pots as there are specimens required, and after draining them well fill to within an inch of the top with a mixture of loam and well decayed manure well broken up. Press it down rather firmly, sow the seed thinly, and cover with finely sifted soil. Place them in a frame or under hand-lights. After the seedlings are up give more air night and day. The plants will soon become strong enough for the first thinning to take place, which should consist of the weakest plants. In a short time a second thinning will be required, leaving from five to seven of the strongest plants at regular distances over the surface of the pot.

They may be allowed to grow until they have rooted well, but at the same time must not be allowed to get pot-bound, as if so the stems become hard, and they will attempt to bloom, and their future growth will be checked in consequence. At this stage they will be fit to put into the pots in which they are intended to flower. This large shift is necessary, because Mignonette does not thrive well when frequently shifted; 8½-in. or 10-in. pots will be found a good size for specimen plants. The pots should be perfectly drained and quite clean. As to soil, nothing is better than turfy loam, well decayed; this will without any addition, grow the plants well. Pot them firmly, and water at once. Keep the sun from them, and stand the plants out of doors, or in a cold frame on a cool bottom of ashes, and protect from strong winds. Stake each plant firmly, and when they have grown an inch or two pinch out the top of every shoot; this will cause them to break 2 in. or 3 in. down the stem. These shoots in due time will need stopping and tying as the plants advance, until they have formed the outline of good specimens, when they may be allowed to flower. At the latter part of the summer, when the plants are taken under cover, they should have a light, airy place, in greenhouse temperature. When the plants are well set with bloom give occasional waterings of weak liquid manure.—*Walter Hogarth, The Gardens, Norton House, Ratho, Midlothian.*

Oranges will be imported in greater quantities than ever during the forthcoming season. Increased shipments will come from California, Florida, the Spanish possessions, and Australia.

GARDENERS' GRIEVANCES.

THESE are the common lot of humanity. So common are grievances that I believe the task of finding a profession or occupation which does not at times ventilate its own special grievances would be a most difficult one. To grumble at them is, we sometimes hear, the special privilege of Englishmen. I sometimes think that, if so, some at least make too free a use of the privilege. Gardeners, in the estimation of many outside of the profession, do so, and possibly no other profession contains within its ranks so large a proportion of inveterate grumblers, and for this reason that few other callings have such a substantial list of legitimate grievances.

To begin with, the rate of remuneration is, as compared with other occupations, very low. There are happily exceptions to the rule we must readily admit, but taking garden labour as a whole compared with any branch of the building trade, for instance, it remains absolutely true. The workmen in these trades by combination have forced up their wages, and in their case instead of capital terrorising labour, the latter in some instances not only bids defiance to, but conquers it. There are many trade unionists who look down upon gardeners as a poor spirited lot because they make, no or but very feeble, attempts to follow in their steps, not realising the immense differences there are in the two situations. I hold that a gardener's trade union, owing mainly to the comparative isolation in which they stand to each other, would soon prove unworkable. Therefore any hope for redress of this particular grievance must be looked for in other directions.

One process has been going on for some time which must end in a better wage being given to the garden labourers, namely, so many leaving the garden for other occupations. The wages paid to these men have had a marked influence on those in higher positions in gardens. For very many owners of gardens fail to discriminate between the labourer and one who has made gardening a special study, and sought by study and practice in good places to make himself proficient in the art. To mow, sweep, and dig well are, to at least some, the chief qualifications requisite, and they are ever ready to secure the services of this kind of man who will be subservient in all things at as low a rate as possible. Till we can get a better and broader view of gardening than at present obtains in some quarters there is little hope for any material amendment.

There is one consolation to be derived from the lady gardener movement, that it will eventually show some that there is more in gardening than they ever dreamt of. True, some good men with a thoroughly practical knowledge of their profession may be displaced by these intruders who want to reach to the highest positions through an easier and pleasanter route than their male compeers are allowed. For myself, I contend no one ought to take the control and direction of a body of men who is incompetent to show them by example how to do the veriest drudgery connected with the profession. Even among garden labourers how many simply do not know how to hold a birch broom and sweep a path properly; yet some of these men would readily undertake the management of a garden, and sometimes do.

Another factor in wages is the low price of garden produce. We sometimes think that a moderate import duty on much of the foreign produce would hurt no one, and by fostering home industries would benefit both garden and farm labour. Much of the foreign flower, fruit, and vegetable produce is, or at least was, an article of luxury, and could be grown at home. John Bull is far too large hearted in this particular. He manifestly cannot grow at home all the corn and meat for his over-crowded household, and so wisely allows these to come in free to replenish his larder; but is he equally wise in allowing other products of the soil free entry? I think not. His own family should have the first chance.

Another grievance gardeners have is the treatment they sometimes meet with from a professional standpoint. It may be a good thing that so many know all about gardening. At the same time there are many who employ carpenters, &c., who allow them to do their work in their own way, not questioning their ability, who meddle and interfere with the gardener in a most vexatious manner, and at the same time look upon him as an authority upon a dozen or more matters outside his own calling. If anything about the place goes wrong the gardener is the handy man expected to put it straight. In short the gardener by many is looked upon as a domestic servant, and as such should do his lord's bidding. Young men, many of them, see this, and are being driven into other occupations. They naturally ask is it worth while to study and persevere in a calling in which they stand a chance of being snubbed.

Then, again, very many suburban gardeners have to reside off, and often at some distance from their work. This often means almost incessant toil from month to month, Sunday and week day, from dawn to dark, and too often in frosty weather a trudge twice before going to bed at any time from 10 p.m. to 1 a.m., a state of things there is no real excuse for, but arising to a great extent from the heating apparatus being inadequate to its work. A short Act of Parliament requiring these to be passed by a competent authority would result in the average of life among gardeners being raised, and remedy a most distinct and real grievance.—*W. B. G.*

I READ with interest the various letters in THE GARDENING WORLD for February 2nd, *re* the above subject, especially the letter signed "C. Blair." I quite agree with him when he speaks of men "trained entirely" in large places feeling a great aversion to becoming head gardener in a small place. I am afraid a man who has never worked in a small garden would scarcely know how to do some of the things a gardener has to do in these small places. I have worked in small, medium, and large gardens, beginning my experience in private gardening in a small place at both inside and outside work, and gradually working upwards until I obtained a situation at Frogmore. I now consider I have taken the *Irishman's rise*, but one cannot stay even in the Royal Gardens as a journeyman for ever. I may tell "C. Blair" that when I was trying to learn the art of digging, sowing, planting out, earthing up, &c., &c., I kept a diary, and have found it both *useful* and *interesting*, and I would advise all journeymen to keep one, and not only write down the date of sowing any variety of vegetable or flower seed, but find out the quantity of such seed sown and write it down also.

As regards large *versus* small places, I would advise all journeymen to begin in a small place and work upwards, because when once in a large place it is hard to appreciate a smaller one. On the other hand it is very pleasant to keep improving in your situations, and there is plenty to learn in them all if only a chap will look about him and not be afraid of asking questions. Some men will do anything rather than ask a question through fear of being considered inferior to their fellow-workers. Such a thing is to be regretted, for a man loses nothing by seeking information through the medium of asking questions. —*H. L. Hirst, Anley, Settle.*

IN a note to *Meehan's Monthly* (American), a correspondent of mature years says: "The term gardener implied much more a few generations ago than it does to-day. Young men paid heavy premiums to get in as apprentices under learned gardeners, and when at the end of the term they were invested with the 'Blue Apron,' most of them would compare favourably, in general intelligence, with the graduates of our modern universities."

"Is not the analogy a little far-fetched," asks an exchange, "and whether is the joke on the graduate or the gardener? There are some who yet hold to Burns' opinion of graduates, himself the son of a gardener, that these individuals 'go into college stirks, and come out asses.' Despite the abolition of the premium system, we firmly believe the average of general intelligence among gardeners is as high to-day as it was two generations ago. The same fountains of learning at which wisdom may be drunk are available; the same indomitable perseverance in the pursuit of knowledge is still extant, and, certainly, in many ways a higher degree of cultural skill has been attained, with attendant improvement in accruing results consequent upon advancement along educational lines. We do not think that the passing years have in any way altered the significance of the term "gardener," accepted in its truest sense, and in countries where a gardener is a gardener. Of course, the world over, there are gardeners and gardeners, just as there are graduates of universities, and graduates, &c."

THIS is a subject having many points of interest to the head gardener and journeyman alike. I do not agree with "Young Gardener," who seems to think we are straining after things beyond our reach, and who compares gardeners to the foolish boy that wanted the moon. "What?" How have other tradesmen raised their position within the last quarter of a century?—not by folding their arms, but by trying every fair means to get their rights. Many head gardeners and journeymen, too, have to live in small unhealthy abodes. Could even nurserymen not help a little to get this remedied when asked to send on a gardener? I knew a leading Edinburgh nurseryman (now dead) that was famed for keeping up the gardeners' wages. It would not spoil us to have a few more comforts; but many a contented soul would rather perish in the flames than be awakened by the fire bell out of his sweet slumbers. Of course none of us can afford to do without the bread and butter, and we must live somewhere; but as journeymen are getting scarcer, it will surely assist in time in causing employers to offer higher wages, and also see to their house comforts. Many employers have grander abodes for their dumb animals than for their servants.—*J. C. Dick, Champfleurie, Linlithgow.*

THIS discussion, I am happy to notice, is being carried on in an entirely friendly spirit. This is as it should be, and seems another proof of the "clannishness" of the profession (if I may be allowed to introduce so thoroughly Scotch a word). How often we see discussions in newspapers develop into nothing but a handying of personalities, and soon the point under discussion is lost sight of. Happily gardeners are proving that they can disagree without quarrelling, and will, with the kind sanction of the Editor, thrash out the subject, and endeavour to arrive at some practical means for improving our condition. I must heartily endorse Mr. J. C. Dick's last letter. His kind reference to my contribution to the discussion is, I am afraid, hardly deserved. I am, however, endeavouring to follow his advice contained in an earlier article—"to give our candid opinion" on the subject. The letter, too, of Mr. F. Ross is eminently practical and convincing. The same may be said of the contributions of Mr. Brewer, Mr. J. Botley, and "A. V. M." The latter I am surprised to learn is still a journeyman. I thought from his many excellent papers in the pages of THE GARDENING WORLD that he was one of the "old hands." The discussion all through is excellent, but are we not just drifting a little from our subject? The young men will only admit of their own grievances. Might I call their attention to one point they all seem so far to have missed? I admit that their cases allow of a great deal of improvement. At the same time does it not occur to them that until there is a good deal of improvement in the condition of the head gardeners that theirs might wait? What I mean is this—a young gardener has a good deal of hardship to bear. Would this not be more cheerfully borne if the prospect of a nice comfortable place as head gardener appeared in the distance. I think it would be a great inducement to patiently bear the burden, when a peaceful haven was in sight. Now with the position of head gardener (in so many cases) anything but satisfactory what is there to look forward to? Nothing but hard work and worry. These are facts for the younger men to think over. Unfortunately it is only for the enthusiastic gardener that the prospect is at all bright, and even he soon gets soured by the struggle. I am again trespassing too far on your space, Mr. Editor, but perhaps you will allow me to mention two real grievances that I think badly want to be remedied. I refer to the practice of a great many employers of expecting (and insisting on) their gardeners to do all sorts of work, from cutting down timber to digging drains. I think this most unfair. Young men can refuse this sort of work, but with married men it is somewhat different, as it is not at all an easy matter to pack up and flit. The other matter is the employment of so many untrained men as gardeners. A man "labours" in a good garden for a year or two, and then slips into the position of gardener on the same or neighbouring place. This is little short of a scandal. It is, I know, not easily remedied, as for the sake of a few pounds a year saved in wages many employers engage these men, cutting out a properly trained gardener. This, in my opinion, is one of the real causes of low wages.—*C. Blair, Binny, Uphall.*

Does not all this discussion on the above subject point very decidedly to the only remedy? The remedy is for gardeners to have more patience, more perseverance, and more energy to overcome the many obstacles that bar the way, that lead to success. Almost every week there are appointments chronicled of men who by determined perseverance have gained important positions; and with our Editor's kind permission we tender those men our hearty congratulations, and we ask "Young Gardener" to find a more appropriate *nom de plume*. These men have mapped out their goal and won. Our friend, J. Botley, considers gardening a game of chance. I consider it more like a game of draughts, and we must be very careful against making a false move. I am afraid the journeyman he mentions had not a first only love for gardening, and unless we have a first only love we do not get any pleasure from our duties; in fact, our duties become toil or labour with pain and fatigue. We must thank our kind Editor for the space he has given to this subject, and I am sure more than one has derived encouragement from it.—*C. P. C.*

I am very much interested in the discussion in your valuable paper, relating to gardeners' grievances. It is very interesting indeed, and in the first place I must thank Messrs. Dick and Blair for the able way that they stick up for the under gardeners. "C.P.C." says it will help many young gardeners who are more or less discontented with the prospects of life before them, but who have a "first only love for gardening." That may be so, but I can tell him that some of the places nowadays are enough to drive anyone from gardening. I have had eleven years' experience in all departments of gardening, both inside and out, and in small and large places. I have always "kept my eyes open," and my tongue quiet, which is essential in most well kept establishments, and has helped me a good deal. I don't agree with one who signs himself "Helper," who prefers large establishments to small ones. For my own part I served my time in a small place, and never regretted it (and many others can say the same), for I could always hold my own with any that served in larger, aye, and even learn them a lot, for I have proved it. "C.P.C." talks about small places with six or eight gardeners, and large places with fifty to sixty. Allow me to ask him if such a place was in England or Scotland? Quite probably the former, for in England, I am sorry to say, they call themselves gardeners if they happen to labour in a garden for three weeks or so, and previous to that wrought on a farm as cowman, or tended a few head of poultry. It is these kind of people that spoil gardeners' places in England, and as for some of the employers we have nowadays!—business people; everything for profit, and everything ready at a moment's notice whenever they want it! Now I think that gardening could be much improved, in England especially. When I say that cowmen take the place of certificated gardeners, is that not enough to disgust any practical man? For the former will take the place at half the rate of wages that a practical man would ask, as the latter, after spending the best of his days "roughing it," expects something better when he gets a head place, but so long as this "Jack of all trades" sort of work goes on, gardeners' wages will be low. There are plenty of good places and men, too, in England, and it is a pity sometimes to see the state of the former; but it so happens that sometimes the "irrepressible" Scot (as one of the writers in this discussion says) gets one of these places, and gets good wages too, for a Scottie always knows what he is worth; and to get the place in order nearly breaks his heart, for he cannot get men that know their work; and to suggest to the employers to get a man from the nursery or seedsman would be all right, if he paid his own fare. But my friends across the border, "beware"; do not be "gulled," unless you know something of where you are going. With all that, is it any wonder that Scotch head, or under gardeners do not stop any time in England? But, nevertheless, they always leave their mark behind them, set a place on its legs, and then leave it as a pattern to some of our cowmen friends.—*Max, Bristol.*

Locust Beans at the rate of 25,000 a year are grown in Cyprus, and they say most of them go to Scotland to make whisky.

SOCIETIES.

ROYAL HORTICULTURAL.—*February 12th.*

Considering that the morning of Tuesday last was very frosty and cold, the array of exhibits was both extensive and good. Chinese Primulas, Clematis indivisa, Daffodils and Ferns were in strong force. Hardy herbaceous plants, Crocuses, Lenten Roses and forced subjects were more or less abundantly represented for this early period of the year. Orchids were also present in fair quantity.

Orchid Committee.

Well-flowered plants of Zygopetalum Mackayi, Z. M. Gatton Park var., Angraecum hyaloides and Dendrobium Juno grandiflorum were exhibited by J. Coleman, Esq. (gardener, Mr. W. P. Bound), Gatton Park, Reigate. De B. Crawshay, Esq., Rosefield, Sevenoaks, exhibited Odontoglossum Rossii Queen Alexandra, with a rosy lip and petals. G. F. Moore, Esq. (gardener, Mr. T. Morris), Chardwar, Bourton-on-Water, staged Cypripedium Beakmannii and Cattleya percivalliana Chardwar var.

Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, staged Dendrobium wiganianum (D. Hildebrandtii × D. nobile) and Phalaenopsis sanderiana Wigan's var. W. Cobb, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells, showed Cypripedium Basseno, with a finely blotched dorsal sepal. G. Singer, Esq. (gardener, Mr. J. Collier), Coundon Court, Coventry, brought up Cypripedium hyeanum Coundon Court var. Messrs. Heath & Son, Cheltenham, set up a small group of Cypripediums, Laelia jongheana, L. pumila, Dendrobium Ainsworthii and Oncidium maculatum.

Odontoglossum Adrianae bearwoodense and O. A. regale were exhibited by J. Rutherford, Esq., M.P., Bearwood, Blackburn. Some fine flowers of Cattleya Trianaei were shown by Sir W. D. Pearson, Bart., M.P. (gardener, Mr. Wadds), Paddock Hurst, Crawley, Sussex. Cattleya Trianaei pitiana, Cypripedium callosum giganteum and C. Gertrude Hollington were staged by Messrs. Hugh Low & Co., Bush Hill Park, Enfield.

G. Singer, Esq., also set up Cypripedium T. W. Bond Coundon Court var. and Odontoglossum loochristiense coundonense, the latter having an arching spike 4 ft. long. A much finer variety of it, namely, O. loochristiense rochfordianum, was exhibited by Mr. Thos. Rochford, Turnford Hall Nurseries, Broxbourne. The yellow ground colour was very bright and the blotches very dark. H. T. Pitt, Esq. (gardener, Mr. H. Thurgood), Rosslyn, Stamford Hill, exhibited Eulophia chloroneurum, E. pulchra, and two large and well-flowered plants of Cypripedium pitcherianum.

Messrs. F. Sander & Co., St. Albans, exhibited Laelia pumila, L. p. luddemanniana, L. praestans Queen Alexandra, blush white with a heliotrope purple lip, Odontoglossum wilckeanum and Cypripedium callosum Sanderae, with its beautiful green veining.

Messrs. B. S. Williams & Son, Upper Holloway, exhibited a group of Lycaste Skinneri, L. S. alba, Cypripedium harrisianum superbum, C. Boxalli nigrum, Lycaste lasioglossa and others set up with Palms and Ferns.

Floral Committee.

P. Purnell, Esq., Woodlands, Streatham Hill, sent up a group of Narcissi and Daffodils in pots. Though these spring-flowering bulbous plants are effective when shown thus, they cannot compare with the plants grown on grass. In this case, the plants were well grown and strongly flowered for so early in the year. The finer varieties shown were Golden Spur, Victoria, the new variety; Empress, Horsfieldii, Golden Spur, and Emperor, among long trumpet sorts; and Minnie Hume, Katherine Spurrell and poeticus ornatus among the medium. (Silver Gilt Flora.)

Messrs. Barr & Sons, King Street, Covent Garden, showed a collection of hardy plants. Cyclamen ibericum Atkinsonii, Narcissus pallidus praecox (very beautiful, Muscari azureus, Iris persica Heldreichii (very strong), and species of Croci, Hellebores and other Narcissi.

Messrs. B. S. Williams & Son, Upper Holloway, London, N., arranged a collection of forced shrubby plants, including Staphylea colchica, Kerria japonica fl. pl., Lilacs and specimens of Pyrus Malus floribunda, and Prunus Amygdalus.

A group of Clematis indivisa and C. i. lobata were sent from Messrs. Wm. Paul & Son, Waltham Cross, Herts, the plants, over fifty in all, being in 6-in. pots. They were trained neatly to a stout central stake, and were draped with their starry white flowers. Plants of Aralia Sieboldii were placed among them.

Messrs. J. Hill & Son, Barrowfield Nurseries, Edmonton, staged a group of greenhouse and intermediate house Ferns, chief of which were Gymnogramma schizophylla prolifera, Lastrea erythrosora, Adiantum Capillus-Veneris Marlesii, Blechnum latifolium, Cheilanthes elegans, Davallia dissecta, and Asplenium Hillii, and many other fine subjects. (Silver Gilt Banksian.)

Messrs. J. Laing & Sons, Forest Hill, London, sent up a miscellaneous collection of stove and greenhouse foliage and flowering plants. Azaleas, Begonias, Zanthosomas, Dracaenas, Calla elliottiana, Camellias, and Anthuriums were included. (Bronze Banksian Medal.)

Mr. John A. Box, West Wickham and Croydon, staged a batch of Primula sinensis in varieties.

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, sent up Narcissus obvallaris, N. Golden Spur, N. princeps maximus, Freesias, Muscari, Lachenalia aurea, Primula frondosa, Daphne blagayana, and other pretty little hardy plants. (Bronze Banksian Medal.)

Messrs. Paul & Son, The Old Nurseries, Cheshunt, had Lilac Madam Casimir Perier, white; Marie Legraye, also white; and Leon Simon, mauve. They also showed cut Roses. (Bronze Flora Medal.)

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, staged many fine potfuls of Croci, including C. Balansae, C. Imperati, C. pusillus, and other autumn flowering species. Iris Danfordiae, Eranthis hyemalis, Primulas, &c., were also shown. (Silver Flora Medal.)

Messrs. Wm. Cutbush & Son, Highgate, London, N., showed a strongly flowered collection of Croci. The following were particularly pleasing:—Othello, violet; Lady Stanhope, gray-white; King of the Blues, La Majesteuse, a flaked variety; and Sir W. Scott, also flaked. (Silver Banksian Medal.)

J. C. Eno, Esq. (gardener, Mr. R. B. Leach), Woodhall, Dulwich, S.E., exhibited Helleborus orientalis in varieties. The plants were grown in pots, and were very freely flowered, showing that their needs are understood.

Mr. Geo. Wythes, V.M.H., head gardener to the Duke of Northumberland, Syon House, Brentford, sent a large and well fruited Vanilla plant. (Cultural Commendation.)

A flowering specimen of Godwinia gigas was exhibited by the Director of the Royal Gardens, Kew. This is an Aroid of the same habit as Amorphophallus. (Vote of Thanks.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, had Rhododendron indicum Van Kaempferi, Loropetalum sinense, a pretty flowering hardy shrub, and also a boxful of their Javanico-jasminiflorum Rhododendrons.

Mr. C. J. Wakefield, 58, Hindon Street, London, S.W., was forward again with his "Floral-Aid."

Messrs. H. Cannell & Sons, Swanley, again showed a very large collection of the newer strain of Primulas. Their Queen Alexandra is a lovely plant with beautifully fringed corolla, white shaded mauve. Snow Wreath is tall and handsome, Eucharis has smoother corolla and is pure white, Mr. R. W. Cannell shows up well, and several seedlings as yet unnamed are full of promise. (Silver Gilt Flora Medal.)

Fruit and Vegetable Committee.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, received a Silver Knightian Medal for a magnificent collection of Apples. Rymer, Court Pendu Plat, Lane's Prince Albert, Hollandbury, Jubilee, Chelmsford Wonder, and Newton Wonder had a very fine and sound appearance as indeed had every one of the 100 dishes of Apples that were shown (Silver Knightian Medal.)

Messrs. George Bunyard & Co., Royal Nurseries, Maidstone, were forward with a very superior collection of 100 dishes of Apples. To see so beautifully graded, highly coloured and thoroughly sound Apples, was a sight of pleasure and satisfaction. Of the sorts shown Woodstock Pippin, Belle de

Pontoise, Waltham Abbey, Bramley's Seedling, Bowhill Pippin, Brownlee's Russet, Hoary Morning, New Hawthornden, and such others were represented by exceedingly fine selections. The Apples formed the attraction of the show. (Gold Medal.)

ANNUAL GENERAL MEETING.

THE annual general meeting of the R.H.S. was held during the afternoon of Tuesday, February 12th, in the Society's Rooms, 117, Victoria Street, London, S.W. Sir Trevor Lawrence, Bart., the president, occupied the chair, and had an audience of fully 200 Fellows and members.

The usual formalities having been enacted, and thirty-five new Fellows elected, the annual general report was then discussed by the chairman. He went over all the more important clauses, and dwelt at greater or less length on each of them. Before directly touching on the report, however, Sir Trevor mentioned that the council had thought it right and proper to have presented to his Majesty King Edward VII. an address expressing the sense of the loss he had experienced, and at the same time congratulate him on his accession to the throne. The chairman then went on to speak in warm terms of her Majesty's love and encouragement of horticulture. The council had sent a wreath in name of the society, and through the instrumentality of Messrs. Wills & Segar this wreath had found a place in the Mausoleum.

Speaking of the education of students in the society's gardens, Sir Trevor was pleased to note the growth and warmth of interest being evinced in it. The Temple show and the limited accommodation within the Temple gardens was the subject of some remarks; but should it ever be necessary to move from the Temple gardens, so generously placed at the society's disposal by the Benchers of the Inner Temple, he was pleased to state that one of the new councilmen—Earl Ilchester—had offered Holland Park for use in this connection. (Applause.) The *Journal* was improving and had been published much more frequently for the sake of country Fellows. In connection with the yearly examination in horticulture, Sir Trevor remarked that a higher standard was necessary now, as students were becoming much more proficient.

The thanks of the Fellows were also expressed through the chairman to each of the committees, the members of which in many cases came long distances and did a great deal of disinterested work all through the year. The growth in the numbers of exhibits and the numbers of those who attended the fortnightly meetings held during the twelve months was now so great that it was difficult sometimes to get inside the hall. This was good and bad at once! Expressions of thanks were also passed to all of those who had read papers or had lectured at the meetings, Prof. Henslow, M.A., coming in for special notice for his share of this valuable work. Then a sadder note was struck as the chairman recalled the fact that seventy-nine Fellows had died during the year, and among them two of the councillors —Mr. Haywood and Mr. Crowley. Each received a word of appreciation for the grand work they had rendered.

The accounts did not require any explanation—they spoke for themselves. In this connection Sir Trevor said that the council were going to publish in the society's *Journal* something like a retrospective account of the society's affairs since 1888, in which year they left South Kensington. At that time the society was going down by leaps and bounds and must soon have failed. It had then a membership of little over a thousand, of which only 773 were annual subscribers, and the contributions of the others were spent on the upkeep at South Kensington. On leaving the latter place, 221 at once resigned, showing how many of the Fellows at that time were attached for reasons other than horticulture.

The total income was £2,460 in 1887, and the debt was £1,182. A more hopeless condition of affairs could scarcely be imagined. We have now in 1900 an income of over £8,000—(applause)—and an increased expenditure of over £2,000; and £10,269 of surplus capital had been invested. (Renewed applause.) In 1887 the number of Fellows was 1,108; in 1900 there were 4,750, and 139 new Fellows have been elected in 1901. The proportion borne by salaries, &c, to the total income in 1887 was 17⅞ per cent., now it is as low as 8⅛ per cent. The reputation and good of the society has even more largely increased than financially. Three gentlemen received special mention as having had a very large share in bringing about the present prosperity, and these were Baron Schroeder, Sir Michael Foster and Sir William Thisleton-Dyer. The cost of publication of the *Journals* during the year was £807, and this works out to 3s. 4½d. per Fellow. The resolution for the adoption of the report was then formally put and was seconded by Sir John Llewellyn, Bart.

ABSTRACT REPORT OF THE COUNCIL FOR THE YEAR 1900.

The past year marks an era in the history of the society. The new charter, the third granted since the foundation of the society, having received the assent of the late Gracious Queen came into force at the commencement of the year, and the first business which engaged the attention of the council was the formulation of new bye-laws suitable for the same. The work was necessarily a long one; but at a general meeting held on July 3rd, the bye-laws, as printed on pages 423 to 436 of Vol. XXIII. of the society's *Journal*, was formally adopted.

(*To be continued.*)

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to "Grower," for his article on "Statice profusa," p. 379.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 5 & 6, CLEMENT'S INN, STRAND, LONDON, W.C. *Business communications should be addressed to "The Publisher." Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Laying out a Garden.—*A. J. Stonemans*: A study of your plan and your desires gives us the impression that you want to get the greatest amount of pleasure out of the space at your command, while the plan of it must be simple and the after-maintenance of the garden easy or inexpensive. If so, the plan is recommendable in more ways than one. You do not give an outline of the dwelling-house, but from the position of the front window we take it for granted that it occupies the remainder of the frontage to the left of the scullery. Taking this supposition for granted, and that the length you give (50 ft.) extends from the back of the house to the southern end of the garden, the grass plot must be the principal feature of this garden. You do not say whether the garden is surrounded by a wall, fence or merely iron railings. If the latter you might desire a hedge of some sort so as to give shelter and secure privacy. This might consist of Hornbeam, Lombardy Poplars, or Golden Privet (Ligustrum ovalifolium aureum), according to taste. It could be restricted to any desired height. If you have a wall or fence round it you could then grow fruit trees and bushes upon it or cover the whole with ornamental climbers, according to liking. Then have a gravel path 4 ft. wide made along the back of the house. Round each side and the far end of the garden make a border 4 ft. wide, edging it with box or ornamental tiles. This would do for hardy herbaceous plants, annuals, &c. Next to this should come a gravelled footpath 3 ft. wide all round the garden, parallel with the border. The remaining space should be levelled and sown down with grass seeds. The grass plot, according to your figures, should be 39 ft. long and 20 ft. wide. You desire some evergreens which could be planted in circular or oval beds, or in some other simple designs. These beds could occupy the southern end of the grass plot, leaving the more open grassy space open for tennis or croquet ground, &c.

Creepers, Roses and Evergreens.—*A. J. Stonemans*: Amongst climbers that we should recommend as highly desirable are the Japan Ivy (Ampelopsis tricuspidata), generally known as Ampelopsis Veitchi, the Common Jasmine (Jasminum officinale), the Honeysuckle (Lonicera Periclymenum), Clematis Jackmanni, Magnolia grandiflora (easily trained though not a climber), and Jasminum nudiflorum for winter flowering. For the bottom of the walls you might use Crataegus Pyracantha Lelandi, Ceanothus Gloire de Versailles and Cotoneaster microphylla. In the way of Roses you might plant the Tea Rose Gloire de Dijon, Felicité Perpetué (evergreen), Crimson Rambler (a Polyantha Rose), Aimée Vibert (Noisette), pure white, vigorous and very free; and the semi-double, orange-yellow Rose Fortune's Yellow (Noisette). Evergreens for the garden beds might include Silver Queen and Golden Queen Hollies, Osmanthus ilicifolius, Olearia Haastii, Euonymus japonicus aureus maculatus (golden-blotched Enonymus), the Golden Privet (which retains its leaves in mild winters), the golden-leaved Box, Rhododendrons in choice varieties, Azalea amoena, and any of the choice varieties of dwarf Conifers, of which we could name a list if so desired. You may also have further information on any of the above by asking.

The Fruit of the Reed Mace.—*Omega*: It is not proper to speak of the fruiting portion of Reed Mace as a seed-like pod. The brown or black portion is made up of a large number of flowers closely packed. Later on the flowers give rise to a similar number of closely packed fruits. The proper term for the whole mass is a spike. These are really two spikes, the male spike on the top, and the female spike lower down on the same stem. After the pollen is shed the male spike mostly crumbles away, leaving only the female which carries the fruits just mentioned.

Best Wood for Garden Labels.—*Omega*: As a soft, clean wood, easily written upon with pencil, White Pine would be the best if you can get it. Good, clean Deal, otherwise Scotch Fir (Pinus sylvestris), would answer as well and prove more durable in proportion to the amount of resin in it The resin is not good to write upon, however, so that softer and whiter pieces would answer better for labels, provided always that it is clear of knots and is not cross-grained. Zinc labels require no particular preparation for outside work. All you want are the labels and some ink of the kind prepared specially for writing the names on zinc. Both labels and ink you could get from dealers in the same, with instructions, if necessary, from the dealers in garden sundries.

Cultivation of Peppermint.—*M. V.*: As far as we know there is no special book on this subject. There are botanical books on Mint or Mentha, but they are not likely to give any details on the cultivation of the same for commercial purposes. With land, irrigated in the way you mention, there should be no difficulty in growing good crops. All you need do is to set out the plants in straight lines, about 20 in. to 24 in., as under. The stems are cut when in full flower. Two varieties are cultivated for commercial purposes at Mitcham, namely, Black Mint (Mentha piperita vulgaris) and White Mint (M. piperita officinalis). The White Mint yields the best oil, so that you should endeavour to get this true and propagate it as fast as you can by cutting and by division of the underground stems or creeping rhizomes. Mint is also cultivated for medicinal purposes at Mitcham, Lincoln, Cambridge, and Herts

Names of Plants.—*D. M.*: 1, Jasminum nudiflorum; 2, Vinca major; 3, Eranthis hyemalis.—*W. C.*: 1, Pieris floribunda; 2, Erica carnea; 3, Lastrea Filix-mas cristata; 4, Polypodium vulgare cambricum; 5, Primula floribunda.—*R. M.*: 1, Sedum sarmentosum variegatum; 2, Ornithogalum arabicum; 3, Selaginella kraussiana variegata; 4, Agapanthus umbellatus variegatus.—*A. M. C.*: 1, Cattleya Trianaei var.; 2, Odontoglossum andersonianum; 3, Cypripedium longifolium.—*W. K.*: 1, Pinus austriaca; 2, Sequoia sempervirens; 3, Thuya occidentalis; 4, Thuya gigantea.

Communications Received.—L. H. (next week). —J. S.—A. D. W. (next week.)—W. B. G.—D. Dingwall.—J. C.—A. L.—H. W.—A. R.—E. T.—W.

TRADE CATALOGUES RECEIVED.

JOHN TURNER, North Street, Wetherby, Yorks.—Catalogue of Vegetable Seeds, Flower Seeds, Seed Potatos, Window Plants, Bedding Plants, Chrysanthemums, Dahlias, Roses, &c.

J. LAMBERT & SÖHNE, Trier, Rheinprovinz, Germany.—Price List of Vegetable and Flower Seeds, &c.

SUTTON & SONS, Reading, England.—Sutton's Farmers' Year Book and Graziers' Manual.

ED. WEBB & SONS, Wordsley, Stourbridge.—Webb's Annual Catalogue of Farm Seeds and Manures.

DICKSON, BROWN & TAIT, 43 and 45, Corporation Street, Manchester.—Dickson, Brown & Tait's Catalogue of Farm Seeds.

HARLAN P. KELSEY, Tremont Building, Boston, Massachusetts, U.S.A.—Galax Leaves and Leucothoë Sprays; also Prices of Ginseng Roots and Seeds.

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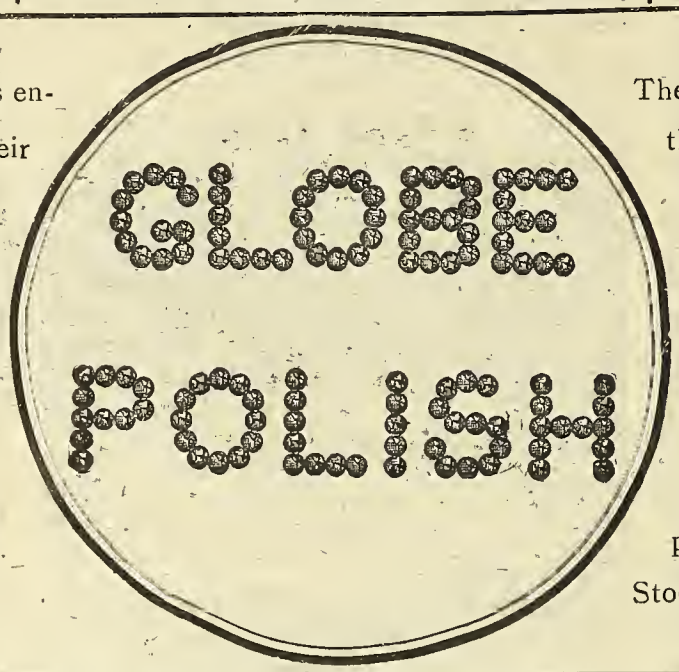

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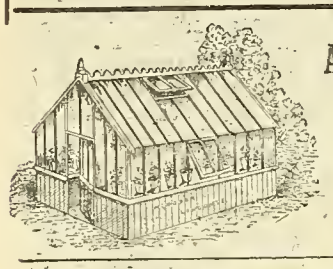

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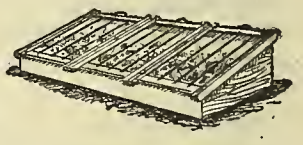

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The Gardening World

Edited by J. FRASER, F.L.S.

SATURDAY, FEBRUARY 23rd, 1901.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, February 26th.—Royal Horticultural Society's Meeting at the Drill Hall, Buckingham Gate, Westminster.

THURSDAY, February 28th.—Kew Guild Annual Meeting.

ROYAL GARDENERS' ORPHAN FUND.—The report and statement of accounts of this charity for the year 1900 shows it to be in a very prosperous condition. The receipts from all sources show an increase of over £100 on the previous year, notwithstanding the strain to which most charities were subjected from circumstances for which they were not responsible. The amount disbursed in aid of orphans was the largest ever paid during any one year since the establishment of the Fund in 1887, namely £1,033 12s. 6d. The grants in aid to children, after reaching the age of 14, to assist them in making a start to earn their own livelihood, were also greater than in any previous year, so that the subscribers to the Fund as well as the committee have reason to be thankful at the prosperous condition of the charity that has so fortunately been able to meet the demands made upon it. Others waiting for election have also received assistance.

Numerous letters that have been received from mothers of children, thankful for the kindly hand of assistance, ring the true note of acknowledgment of the services rendered to the unfortunate by the Fund. During the past 12 years of the existence of the Fund, up to December 31st last, 127 orphans, elected to the benefits of the same, had received allowances amounting to £8,744 15s. The orphans upon the Fund at present, exclusive of the 12 elected on the 15th inst. and the four voted to it, number 70. All this should be gratifying to the subscribers all over the country and act as an incentive to continued strenuous endeavour in the good cause. One other item of a gratifying nature that may here be mentioned is the sum of £135 that had been received from the Reading Gardeners' Improvement Association, and which had been collected by the members and supporters of the association, to perpetuate the memory of the late Mr. James Martin, nursery foreman to Messrs. Sutton & Sons, Reading, and who was so well known and highly appreciated by a wide circle of friends in many parts of the country.

Since the founding of the institution in 1887 in commemoration of her late Majesty the Queen's Jubilee the original committee have been dropping away either by death or retirement by reason of increasing age or necessity for more leisure to carry out their own particular duties, until few of them now remain. The ranks, however, continue to be filled up by younger men eager and willing to render their services to a good cause. By such means the subscribers may rest assured that the heart of the institution will be kept green and vigorous. One of the features or important items of the meeting was the sympathetic reference to the death of our late Sovereign Lady Queen Victoria, and the illuminated address to her Majesty Queen Alexandra, who, as Princess of Wales, has been patron of the Fund for many years past.

The list of candidates seeking for election again repeated the oft-told tale of human misfortune in many a previously happy home. After enquiry in the proper quarters in each respective case of application, 14 candidates were placed upon the list, of whom 12 were to be elected to the benefits of the Fund. Since the list was closed, however, two more very urgent cases came under the cognizance of the committee and the circumstances investigated prior to the day of election. The officers and members of the executive committee felt they could hardly do anything to help these two fresh applicants without first espousing the cause of the two unsuccessful candidates. The difficulty was disposed of by the announcement from the chair that the Fund was able to support all four. Naturally, this was received by the audience with feelings and indications of thankfulness and surprise. Then Harry J. Veitch, Esq., one of the vice-presidents, proposed that these four additions be elected to the benefits of the Fund. This was seconded by G. Monro, Esq., and carried unanimously to the great satisfaction of all present. This method of dealing with a difficult question is not without precedent, but never before, in our recollection, have so many as sixteen been elected at any one annual general meeting. All of these items have been more fully dealt with in our report of the meeting on another page.

Hablitzia tamnoides is a fast growing perennial herbaceous climber of much elegance and beauty, and specially suitable for covering old houses, palings, stakes, &c. It enjoys a rich, friable soil and a sunny position.

Chester Natural Science Society.—The subject which engaged the attention of the members of the above at the general meeting on Thursday evening, February 14th, was a lecture by the Rev. W. N. Howe, M.A., on "The Seine, from Rouen to Paris." The chair was taken by the Rev. A. H. Fish. The lecture was illustrated by over eighty beautiful lantern slides, taken from photographs, paintings and original sketches.

Chester Paxton Society.—On account of the death of the Queen, the usual fortnightly meeting was postponed till last Saturday, when Mr. John Jackson, Carenhurst Hall Gardens, read an able and instructive paper on "The cultivation of the Vine in houses constructed for plant culture." He dealt with the various phases of the culture of the Grape, from the time of planting to the ripening of the fruit, and described in a lucid manner the results of his experience, extending over a period of twenty odd years. The troublesome insect and fungoid pests, with which Grape growers are so much troubled, were also included, and valuable hints as to exterminating and keeping them in check were given. A discussion, which was led by the chairman, Mr. John Weaver, followed the reading of the paper. On the proposition of Mr. N. F. Barnes, seconded by Mr. Miln, a hearty vote of thanks was accorded to Mr. Jackson.

Correction.—Our report of the Royal Horticultural Society last week, p. 396, middle column, stated that Messrs. H. Low & Co., Bush Hill Park, Enfield, exhibited Cattleya Trianaei pitiana, but should have said C. Trianaei Titania. Cypripedium Gertrude Hollington was not amongst their exhibit; but owing to the mixed way in which the plants are stood on the table of new plant it is often very difficult if not impossible to say to whom they belong.

R.H.S. Examination.—Intending candidates for the above examination to be held in April are reminded that their names should be sent in to the secretary, 117, Victoria Street, Westminster, S.W., before the end of the present month. Next year (1902) the questions set at the examination will be of a more advanced character, it having been found that the present syllabus is too elementary for the bulk of those who enter. We think that if the marking by the examiners was a little stricter, the present syllabus would still suffice as a good test.

Professional Gardeners' Friendly Benefit Society.—The members of the above society, whose headquarters are in Leeds, met at the "Green Dragon" hotel, on Friday, February 8th, to discuss the thirty-fourth annual dinner. The president, Mr. J. Inman, occupied the chair. After the loyal toast had been honoured, the secretary (Mr. G. Carver) presented the annual report. It stated that, owing to the great amount of sickness which had occurred amongst members during the year, the expenditure had considerably exceeded the income. The amount paid out in sick allowance was £139 19s. 2d., and in funeral allowance £37, the total payments for the year being £200 9s. The income from all sources came to £150 14s. 3d, thus leaving a deficiency on the year's working of £49 14s. 9d. This, deducted from the amount of capital at the end of 1899, left the latter at £1,200 2s. 4d, which was equal to £8 12s. 8d. per member. After mentioning that the present membership of the society was 139, the report stated that during the year Mr. W. Sunley was presented by the members with a cash testimonial of £6, as a token of respect and appreciation of the valuable services rendered by him as secretary of the society for upwards of thirty years.

Liverpool Horticultural Association.—A meeting of the above was held at the society's offices, on Saturday evening, Mr. T. Foster presiding over a fair attendance. The subject "Vegetables for Exhibition" was in the capable hands of Mr. B. Ashton, of Lathom Hall Gardens, who, by his successful exhibits at the leading vegetable shows, has placed himself in the position of one fully able, and as the results proved most willing, to give the fullest details in producing the highest results. In the culture of the Potato the ground should be trenched or bastard trenched as required in the autumn; fork over previous to planting, cut out a trench for the tubers, giving a liberal dressing of manure and covering the sets with 1 in. of leaf mould or burnt rubbish. In preparing for the show the tubers should have a treble bath, the first to take off most of the dirt, the next to have a small quantity of soft soap added and the tubers to be carefully washed with a sponge, then having a final rinsing in the third. Shape and equal size were mentioned as two important factors to meet the requirements of the judges. Onions should be sown in a temperature of 60° to 65° in January, pricking off as required, planting out about the middle of March, weather permitting. Onions, to get full points, should weigh not less than 2½ lb., Ailsa Craig being the variety recommended. Peas should not be less than 6 ft. from row to row. A trench 2 ft. deep and the same in width should be prepared, including plenty of manure. Mulch and water freely, stop the growth after some few trusses of flowers have shown themselves, and thin out the pods. Be careful not to handle in picking. Scarlet runners may be treated in a similar manner. Celery and Leeks should have a liberal preparation, giving 6 in. of manure; grow quickly by giving plenty of liquid manure. The questions and discussion that followed were more than could be got through in the allotted time, showing the importance attached to the subject. On the motion of Mr. R. Pinnington, seconded by Mr. J. Stoney, the warmest thanks of the meeting were accorded to Mr. Ashton for his admirable paper. A like vote to the chairman concluded the proceedings.

Weather in London.—The past fortnight has been exceedingly winter-like in London. At Chiswick, Kew, and other places as much as 18° of frost have been experienced on one or two nights. Snow fell heavily for a short while on Sunday, February 17th, and frost set in afterwards. On Monday and Tuesday light showers were frequent. The latter day was "raw" and black.

Chiswick Gardeners' "Mutual."—Mr. J. Harrison Dick (GARDENING WORLD) gave a lecture before the members of the above society on Thursday evening, February 14th, his subject being:—"Loudon, his Life and Works." A brief review of the state of country and of gardening prior to Loudon's birth in 1783, was given, the lecturer then relating the chief events of interest in the life of this interesting and wonderful landscapist, literateur, and botanist. In the after-discussion some valuable observations were made, and in conclusion, Mr. Dick received a unanimous vote of thanks.

Kew Gardens.—Mr. Benjamin P. Ware, Vice-President of the Massachusetts Horticultural Society, recently read a paper before the above society on "A Visit to Kew Gardens and Hampton Court." An abstract of the letter appears in *The Weekly Florists' Review*. We extract one sentence, which says "Kew Garden is so accessible, so beautiful, and so instructive that it is not surprising that from 60,000 to 80,000 people visit it during the season annually." We may correct this by saying that so many as 90,000 have been registered in one single day—an August Bank Holiday.

Reading and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of the above association was held on Monday, the 11th inst., when the president, Mr. Leonard G. Sutton, presided over a large attendance of members. The paper for the evening was "Greenhouse Flowering Plants for Summer Bedding," by Mr. F. Townsend, of Sandhurst Lodge Gardens (son of Mr. W. Townsend, the head gardener). The subject was ably dealt with, and the following varieties were strongly recommended for the purpose, viz.: Abutilons, Aloysia, Begonias, Bougainvillea, Cannas, Diplacus, Erythrinas, Fuchsias, Heliotrope, Habrothamnus, Hydrangeas, Lasiandra, Lobelia cardinalis, Nicotiana, Plumbago, Streptosolen, Salvias, Swainsonia, Scented Pelargoniums. During the discussion which followed, Mr. Townsend was congratulated on the able manner in which he had presented his subject, and also, on being the youngest member that had as yet read a paper before the association. Mr. E. S. Pigg, The Gardens, Samoa, Reading; and Mr. H. Wilson, The Gardens, Lower Redlands, Reading, were awarded the association's Certificate of Cultural Merit, the former for a beautiful batch of Narcissus Van Zion, and the latter for a collection of Apples including Newton Wonder, Wellington, Baxter's Pearmain, Cox's Orange Pippin, Ribston Pippin, Sturmer Pippin, Reinette du Canada, Gascoigne's Scarlet Seedling, &c. Mr. W. Townsend, Sandhurst Lodge Gardens, made a most interesting exhibit of plants of Centradenia rosea. This was not entered for the Certificate. Four new members were elected. Before closing the meeting the president and members took the opportunity of heartily congralulating Mr. G. Stanton, of Park Place, Henley-on-Thames, on the distinction that had been conferred on him by the French Government in nominating him Chevalier du Mérite Agricole. Mr. Stanton in replying said that the nomination came to him as a surprise. He received an official letter from the French Minister of Agriculture through the French Ambassador in London, informing him of the fact. A few days later came the full insignia of the order subscribed for by old French pupils with advice that the parchment diploma would follow in due course. Why was this honour conferred? For acts of kindness shown in days of the past to young French gardeners who came to Park Place Gardens for improvement in horticulture. These young men are now become or becoming some of the leading horticulturists in France. He felt that the greatest pleasure connected with the honour was the credit it gave through him to Park Place Gardens, where thirty years of his life had been spent, and also to the Reading and District Gardeners' Mutual Improvement Association, of which he had been a member for many years.

Twelve tons of charcoal are produced from an acre of forest.

Beckenham Horticultural Society.—The annual meeting was held on Tuesday, February 12th. The chair was taken by the Rev. Arnott, president of the society. Dr. Stilwell, the hon. secretary, gave a report of the society for the last year. There was a falling off of £23 in the subscriptions, owing to many leaving the neighbourhood and others being on their holidays. The receipts were £365 19s. 9d. The show was not patronised so well as hitherto, owing chiefly to the heat, and many away on their holidays. There was a balance of £24 17s. 7d. It was thought that it would be an advantage to the society to hold the show on July 10th this year. A slight alteration was made in the rules, and the committee nominated. After the other routine of business was gone through, a vote of thanks was accorded to the president for his kindness in taking the chair. On Friday, February 22nd, Mr. Beckett will give a paper on "Vegetables for Exhibition."

Webbs' Annual Catalogue of Farm Seeds and Manures.—Though a farm seed catalogue does not usually demand so much detail, from the fact of more limited variety of subjects, as a catalogue of garden seeds does, we are at the same time forced to confess that Messrs. Webb & Son's farm seed publication sent out from Wordsley, Stourbridge, is very respectable in dimensions indeed. Its size is over 10 in. deep by 8 in. broad, and includes fifty-five of these large pages. As in the case of Messrs. Webbs' garden seed catalogue, that of the farm seeds is attractively illustrated by beautifully executed half-tone blocks. Complete lists of grasses and Clovers for permanent pastures, are furnished, and tables also, to show what quantities are recommended for light, medium, or heavy soils. Messrs. Webb receive thousands of reports from agriculturists testifying to the success of these mixtures in every county of England, Wales, Scotland, Ireland, and all parts of the world. It may further be noted that purity and germination are guaranteed. Mangolds, Swedes, field Cabbages, Carrots, Parsnips, Sugar Beet, Clovers and the general farm crops are in each case fully described, and all the varieties of each, for every agricultural purpose, are enumerated. To the home farmer, as well as the director of a thousand-acre farm, Webbs' farm seed catalogue will certainly be a *vade mecum*. In the section devoted to manures it is only necessary to say that the thoroughness that characterises the foregoing parts is evidenced also in this section. Special manures for all the different crops have been prepared and are offered to suit the needs of all classes of agriculturists.

Syndical Chamber of Belgian Horticulturists.—At the meeting of this body in conjunction with the Royal Agricultural and Botanical Society of Ghent, on the 3rd inst., Certificates of Merit were awarded to Oncidium crispum aureum, exhibited by M. L. P de Langhe-Vervaene, of Brussels; to Cypripedium nitens Excelsior (leeanum × villosum), (with unanimity), C. leeanum superbum × Boxalli, C. eilersianum, and C. Madame Fl. Stepman (leeanum × villosum), all presented by M. Fl. Stepman, of Brussels; Anthurium Mdme. Dalliere (by acclamation), and Odontoglossum Alexandrae (with unanimity), both shown by M. Louis de Smet; Cypripedium Souvenir du Baron Osy, shown by M. de Craene-Longhé, of Brussels; Cypripedium hybridum leeanum × Boxalli (with unanimity), presented by the society La Lys, Ltd., of Deynze; to Cypripedium Pauli, Cypripedium seedling, and Odontoglossum Alexandrae, all exhibited by M. L. Draps-Dom, of Laeken-Brussels. A Certificate for Culture and Flowering was awarded to Odontoglossum andersonianum, and an Honourable Botanical Mention for Peperomia species, both shown by M. M. Verdonck. Honourable Mention for Flowering was also accorded to Odontoglossum grande, shown by the La Lys Horticultural Society, Ltd. Honourable Mentions were also accorded to a lot of Primula, shown by M. F. Vanderhaeghen, of Brayne; Cypripedium insigne montanum × Boxalli atratum, presented by M. Fl. Stepman; to a cut flower of Laeliocattleya Binoti (hyb. nat.) L. pnmila × C. bicolor, shown by M. le Marquis of Wavrin; Cattleya Trianaei, shown by La Lys Horticultural Society, Ltd.; and to Cypripedium seedling, presented by M. L. Draps-Dom. Laelia autumnalis, from the same exhibitor, the jury wished to see again.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, February 26th, in the Drill Hall, Buckingham Gate, Westminster, 1—4 p.m. A lecture on "The making and unmaking of flowers" will be given by the Rev. Prof. Geo. Henslow, M.A., at 3 o'clock.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of the society was held at St. John's Parish Room, Redland, on Thursday, 14th Inst., a good attendance being presided over by Mr. G. Brook. Mr. W. G. Smith, of Knowle, was the lecturer on the interesting subject, "Insect Pests." The lecture was illustrated with a lantern exhibition of slides, prepared for the Board of Agriculture by Miss G. E. Ormerod. Mr. Smith, who is an expert in the science of entomology, dealt with the subject very fully, giving in each case the life history of the insect under discussion, the particular kind of crop most liable to attack, and the methods most likely to prevent or eradicate the pests, in which the judicious use of lime, soot, and salt played a considerable part. Amongst the wide range of insects treated which the lecturer proved to be the enemies of gardeners were the wireworm, Crane fly, Carrot fly, Turnip fly, Cherry Saw-fly, Clover weevil, Cabbage butterfly, Wheat butterfly, the many forms of aphis, Rose fly, Mole-cricket, wood-wasp, scale, thrips, Garden Chafer, earwig, &c. Several questions were asked Mr. Smith, to all of which he kindly and clearly replied, and the hearty thanks of the meeting were accorded him for his attendance, the hope being expressed that the society might at some future time again have the benefit of the sound knowledge possessed by him on a subject of so much importance to gardeners. Prizes offered by the chairman for two Cyclamens caused keen competition, the awards going to Messrs. Clark, Raikes, McCullock, and Price.

Ealing Gardeners' Society.—There was a very good attendance of members on the 12th inst. to hear a paper on "Plant Diseases and Advertised Remedies," by Mr. A. Pentney, of Staines Road Nurseries, Hounslow. Mr. C. B. Green presided, and in introducing Mr. Pentney to the meeting referred to his past services to the society, and also to his abilities in the matter of observation and experiment. Mr. Pentney then gave an excellent *resumé* of opinions on the subject, and added his own experience in the matter of "remedies," some of which, he insisted, were worse than useless; in fact, the proper designation was "quackery." Gardening—especially in relation to this branch of it—was largely empirical, and much money and time were spent in making experiments which gardeners could ill afford to waste. Mr. Pentney detailed some of his own trials, and generally afforded the members a large amount of information on this knotty question. The discussion was pretty freely taken up, and much interest was exhibited by the members, the result, however, being a decided recommendation to use only those insecticides which were advertised by well-known and respectable vendors. The subject of plant diseases in relation to cultivation also received some consideration. The usual hearty vote thanks was duly accorded. An exhibition of groups of plants on tables resulted in a keen competition. Mr. T. R. Hogg, gardener to A. G. Dixon, Esq., Madeley Road, Ealing, had a well arranged group of Palms, Cattleyas, Primulas, Hyacinths, Tulips, Begonia Gloire de Lorraine, and Panicum variegatum, for which he was awarded first and a Bronze Medal by Mr. R. Pinches, of Crown Street, Camberwell. Mr. C. Long, gardener to E. P. Oakshott, Esq., of Montpelier Road, was a good second; Mr. H. Holloway, gardener to E. Hyde, Esq., of Castlebar, came in third; while Mr. G. Woods, gardener to Mrs. Willey, of Aston Road, was a respectable fourth. R. D. Preston, Esq., of Ealing, generously supplied the funds for this interesting display.

LEGAL NOTES.

THE SELLING OF WEED KILLERS.

PHARMACEUTICAL SOCIETY *v.* WHITE.

DURING the last twelve months or more the horticultural press, as well as the papers that watch the interests of such industries as that of drysalters, oils and colourmen, and many kindred trades, have had on numerous occasions to record the annoying interferences of the Pharmaceutical Society with agents of chemical companies and retailers of poisonous compounds for trade purposes, whose business has never before been molested. Horticulturists are most conversant with facts from the test case of the Worcester florist and seedsman named Mr. J. H. White. The position in which White acted was purely that of an agent for the Boundary Chemical Co., Ltd., of Liverpool. Mr. White hooked orders for a weed killer from anyone who came to his shop, would receive the money, and give a receipt for it. He did not, however, keep the weed-killer in stock, but would send the order on to the Liverpool company, and the company would deliver the weed-killer. The defendant received 25 per cent. of the price of the weed-killer as his commission, accounting to the company quarterly for his receipts from the sale of the weed-killer, and deducting the 25 per cent.

An order for a two-gallon drum of the weed-killer having been made on one occasion, the Pharmaceutical Society resolved to make a test case of it. The action came before the County Court Judge at Worcester, and here the defendant's evidence showed that he simply took orders and sent them on to Liverpool to the firm for which he acted as agent, but that he did not keep it in stock, as the law did not allow him. The defendant showed the purchaser a circular of the Liverpool company, the defendant's name being on the circular as agent. The defendant told the purchaser that the order could be sent direct or that he, the defendant, would send it on for him. The purchaser then asked the defendant to send for two gallons of weed-killer for him. The purchaser also asked the defendant if he should pay him, when the defendant told him that he might do so if he liked, or send the money direct to the firm in Liverpool. The purchaser paid him. The defendant gave him a receipt, the receipt being headed, "Bought of the Boundary Chemical Company (Limited)." Many of the defendant's customers asked him to get the weed-killer for them, and it was always sent to them direct from Liverpool. The County Court Judge gave judgment for the defendant upon the ground that he was not the seller within the meaning of section 15 of the Pharmacy Act, 1868; and he found as facts that the defendant acted *as agent only*, and that he was in the position merely of canvasser for orders for the Boundary Chemical Company, with authority to receive money on their account.

Thus the Pharmaceutical Society lost the County Court case, but they carried the action to the Divisional Court, before Mr Justice Grantham and Mr. Justice Channell, when again judgment was given against them. And so, as we stated in last week's issue, this interesting and important case engaged the attention of Lord Justice A. L. Smith (Master of the Rolls), Lord Justice Henn Collins and Lord Justice Romer, in the Appeal Court, on Wednesday and Friday, February 13th and 15th respectively. Mr. Danckwerts, K.C., and Mr. T. R. Grey appeared for the Pharmaceutical Society (the appellants), and Mr. C. Cavanagh and Mr. Orr (instructed by Messrs. Dobbs & Hill, of Worcester, and 5, Clement's Inn, London), represented Mr. White, the defendant.

Mr. Danckwerts, K.C., and Mr. T R. Grey contended that the contract of sale was complete when the order was taken and the money paid for the goods and the receipt given. The "seller" within the meaning of section 15 of the Pharmacy Act, 1868, as defined by section 17, was the person who made the contract, and therefore the defendant was liable. They referred to "Pharmaceutical Society *v.* Wheeldon" (24 Q.B.D., 683), "Pharmaceutical Society *v.* London and Provincial Supply Association" (5 App. Cas., 857), and "Stallard *v* Marks" (3 Q.B.D., 412).

Mr. Cavanagh, for the defendant, was not called upon.

The Court dismissed the appeal.

The Master of the Rolls said that the County Court Judge gave judgment for the defendant upon the ground that he was not the seller within the meaning of section 15 of the Pharmacy Act, 1886.

The County Court Judge went on to say that he found as facts that the defendant acted as agent only, and that the defendant was in the position merely of canvasser for orders for the Boundary Chemical Company with authority to receive money on their account. The only question was whether there was any evidence to support that finding of fact by the County Court Judge, because if there was there was no jurisdiction to interfere with the finding. His lordship then read the evidence of the defendant at the trial, and explained that in the case of the "Pharmaceutical Society *v.* London and Provincial Supply Association" the House of Lords had dealt with the question of the meaning of "seller" in the Act. His lordship then went into the argument of Lord Selborne (see *The Times*, Saturday, February 16th, 1901) as expressed in connection with the above case in the House of Lords. Lord Justice Collins and Lord Justice Romer concurred in the judgment.

DEUTZIAS.

Among the many beautiful subjects available during the spring months for the decoration of the greenhouse, the dwelling-house, or for cut flowers, few are more attractive than the Deutzia. It is indeed a most accommodating plant and bears treatment that would be the death of many plants. It is easily propagated, and the present is a good time to make a start. Cuttings are easily procured from forced plants, choosing moderately firm ones, about 3 in. or 4 in. long, dibbling five or six round the edges of 4-in. pots in a light sandy compost, Plunge them in a brisk bottom-heat in a propagating frame, and in three weeks or so they will be nicely rooted. Pot off at once, so as to give the longest time for growth and ripening of the wood. The Deutzia being of a soft-wooded, free-growing nature requires a rich, open compost in which to grow. As soon as potted replace in propagating frame, or, preferably, a dung frame. As soon as they have taken to their shift and commenced to grow nip out the tip of each, so as to make them send out new shoots. They may send out more than is required, but they can be thinned, as five or six well-ripened shoots are preferable to a mass of soft, flowerless wood. Pot on as necessary into 5½-in. or 7-in. pots, harden off gradually, and place out of doors during summer to ripen their wood.—"*Brightspade.*"

GRAFTING ROSES.

Where a number of Roses of any special variety have to be rapidly increased the simplest and easiest method is by grafting or budding. When grafting is performed upon Manetti or Brier cuttings, these should be carefully dressed, removing all eyes from the stems below the points where they are to be grafted. Shoots of the varieties of the Rose it is intended to increase should then be got; head the stock down to where there is nice smooth bark, then cut a slice off one side of the stock about an inch in length, or less if the stock is not very strong. Then cut the scion to a suitable length, having one or two good eyes intact, but the fewer the buds the better. Cut a long slice off the scion opposite the lowest bud, so as to correspond with the slice taken from the stock. Fit the stock and scion together so that the heel or base, and at least one edge of stock and scion meet; bind it up with matting, giving it four or five turns, but not too firmly. Teas for pot culture are most frequently operated with in this way. After grafting, pot them and give a gentle watering. To assist a speedy union the plants may then be placed on a warm bed of fibre or hot-bed, the warmth from which encourages root action. If these buds are made in close pits, so much the better for the plants. When they begin to grow they should be gradually inured to greater ventilation, and in a short time they may take their places along with the ordinary stock plants.—*C.*

AMERICAN BLIGHT.

This pest requires special treatment in order to exterminate it from Apple trees, which it chiefly attacks. Unpruned and neglected trees are the most frequently overrun, but all are liable to it and injured by it, especially young trees, the bark of which is tender and easily pierced by the insects. Blight is conspicuous by the woolly bunches of white cottony substance congregated in scars and cracks in the stem and branches. This is quite common in summer. In winter the white substance disappears, but the insects are present. Close examination in summer reveals colonies in active condition. Those in a more advanced stage pierce the tender growths of the trees and feed on the sap out of them. This through time gives rise to warty growths, and spoils the young wood from coming into fruiting condition. In all places where they become established the insects breed and increase quickly. The best cure is to remove all superfluous growths, burning them as soon as cut; then dress the infested parts with this mixture: soft soap, ½ lb.; petroleum, 1 gallon; and 10 gallons of water. Dissolve the soap in hot water, add the petroleum, mixing well, and finally the rest of the water, mixing the whole with a syringe. Then work it into the infested parts with a brush.—*T. S. Dick, Castlemilk Gardens, Lockerbie.*

GLOXINIAS.

If we take into account their distinctness, their continuous flowering habit, and the exquisite colours they possess, it will at once be admitted that there are few subjects so well deserving attention as the Gloxinia. Seed should be sown now in equal parts, finely sifted loam and leaf mould, adding a little sand; drain the pots well, and make the soil firm on the surface. Sow the seeds thinly, covering them slightly; put the pots in a temperature of 70°, and keep the soil just damp. As soon as the seedlings appear place them close to the light or they will become drawn. When large enough prick out into shallow pans, using soil similar to that in which they were sown. When they have leaves an inch long, box off into light rich soil 3 in. apart, keeping them in a warm light house. By the end of May they will be ready to shift into a frame; one facing south on a partly spent hot bed suits best. Plant 6 in. apart and 9 in. from the glass. Keep the frame close for a time and shade them. When the plants get established, give plenty of air, but always from the back of the frame. Gloxinias enjoy abundance of water when growing, but in August it should be gradually withheld. When the tops are quite dead, lift and store them in a temperature of 45° until required for potting next season.—*Walter Hopkins, Leighton, Westbury, Wilts.*

GARDENIAS.

Young plants struck from cuttings last spring and potted on into 6-in. pots some few weeks ago are well advanced to the flowering stage and if large flowers are expected the two or more growths that push out close up to the flower heads, should have been pulled out as soon as the finger and thumb could lay hold of them, thereby throwing all the strength into the flowers. Keep them well syringed and near to the glass roof in a temperature of 60° to 70° by night with the usual advance to 80° or so during the bright sunshine. These plants after flowering will be shortened back a bit and encouraged with plenty of atmospheric moisture to break away strongly, sacrificing a few plants to take cuttings from when fit. The remainder will be slightly reduced at the ball and repotted into nearly the same size pot, using as a compost sound fibrous loam and peat in equal proportions with a good dash of coarse silver sand, and a little soot added. Keep near the glass and endeavour to build up well ripened shoots that should flower at every point during February and March of next year. Shift into 7 or 8-in. pots towards the end of August. The plants are benefited with a rest in a temperature of not lower than 58° during the night, say from the end of October until the first week in January, and a less quantity of water at the root also overhead will suffice while in that structure. Keep mealy bug and scale at arm's length. After the second year the plants should be thrown away. Much finer flowers are had from young plants; hence the advice to propagate a fresh batch each year.—*J. Mayne.*

AUTUMN SOWN ONIONS.

The present is a suitable time for transplanting the above, seed having been sown on a warm border about the middle of August in last year. In the selection of a plot of ground for planting out, an open position should be chosen, and if the ground was deeply dug and well manured in the autumn it will need but little preparation now. As soon as the surface is dry enough it should be well raked; light soil may be trodden, but naturally stiff soil is better not trodden more than is absolutely necessary. The Onions should be lifted carefully from the seed bed with a fork, the largest plants rejected as being most disposed to form flower-heads and the medium-sized plants planted in rows 1 ft. apart and 8 ins. apart in the rows. A dibber should be used and the operator should walk along with one foot on each side the line; he will thus avoid treading the ground that has to be planted, an important point when dealing with heavy soils. Care should be taken that the roots are kept straight and the plants not buried too deeply. After planting, the rake should be again drawn carefully through the rows, and all that is needed after will be the frequent application of the Dutch hoe. Onions averaging 1 lb. in weight may be obtained during July and August by following these details.—*Cantab.*

PRIMULA STELLATA.

To get large and useful plants of this beautiful variety of Primula the plants from this year's batch should now be picked out. Keep them upon a shelf in any cool greenhouse, keeping picked off any stray flower growths which may appear, also keeping them on the dry side for a short period. Then knock out the plants, taking away as much of the old soil as may safely be done without damaging the roots. Pot up into 24's and 16's, the sizes in which they are to flower. It is not advisable to pot on Primulas any more than can be helped, the compost used being two parts loam, two parts leaf soil, sand, and wood ash, potting the plants well up to the first leaf, there being about ½ in. of bare stem from which the roots will grow. Keep the plants when potted close in a warm pit for about a week. A light spraying overhead with the syringe is very beneficial to the plants. Plants treated in this manner will be found to make fine healthy stuff, valuable for cutting from, the flower being equal to that of those grown from seed, there also being more of them when used for cutting. The flowers should be gummed by a drop of floral cement being dropped into the eye of the flower, this, of course, making a lot of difference in the time the flowers last when cut and put in water.—*H. Fleming, Wexham Park Gardens, Slough.*

JOURNEYMEN.

I rather like the discussion in The Gardening World *re* journeymen, &c. It is well to enter a correspondence of this sort with a good amount of charity and common sense, to respect each other's ideas and out of the mass of correspondence to get something that will be a permanent benefit to ourneymen themselves. Of course, it is the duty of head gardeners to take a keen interest in young men under their charge who wish to learn the profession of gardening.

It is a noble profession and requires a good amount of intelligence and education to succeed, and the determined young man who is observant and takes note of all he sees will find something to learn in most places, and will put up with a certain amount of discomfort if he is learning his profession. Gardening is progressive and the treatment of many things to-day is totally different to the prevailing treatment say twenty years ago.

All young journeymen should study a little botany, drawing, land measurement, and chemistry of the soil. Landscape gardening is very important to know the plants most suitable for clay, gravelly and peaty soils. Grammar and geography are most important to a young man who intends to get to the top, and all these subjects can be fairly well improved on with the aid of *Cassell's Popular Educator*, and a good weekly paper, say *The Gardeners' Chronicle*, *The Garden* or The Gardening World.

These are subjects that are easily learned, and most young gardeners have a good bit of spare time in the evenings. If a young man intends to succeed he must have a good amount of self-respect, and these studies will make the time fly much quicker than thinking too much over some particular grievance.

Bothies in most gardens have been very much improved since I was a young man, but no doubt there are still a good many of the old sort; but improvement is now the fashion, and I hope that

before many years the bothy such as in the past will be a rarity.

Intelligent journeymen sbould certainly be better paid, bnt in most cases the head gardener can do lltte to assist in that respect. I should advise the journeyman to look up to the head gardener as his friend, and then there will be mutual confidence on both sides, which will be to their mutual advantage. The young gardener wbo keeps a diary shows that he is taking an intelligent interest in his work and certainly deserves encouraging.

Re large and small places, I do not think there is so very much in it. The young man who is employed in a small garden where four to six hands are kept will do well to try and get into larger places as he goes on. The largest places are not necessarily always the best or most comfortable, but to make a sound, practical gardener, a practical training is necessary. Therefore, the place where modern gardening is carried out tboroughly is the best place to finish off, whether medium or large.—*James Nicol, Hornby Castle, Bedale.*

As I am a journeyman myself, I would like to glve my say in this argument. As regards how mucb one can learn in a place, my idea is that it does not matter much whether it is a large or small place; bnt what does matter, is the use a fellow puts his time to. By visiting the different places in one's district, reading some of the many very practical books relating to the craft, and asking questions, &c., a lot will be learned of benefit to a chap no matter where be is situated, that is to say if he has any interest in his calling.

Mr. Dick says he would give "Peter Green" a shilling less in the week than he would "John Experience," a thing I do not think is at all fair. I expect he was once in the same boat as poor "Peter," and I am almost certain he would have grumbled if he had been expected to do the same work as "John Experience" and get a shilling less. I know I would not have liked it. I know some bothies are not all they shonld be, but judging from what I have seen, I think a lot depends on chaps themselves. I have had to do my share of tbe cooking along with the rest, but that was nothing as long as we enjoyed health and were happy and had the thougbt that "we micht gang farrer and fare waur." I think a bothy is preferable to the majority of lodgings. I have never seen a bothy either in England or Scotland where they had to make both a table and chair of their kits, except wben the 'prentice was punished for swearing at the table. If I had seen it that would have been enough for me. I must say tbe most of journeymen I have come in contact with keep a dlary and I keep one myself, but I aye like my supper first, as I consider it is a pity to let it spoil. I am pleased to say I am now in a bothy of the kind one seldom sees, and so am very comfortable. Hoping, Mr. Editor, I have not encroached on yonr space and thanking you in anticipation, I am, "*Carcluie.*"

Kitchen Garden Calendar.

It is now that all digging operations will be pushed forward, and whenever the soil is in a fit state it will be busily prepared for the reception of seeds or for plants. Heavy land, especially in nortbern gardens where so mnch rain has fallen, will be benefited by having lain undug till now. Heavy soil remains drier the firmer it is, and on these grounds it is well to leave the digging to as late a period as possible. Still, frost has a mellowing effect on land that is turned np in a loose state, and has greater scope to break down and make the snrface stratum friable. Gardeners, however, prefer to stick to the old practice of digging as mucb as possible as early as they can.

Parsley.—This always useful plant can be sown on a sheltered border in drills 15 in. apart and 1 in. deep. Cover the drills with finely sifted soil prepared for the purpose, and brought in a barrow. The seedllngs appear in six weeks' time, whence they may be thinned out so as to stand abont 6 in. apart. It is good practice to thin the plants, although not a few gardeners seem to think it wasteful to do so. The remedy lies in not sowing so thickly. When in growth, the Parsley should occasionally be dusted over with soot.

Potatos.—The earliest planted Potatos in frames will now have started, and may even be through the soil in some cases. Great caution sbould be exercised in tbe airing of the frames. More than likely too, watering will be necessary, but any water that is used should be tepid at least. On very well situated borders plantings of Ashleaf Kidney Potatos can be made.

Parsnips.—So soon as possible a sowing of Parsnips ought to be made in well prepared ground. Draw out drills 18 in. apart, 1½ in. deep, and sow the seeds tbinly. Where special culture is to be given for exhibition roots, holes should be made with a crowbar to a depth of 2 ft. to be filled with prepared soil. This soil should be made moderately firm, and a few seeds may be sown upon the surface. Mucb care sbould be exercised in thinning the plants, and in giving them at all times the earliest and best attention. The soil between the rows of such crops as Parsnips should be kept hoed. Even although there are no weeds it does the soil infinite good to be aerated by this surface stirring. Maltese, The Student, and Sutton's Tender and True are three of the best varieties of Parsnips.

Carrots may again be sown in frames, for as yet it is somewbat early for general open-air sowing. These young roots become usable in a week or two. Parisian Forcing, Sutton's Inimitable Forcing, and Carter's Long Forcing, can be depended on for such early crops.

Onions.—A sowing of Onions can be made on a south border. Another batch should be sown in boxes for planting out in April. Start the seeds in a temperature of 55° to 60° (placing glass over the boxes), and maintain them in a house with such a temperature till they are over an incb in height. Thence a cooler house will suffice, the plants having meanwhile been pricked off, until they are planted out.

Broad Beans and Peas may be sown as a succession to tbe earlier batch advised to be sown three weeks ago. These sowings in pots and boxes are much to be commended where a few dishes of very early Peas are desired. Even if only started indoors there are always chances of being able to plant out the potfuls in April if tbe weather is mild and genial. Much care would requlre to be exercised, bowever, as when plants, such as Peas, have been nurtured under glass, the chances are strong against a good set of pods, when they are placed out, in the later stages of tbeir growth.

Other sowings that should now be made for tbe kitchen supply include that of Tomatos and Cucumbers. Lettuces never come amiss, and the smaller salads such as Radishes, Mustard and Cress, should be kept up. Forcing must be continued for a considerable time yet. Asparagus, Seakale, and Mushrooms, are referred to in this connection. Garlic and Shallots may be planted at the present time. Sowings of Cauliflowers, French Beans, and Capsicums under glass, should also be made, while outside Round Spinach can be sown.—*Kitchen Gardener.*

WORK UNDER GLASS.

The present is one o the busiest months of the whole year, so far a gardeners are concerned. Much of the success in the garden during the summer and autumn depends on how much exertion the director of the garden bestows at this time. Without going into details about stove work just now, seeing tbat plant cleaning and potting are the chief operations, we find that there is still much to be done with the bedding supply. March will be upon us in a few days, and one can calculate about six or eight weeks after then for the beginning of the bedding period. Even in the north, in all favourable seasons, bedding has started by May 20th, and from then till the end of the first week in June the men are busy planting.

Of course, again, where the beds are filled with bulbous spring-flowering plants, Wallflower, Violas, Myosotis, dwarf Evergreens, and otber suitable subjects there is not the same need to have plants so early developed. But nowadays so many owners of rural gardens leave them and their mansions during the winter season for a sojourn abroad that no spring bedding is attempted, and the alternative is to have the beds filled early in summer or even before spring fades.

The bedding Pelargoniums may require to be boxed off; or potted, if there is space and sufficient pots. Begonias should be sought out and placed among leaf mould to start. When started and all are seen to be sound and good they may be boxed off, using a compost of leaf mould, some fresh loam, and old potting soil in quantities such as will provide a friable, medium mixture.

Dahlias for cuttings can be got into heat and treated much in the same way as the tuberous Begonias. The practice of raising Dahlias from seeds is not much attempted, but no doubt, by-and-bye, it will come mucb into vogue.

Sowings may also be made of Petunias, edging Lobelias, Dianthi, Celosias, annual Chrysanthemums, Ageratum, Pyrethrum Golden Featber, Phlox Drummondi, Nicotiana, Solannms, and Wigandias. It is quite early enough for some of these, such as the annual Chrysantbemums whicb develop rapidly, and which have to be kept hanging about for a prolonged period if the weather happens to be adverse in May. Many of the plants can be propagated by means of cuttings; these nsually producing the stoutest and strongest plants. Seedlings are usually laxer in growth, though there are no two opinions but that tbey flower very freely. Cuttings and newly potted plants should be kept close for a period. So long as the leaves are upheld freshly and plump the conditions are favourable, but too close an atmosphere, especially when it is at the same time moist, is often the cause of damping off. Plants not yet disturbed in their cutting pans or boxes are safer to be kept somewbat dry at the roots.—*D. K.*

Gleanings from the World of Science.

At the meeting of the Linnean Society of London, on February 7th, the undermentioned subjects were discussed:—

Address to the King.—The minutes of the last meeting having been read and confirmed, the president announced from the chair the terms of an Humble Address to his Most Gracious Majesty the King, which was unanimously adopted, all present rising from tbeir seats.

Linnean Correspondence. — The president called attention to the fact that the large collections of letters comprising the "Linnean Correspondence" and the "Swainson Correspondence" had recently been carefully arranged, and specially bound in folio volume, the latter series at the cost of the Hon. Walter Rothschild, F.L.S., and that a handsome bookcase for their reception had been presented by Mr. Herbert Druce, F.L.S. A vote of thanks to the donors was proposed and passed unanimously.

Property of some Vegetable Liquids.—The president, whilst demonstrating the property possessed by certain vegetable liquids, such as coco-nut milk, and the juice of the Pineapple and the Potato, to cause the oxidation of guaiacum tincture in the presence of hydrogen peroxide, a blue colour being produced, drew attention to the recent researches of Raciborski on the subject. Raciborski has made the interesting discovery that certain tissues of the plant-body, more particularly the sieve-tubes and the laticiferous tissue, contain some substance, to which he gives the name *leptomin*, whicb likewise causes guaiacum to turn blue in the presence of hydrogen peroxide, and has gone on to infer that this leptomin may be regarded as discharging in the plant a function analogous to that of haemoglobin in the animal body. The president urged, against this assumpton, that although both leptomin and haemoglobin give the guaiacum reaction, yet this fact does not prove tbat leptomin can combine with oxygen, and can act as an oxygen-carrier in the organism, in the manner whicb is so characteristic of haemoglobin; and that therefore the suggested analogy between the two substances is at least premature.

Provisional Nomenclature. — Mr. H. M. Bernard, M.A., F.L.S., read a paper, of which an abstract had been previously circulated, "On the necessity for a provisional nomenclature for those forms of life which cannot be at once arranged in a natural system." A discussion followed, in which Prof. Ray Lankester, Sir W. T. Thistleton-Dyer, Mr. Bateson, Mr. Elwes, and Prof. Jeffery Bell took part. It was proposed by Prof. Lankester, and seconded by Mr. H. J. Elwes, that the discussion be adjourned to another meeting and that resolutions be framed for submission to that meeting when called.

HINTS FOR AMATEURS.

NOTES ON COMMON PLANTS.

Ficus elastica.—The India Rubber plant is not usually associated in the average mind with the Fig plant or with the little climbing plant that covers the walls of our stoves, and known as Ficus repens. But, of course, they are all individuals of the same genus. This genus, as a whole, is most varied in habit, and is economically of great importance. The Fig tree, as we all know, has figured in literature from the very dawn of history, and its value and importance has in no way declined at the present day.

But we will confine ourselves to the India Rubber plant, or rather tree, for though we grow it as an ornamental conservatory and dwelling house plant, or for sub-tropical bedding, yet in its wide natural habitat in the East Indies, it usually grows as a stout independent tree. This species was introduced in 1815, the name being given by the botanist, Roxburgh. At the base of this tree are "butress roots," which radiate out in all directions, and they are never more than a few inches in thickness. Adventitious roots develop from the branches and grow downward into the soil, these becoming thicker and thicker during the advance of time until they form great pillars supporting the branches. The leaves are leathery and smooth, well suited, indeed, to resist the heavy rains to which they are subjected in their native habitat. In Ficus religiosa (supposed by some to be the Fig used by Adam and Eve for making their first aprons) the apex of the leaves runs out into a long point, called a "drip-tip," whose purpose is to facilitate the conduction of water from the leaves.

Caoutchouc is obtained from F. elastica by cutting notches in the stems of the trees, to allow the milky latex to ooze out. The trees must at least be twenty-five years old before the latex is obtainable. So many of the trees have been tapped, as it is called, for the latex that there is a danger of the supply running short. Legislation, we believe, has demanded that the planting of India Rubber trees must be performed in ratio to the extent of the destruction done by drawing off the latex. The trees are bound to suffer after persistent tapping. The price of rubber is rather high at the present time. Rubber trees are largely grown in British Central Africa, where the collecting of rubber has recently formed an industry around Zomba.

In conclusion it may be of further interest to add that the Ficus tribe or genus, including the Fig and Rubber trees, are linked in the same family as our common stinging nettles. The Hemp and the Mulberry are also members of the same natural order, so that our humble F. elastica has much more to commend it to our respect than most of us wot of.

Aspidistra lurida.—The parlour Palms have not quite so much interest for us from an economic or botanical standpoint, as had Ficus elastica, yet it presents points worthy of notice. For instance a great many people would be taken aback if you asked where the flowers appeared. The flowers are most peculiar. They just manage to get above the soil at the surface of the ball or mass of rhizomes, and in general appearance they resemble a sovereign's crown. They are creamy and mauve coloured, being so constructed that the "essential organs," that is, the pistil and stamens, are closed in a little fleshy casket. Only the smallest of insects are ever found inside, although some botanists suggest that the flowers are fertilised by small snails. The usual method of propagation is by division of the roots. Notwithstanding the immense quantities of this fine, dwelling house decorative plant that are yearly grown, we have seen well developed plants in 8 in. pots, beautifully variegated, selling for one guinea apiece, a price that pays. The price of a plant used to be reckoned at about 9d. a leaf. The species itself, with dark green leaves, should be grown in rich soil, whereas to bring out the white veining and variegation of A. l. variegata, the method adopted is to employ a limy compost, without manures. The Aspidistra is classified along with Liliums, Yuccas, Asparagus, Onions, Agapanthus, &c., in the order Liliaceae.

Fatsia (Aralia) japonica.—The plant widely known in gardens as Aralia Sieboldii, and sometimes as A. japonica, is properly named Fatsia japonica. No doubt the close resemblance in many of their more important features led to this species of the genus Fatsia being confused with the allied, though distinct, genus of Aralia. In Panax again, and also in the Ivies, the morphological characteristics all generally associate with each other, but at present these are separated into different genera from the presence of some more or less constant and outstanding features of their organisms.

Fatsia japonica is also named as the Castor-oil plant, but the true Castor-oil plant is Ricinus communis, a member of the order Euphorbiaceae, the oil being got from its seeds. Fatsia japonica is simply a useful ornamental plant and is almost hardy in the more sheltered parts of our Isles. Another Aralia, such as A. Ginseng, is extensively grown both in America and in China for the Ginseng medicine produced by the tubers. The Rice paper tree is also a species of Fatsia (F. papyrifera), whose appearance in its native country—Japan—must indeed be grand and dignified. The leaves are like those of F. japonica greatly enlarged. The name Dimorphanthus mandschuricus though nearly always employed by nurserymen and gardeners, is incorrect, Aralia being proper. All these belong to Araliaceae and the so called Castor-oil plant of gardens—the Fatsia japonica alias Aralia japonica alias Aralia Sieboldii has no intimate connection whatever with Ricinus communis which is, as I say, a member of the Spurge family, *i.e.* Euphorbiaceae. Fatsia japonica is largely propagated from cuttings of both the stem and the fleshy roots. Some of the stove species of Aralia are difficult to propagate other than by grafting on certain species.

Pillar Roses.—Now that the Tea, Hybrid Tea, Noisette, and Pillar or Climbing Roses have had so many fine varieties added to their lists, we find in the greater number of gardens that a Rose conservatory has been erected, or is at least contemplated. It is rather to be regretted that we cannot depend on Roses for a winter display. Our markets are supplied regularly with large quantities of Rose blooms in winter, but these are imported.

The Pillar Roses have at all times enjoyed a special popularity, and by all means let us uphold the feeling for them. It is true that they produce lots of straggling growths, and their presence may even abstract from the fullness of light required by the neighbours below or around them, but they will bear cutting in. Do not allow them to straggle about too much, and be very attentive to keep them clean, which being attended to one can enjoy an additional feature of interest and value along with the pot or bush Roses. All the Roses, however, should be planted out the same as these Pillar Roses, in the doing of which due care will be given so as to dispose them in the best positions for a healthy and vigorous growth.

Amongst the varieties specially useful for the clothing of pillars are Niphetos, Maréchal Niel, Lamarque, the Gloire de Dijon race, Catherine Mermet, Belle Lyonnaise, Cheshunt Hybrid, climbing Devoniensis (on pillars and roof), W. A. Richardson, Celine Forestier, Mdme. Bérard, Mdme. Chauvry, Bouquet d'Or, Medea, and Le Soleil.

The beauty of our Rose gardens and conservatories is very frequently marred by the abominable use of wooden stakes. If these were at once straight, elegant, and fitted for the purpose, there would be no objection to them, but in nearly all cases they are much too clumsy, and are apt to snap off when the plants develop to the larger sizes. Iron stakes or rods with tripod feet should be part of the furniture of the garden or Rose conservatory. In very large, span-roofed Rose houses, a system of planting might well be adopted where the Roses would form diversified groups in different shapes. Some of these groups might unite to form a rounded. umbrella-shape; others could be taken uprightly in imposing pyramids, while the pillar Roses and the bush plants would come in between. The danger would lie in overcrowding, but the thoughtful man would avoid harm from any such cause.

Present Work.—Vines should now be propagated from stout and well selected eyes. Place the eyes—about 1 in. in length—in small 3-in. pots, using a compost of turfy loam. Place these pots in bottom heat with a top temperature of 65° to 70°. When rooted pot off the Vines. Stove plants will occupy attention in the matter of potting and top dressing. Fruit houses in working order demand attention so far as airing, syringing, disbudding, and tying-in, and watering are concerned. Forced Roses should be taken from the pits to the cooler greenhouse when the buds are half opened. Supplies of shrubby and woody plants such as Spiraeas, Kerrias, Pyrus, and Prunus, should be brought into heat. Rhododendrons lifted from the open force easily. So do Tree Paeonies, German Irises, Dielytra, Honeysuckles, and other things. Clematis should now be root-grafted, and hardy Rhododendrons can be stem grafted.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Types of Clematises.—*L. F.*: On the authority of Mr. Thos. Moore, F.L.S., and Mr. Geo. Jackman the genus Clematis is divided (1) as climbing kinds, and (2) as non-climbing kinds. Then the next step is whether they flower on the (1) year old wood, or (2) the growing summer wood. Under these latter heads various "types" are taken. Thus we have the lanuginosa type with dispersed flowering habit, the Viticella type with massed flowers; and the Jackmanni type with large flowers borne in profuse, successional clusters; all of which flower from the young wood. C. montana, C. patens, and C. florida are types of those that flower on ripened wood. The genus is so large and varied that one would require a good deal of acquaintance with them before they could be all arranged in their proper divisions.

Garden Refuse as a Manure.—*J. C.*: When the vegetables and all the organic material that go to compose a vegetable manure heap is clean, a quantity of this material is very valuable on all the lighter qualities of soil. A good deal can be done to sweeten the composition by adding layers of unslaked lime to it when turning over the decomposing matter. Such stuff as vegetable mould supplies humus to the land and this humus provides nitrogen for one thing, also humic and other acids that act on the soluble constituents of the soil and render them fit for absorption. The nitrifying bacteria which are present in the soil in enormous numbers, require humus as an essential of their existence.

Potting Composts.—*F. F.*: We append a list of the plants usually found in the amateur's conservatory or stove, with a note on the sort of potting compost that will be found to suit them:—Two parts good fibrous loam, one part clean leaf mould, and one part sand. (Note that "part" may refer to a large or small quantity, but the proportions simply mean a double portion, or a half portion of *one*, which is accepted as the unit). The above compost will answer for Agaves, Aloysia (Lemon scented Verbena); Hippeastrums, Callas, Asparagus, Aspidistra, Auriculas (in pots), Begonias, Bougainvilleas, Calceolarias, Campanulas, Celosia and Cockscombs, Chrysanthemum, Cinerarias, Clematis, Cobaea scandens, Cyclamen, Harefoot Ferns, Eucalyptus, Fuchsias, Pelargoniums, Humea elegans, Hydrangeas, Mignonette, Myrtle, Oleander, Pancratium, Pandanus or Screw Pine; Pilea muscosa, the Artillery plant; Poinsettias, Primulas, Roses, Salvias, Smilax, and Solanums. Then for the undermentioned plants, a compost containing equal parts of loam, peat, leaf mould and sand:—Maidenhair Fern, Aralias, Ardisias, Asplenium, Bouvardias, Caladium, Canna, Clerodendron, Cuphea, Datura or Brugmansia, Epiphyllums, Erythrina, Gardenia, Gloxinia, Grevillea, Cestrums, Hellotropium, Hoya bella, H. carnosa, Jasminum gracillimum, Lantana, Lastrea, Passifloras, Pteris, Tacsonia, and almost any of the little edging and creeping plants.

Peach Trees.—*Reader*: The buds of your Peach trees must have been bored into by a weevil, probably a species of Otiorhynchus sulcatus, which you may discover by a careful examination of the trees at night by the aid of a lantern. The best way to get rid of these weevils will be to spread a white sheet under the trees in the afternoon, so that when you turn the light on the trees the weevils will fall on the sheet where they may be caught and destroyed. Your trees would perhaps benefit from an occasional spraying with Paris green. This can be had in the form of a

very fine powder, but much care is needed in the using of it, owing to its poisonous character. Employ it at the rate of 1 oz. per 15 to 20 gallons of water. Spray through a very fine nozzle, choosing a dull day for the operation. Even paraffin emulsion would prevent the likelihood of many insect attacks. Attend regularly to careful ventilating, watering, and thinning of growths. Cement all holes in the walls, and clear away all rubbish, boards, &c., from the Peach house that would afford them shelter.

Planting Lilies.—*F.*: You may still select and plant good bulbs of Lilium Henryi, L. pyrenaicum, L. pomponium, L. Browni, L. thunbergianum, L. odorum, L. Martagon, L. chalcedonicum, L. croceum, and L. Hansoni. Most Lilies like a cool, peaty soil, somewhat sheltered. Indeed, a position among dwarf growing shrubs, especially the Gbent Azaleas when in beds or collections, suits them admirably.

Open Air Peaches.—*R. S.*: A glass coping is really the best form of protection. Failing this a screen or curtain of tiffany or canvas should be fixed somewhere below the coping. This should be let down on all clear nights, and can be raised after the frost has gone. Herring nets are equally good for the purpose of protection, especially when a double or triple ply is used.

Sowing Sweet Peas.—*Frank Tait*: The soil should be deeply dug, and if very light a fair dressing of manure may be given. The seeds may be sown any time from the present, though those sown in April, or at least March, will grow away more quickly, and possibly much stronger.

Pruning young Vines.—*B.*: The canes can be cut back so soon as you have finished planting. The balls should be shaken to make the soil leave the roots, which ought then to be fully spread out and covered layer by layer, your aim being to raise the fibrous roots as near the surface as is consistent with the principles that rule their well-being. There should be no check given to the leading shoots during the first summer, but next winter they should be cut back to within 3 ft. or 4 ft. from the base. One or two bunches may be ripened on the young cane this year.

Please note change of address.

CINERARIA POLYANTHA.

THE making and unmaking of flowers are two phases in the art of gardening totally opposed to one another; yet both methods are capable of producing flowers that find a large number of admirers. By the making of flowers we mean the evolution of them along certain lines which have not only been approved and appraised by the gardening community, but believed by the same to be the best and most desirable form of development, or that coming nearest their ideal of perfection. The unmaking of flowers refers to the reduction of these highly developed forms to an earlier and simpler type, and more like, let us say, the wild originals.

The strain of garden Cinerarias, named C. polyantha, may be placed in the latter category, that is, they consist of flowers that have been reduced from the highest artificial stage of development to a more simple type. This has been brought about by crossing the wild Cineraria cruenta, of the Canary Islands, with varieties of the highly developed strain of greenhouse Cinerarias. The latter as is well known have been reduced to dwarf and squatty plants, while their flower heads have been greatly enlarged, and many rich colours imparted to them by cross-breeding and selection. For the front stages of greenhouses and conservatories these highly evolved plants no doubt serve their purpose; but a constantly increasing number of the gardening fraternity and admirers of flowers generally, think that the ordinary and highly developed garden race has lost its gracefulness and decorative value.

For some time past Messrs. J. Veitch & Sons, Ltd., Chelsea, have been crossing the garden race with the wild C. cruenta, and named the new race, so obtained, C. polyantha in allusion to the profusion of their flowers. The great corymbs or panicles of flowers are produced on long stems that stand well above the foliage, and give a group of plants a graceful elegance and artistic beauty that cultivators can hardly fail to appreciate, particularly those who have to furnish greenhouses, conservatories, corridors, and even dwelling houses, with something that will prove both novel and attractive during the winter and spring months. For all these purposes the polyantha strain is well adapted. In large conservatories and corridors the ordinary garden strain would be not only ineffective but entirely lost on account of their dwarf habit. The plants of C. polyantha on the contrary may be seen from a distance, while their lively and varied colours invite a closer inspection. Their light and graceful habit is well adapted for the brightening of mixed groups of plants where the ordinary garden Cineraria would be inadmissible on account of its massiveness and density. The accompanying illustration lent us by Messrs. J. Veitch & Sons, Ltd., will give some idea of the free and easy habit of the plants and their decorative character. In colour they already run through a multiplicity of shades from white to blue and violet, pink, lilac, rose, purple, and red. The individual blooms are small and starry, thus giving plenty of space for the great numbers produced on the branching stems. They are of the easiest culture, and make the finest specimens when raised annually from seed.

CINERARIA POLYANTHA.

NOTES ON THE VEGETABLE GARDEN.

January 5th.

IT is interesting to read the notes on this branch of garden management, and this is the more so when one can see where these are written from. Our good friend, Mr. Temple, of Carron House, often gives us some appetising reading under such headings.

I am hailing from West Dorset, and here the climate is vastly different from the north. All the same, I am apt to think we do not get as many advantages as our northern friends give us credit for. In proof of this, I may say, since I came here (twelve years ago) I have known spring Cabbages cut in a West Norfolk garden earlier than we have (200 miles west). This arises from the fact of our only having but little snow in very cold weather to protect things close to the ground, and with us the cold and biting winds often ruin the crop.

Many things thrive more satisfactorily where the transitions from heat to cold are not so rapid. Well, I suppose it is as the saying goes, "Everyone thinks his garden in a bad situation in some way." I am digressing and must hark back to vegetables.

Up to the present time (January 5th) there has been no frost to affect the green crops, but now there are indications of colder weather. We cut our last self-protecting Broccoli yesterday, and never have we had such a good crop of this, and Autumn Giant Cauliflower. In a large patch we had only one rogue. I have a lot of faith in sowing the best strains of seeds. The heads of Couve Tronchuda have been fine, as we sow early and plant in good land. It is to be regretted this is not more grown. No Brassica can surpass it for flavour, and when sown late it stands cold. Clou de Burghley I find most useful when sown at the end of May for cutting in spring,

Broccolis are all too forward and will suffer if severe frost comes. Cabbage plants are by far too large, and will either be injured by frost or run to seed. I observed the same thing in Norfolk and North Hants at the end of November. Turnips were never better; and that fine kind Orange Jelly is now in prime condition. Winter Onions are as forward as they are often at the end of April. Cabbage Lettuces are so large on a south border that I shall have to protect them. Celery is very good. My favourite kind is Major Clark's.—*J.C.,F.,Chard.*

GILBERT'S UNIVERSAL SAVOY.

THIS being the time when most people are getting in their supply of seed, I would strongly advise everyone to give Gilbert's Savoy a trial. It is far superior to the old dwarf curled. Being conical in shape, it throws off the rain, so stands much longer in use than the old dwarf and far superior in flavour, quite equal to Brussels Sprouts. When I was foreman at Arundel Castle, Gilbert was then an apprentice there. He was such a larking young man that I had my fears of him ever becoming a good gardener. However, he turned out a good gardener. I called on him at Broughty about the time he sent out this Savoy, and I was much struck with it, but I neglected to ask him how he got it. He took great interest in the Brassica tribe but this is the only one which he has sent out worthy to hand down his name. It does not seem to be much known in the trade. The only catalogues in which I have observed it offered are Messrs. James Cocker & Sons, Aberdeen; Messrs. Barry & Sons, Covent Garden, and Messrs. Kelway & Son, Somerset. I save some seed of it every year so as to keep it true. When living at Sandringham I had a pot of Backhouse's Winter Broccoli and found it invaluable, but never could get it true after; so that it is a good plan where there is a great demand to supply when one gets a good thing to save a little seed of it occasionally.—*William Carmichael, 14, Pitt Street, Edinburgh.*

TREES AND SHRUBS SUITABLE FOR STOOLING.

THERE is nothing more taking to the eye than trees and shrubs stooled, and if a proper selection is chosen the appearance they present throughout the summer months, and in some cases late in the autumn, with their various coloured foliage, is really beautiful. To those about to plant beds of shrubs, and who are undecided as to what they should use, I would suggest to them some of the following list. All are suitable, and with proper arrangement in planting, the effect produced would amply repay them for the labour expended.

For single specimens on lawns or planted in beds by ornamental water, these plants if well grown are always attractive, and through the winter months the stems of certain varieties are almost as pretty as the foliage. Most of the plants mentioned below are common enough now, and what is more, are inexpensive and can be obtained from any nurseryman. It is not too late to plant, but the sooner they are in position the better. For good growth it is most important that the land should be thoroughly trenched, and if the soil is not satisfactory it should be made so with a plentiful supply of loam, which will keep the foliage of the variegated shrubs from burning should the summer be very dry.

As regards distance in planting, 24 in. to 30 in. each way would be sufficient for most of them. Now, as to method of pruning. On no account should they be touched with the knife the first season. By the following spring there would be plenty of root action, and after all severe weather is over, they should be cut within 4 in. from the ground. They will throw out several vigorous shoots, and will have to be cut down annually. Several of the strong growing Spiraeas, if treated as above, are simply lovely when in flower, and will often rise 5 ft. in a season. Those with an asterisk should be obtained on their own roots, otherwise there is a chance of the stock growing if worked plants are used:—

Corylus Avellana purpurea, C. A. aurea, C. A. laciniata, Cornus Spathii aurea, C. Siberica variegata, C. alba variegata, C. Mas elegantissima, Sambucus nigra aurea, S. racemosa plumosa aurea laciniata, S. Nigra maculata, S. laciniata, Rhus Cotinus, R. C. atropurpurea, R. glabra laciniata, R. typhina, Ailanthus glandulosa, Catalpa Bungei, C. bignonioides aurea, Philadelphus coronarius foliis aureis, Paulownia imperialis, Koelreuteria paniculata, Prunus Pissardii,* Berberis Thunbergii, Ligustrum ovalifolium aureum, Forsythia viridissima variegata, Colutea arborescens, Quercus americana coccinea,* Ulmus campestris variegata,* Americana foliis aureis,* Populus bolleana, P. canadensis aurea, Alnus glutinosa laciniata, A. imperialis asplenifolia, Liriodendron tulipifera, Neillia opulifolia aurea, Spiraea arnifolia, S. lindleyana, S. paniculata rosea, S. Douglasii, S. nobleana, S. sorbifolia, S. japonica ruhra, Acer Lobelii,* A. platanoides album variegatum,* A. p. Schwedleri,* Negundo aceroides variegatum, N. a. aureum,* A. colchicum rubrum,* A. virginianum, A. eriocarpon, A. striatum, A. saccharinum, Salix rosmarinifolia S. purpurea, S. vitissina, S. v. britzensis. Those with an asterisk are specially recommendable.—*H. F. E.*

GARDENERS' GRIEVANCES.

As far as the above subject is concerned, we are not likely to improve it. The numerous letters which have appeared of late are not sufficient to prove that diary-keeping is a necessity, or what establishment improves the young gardener. I would be apt to think that for those who support diary writing, it is compulsory with them—a portion of their daily work to do so. Have we not all up-to-date information in our weekly papers in our calling? To keep to a diary in gardening is ridiculous. Our crops are very seldom in the same stage two seasons running. Chrysanthemums, for example, show us they must be pinched and potted the day and even the hour, which is immovable in our friend, "the diary," whether such are in want of that treatment or not. Peas and Turnips sown February 14th in the past year, but snow and 14° of frost are the upshot this season. The substitute for our diary is the season. "Young Gardener" never sees the gardener in their small place at the top of the poll. He has only to look up our list of exhibitors at our prominent shows. Some of our finest hybrids are of their production, which are purchased by the nurserymen, and so on. Our friend, Mr. T. S. Dick, need not conjecture that I have been an unlucky one, as I have not had time for any mishap yet. I trust some more of the experienced journeymen will give their opinion on these matters, before more need be said about general grievances.—*A. V. M., Coltness Gardens.*

THERE is little chance of the existing grievances being all at once swept away, but "Rome was not built in a day," and I thank and admire the writers who are giving us their best opinions on this subject. Also I think as charitably as I can of those who call them *useless* grumblings. "Never despair," send out your arrow, and it may do good long after your toes are turned up to the roots of the Dalsies. Let us thrust the obstacles aside and make some effort to swim, and not stand motionless and allow the current to sweep us down. Various opinions will always exist, but after putting the suggestion of paying "John Experience" higher than "Peter Green" through the hopper of my thinking mill, I would pay journeymen according to their *abilities*, as I know from experience that some active fellows who take an interest in all they do are worth almost two of the slow moving machines, or "come night come ninepence sort" that after twenty years experience would never make active workmen. No, general smartness must be born in one, just as it is in the willing horse that never requires the whip, but pegs on if its master simply signs to go. I believe that many head gardeners have the aspirations to make their journeymen's pay and other comforts better, but have not the power of doing so; but we must cry out at the proper place before we can expect any improvement. In some cases it may be the laird, and in others the factor who has the arrangements, unless where the head gardener has the full power to arrange all garden matters himself. Of course, in making a struggle for just rights, we must be prepared to get a few revolver shots, or even light artillery; but surely by remedying such scandalous cases as "Wullie," Ross-shire, experienced, one would feel repaid as having assisted in doing a good work.—*J. C. Dick, Champfleurie Gardens, Linlithgow.*

Japanese Oranges fall into sections when the peel is removed.

FLOWERS IN THE FAR NORTH.

THANKS for list of hardy annuals in GARDENING WORLD for 9th inst., which I am personally acquainted with, and think should be included in every collection of hardy annuals.

But as you suggested the growing of perennials and biennials, it may not be out of place to here note a list of the perennials, biennials and annuals I do grow with much success. As I have been several times asked by friends—gardeners—what could I grow in the way of flowers in these exposed hills, it might answer both parties, if you do not think it a useless subject for publication. Considering that the garden here stands over 500 ft. above sea level, and exposed to all winds, especially the high west winds we experience here, blowing over its vast area of over twenty miles, without any object to break its severity, it will be seen that the difficulties in plant culture are great.

First, I may note that there are about 350 yards of herbaceous borders in the garden here, some 6 ft. and some 8 ft. wide, and well stocked with the perennials, including Paeonies, Delphiniums, Pyrethrums, Geraniums, Tradescantias, Hemrocallis, Doronicums, Campanulas, Heucheras, Tellima grandiflora, Lychnis, Centranthus, Veronicas, Aconitums, Irises, Helianthus, Anemones, Chrysanthemums, Clematis, Funkias, Achilleas, Lilium umbellatum, L. Martagon, L. tigrinum or Tiger Lily, Ranunculus, Centaureas, Sedums, Alstroemeria and Papaver orientale. As well as all of the above in varieties we have a number of alpine and rock plants, such as Primroses, Auriculas, Narcissus, Daffodils, &c.

All the above give a good account of themselves. We have also Sweet Williams, Wallflowers, Foxgloves, Gladiolus, Carnations and a lot of nice H.P. Roses and hybrid Teas out in the open, but which need a slight protection during winter. Crimson Rambler and Honeysuckle grow against a wall.

As you suggested Sweet Peas, I may mention that they are a special feature of the garden, and do well in damp seasons. They grow 8 ft. high and bloom a considerably long time. As to hardy annuals, we grow a great number of them, as we require a lot of cut flowers during June, July, August and September, besides the usual common half-hardy annuals, such as Stocks, Asters, Antirrhinums, Dahlias and Calceolarias, &c.—*D. Dingwall, Badenloch, Sutherland.*

PLANTS RECENTLY CERTIFICATED.

THE awards given below were made by the Royal Horticultural Society on the 12th inst.:—

Orchid Committee.

ODONTOGLOSSUM LOOCHRISTIENSE ROCHFORDIANUM.—Those who have seen it declare this to be the finest form of the natural hybrid between O. crispum and O. triumphans. The broad oval sepals are heavily blotched with chestnut-brown on a bright yellow ground. The petals have smaller blotches and a white centre. The lip is white with a large, deeply bifid chocolate blotch in front of the crest. (First-class Certificate.) Mr. Thomas Rochford, Turnford Hall Nurseries, near Broxbourne, Herts.

ODONTOGLOSSUM LOOCHRISTIENSE COUNDONENSE.—The flowers of this variety are larger than the above, but the segments are long and narrow, and light yellow with bright brown blotches. The petals are acuminate and white with pale yellow margins. The lip also is white with a large, slightly bifid, chocolate blotch in front of the crest. (Award of Merit.) George Singer, Esq. (gardener, Mr. J. Collier), Coundon Court, Coventry.

CYPRIPEDIUM T. W. BOND COUNDON COURT VAR.—The dorsal sepal is orbicular, shaded with brown lines of darker spots along the veins. The petals are broadly spathulate, rose in the upper half, and spotted with black all over the lower half. The parentage of the hybrid variety was C. swanianum × hirsutissimum, the dorsal sepal showing the potency of the former, and the petals the latter parent. The large lip is light purple. (Award of Merit.) George Singer, Esq.

DENDROBIUM WIGANIANUM.—The parents of this hybrid were D. Hildebrandi and D. nobile, the latter being the pollen bearer. The sepals and petals are white, tipped with rosy blush. The lip is creamy white with a large yellow blotch on the disc. (Award of Merit.) Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

EULOPHIA PULCHRA.—The spike from the base of the pseudo bulb rises to a height of 18 in. or more, and carries a raceme of seven or more flowers. The sepals but the petals more markedly are lined with crimson-purple on pale yellow. The lip is striate with purple on the side lobes, the rest being pale yellow. (Botanical Certificate.) H. T. Pitt, Esq. (gardener, Mr. H. Thurgood), Rosslyn, Stamford Hill.

ANGRAECUM HYALOIDES.—The flowers of this miniature species, small and transparent white, are produced in short spreading racemes. The spur is a little longer than the ovary; and the whole plant is only about 2 in. high. (Botanical Certificate.) J. Colman, Esq. (gardener, Mr. W. P. Bound), Gatton Park, Reigate.

Floral Committee.

PTERIS CRETICA ALBO-LINEATA ALEXANDRAE.—The pinnae of this handsome variety are crested at the apices; and instead of a narrow silvery line along the centre of the pinnae, the latter are silvery above with narrow green margins only. (Award of Merit.) Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton.

THE ALPINE GARDEN

Is becoming more popular every day, and is at all seasons affording objects novel and interesting. The numerous species of alpines embrace a large variety requiring different soils and situations. Though all plants called alpine are not natives of the Alps, most of them hail from the famous mountains, their slopes and rocks. Thus, when one studies the conditions of a plant's habitat, he has the key to its successful culture. Some love to be planted in soil containing lime or calcium mixtures; for lime, as we know it commercially, never exists as such naturally, and if an exception could be found, it would go to prove the rule. Others seem to detest limy soil, and refuse to live in that containing only a trace of calcareous mixture. Many there are which love a home on bare rocks, into which they pierce their little fibres, by which they hold their home in spite of storm and frost. In case these get covered in snow, they are happy and come out fresh and smiling as the snow thaws from them. By far the largest number prefer peaty loam made porous by abundance of sand when blended, and half covered with stones. Another class there is which prefers being planted on the dry banks of streams, where the points of their main roots can obtain abundance of water at will.—*H. H. Gibson, Gardens, Glencairn, Belfast.*

GLOXINIAS.

To ensure a fine display of bloom for September seeds of the above should be sown at once. Pots should be filled with fine, light, sandy soil, and the seed, which is very minute, sown very thinly on the surface; pieces of glass should be placed over each of the pots, and they will germinate quickly if placed on a good brisk bottom heat. Immediately the seedlings are large enough to handle, they should be pricked out in pots and again placed on a good bottom heat. The plants should be grown as rapidly as is possible, potting them in small pots as soon as fit, and finally potting off into 48's. We have had fine blooms in the month mentioned above. Being stove perennials, they require a temperature from 60° to 65°, and delight in a moist heat. They should be shaded from the sun, as it causes the leaves to turn yellow if exposed to the rays of the sun too much. When coming into flower they should be watered about twice a week with weak liquid manure. The compost I find suits them best here is a mellow, fibrous loam, with a little peat and silver sand added, but no manure.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

CLIVIAS OR IMANTOPHYLLUMS.

THIS section of the natural order Amaryllidaceae is, I fear, much neglected in many of our plant growing establishments, or at least is not awarded so great a share of attention as its merits deserve. It is a valuable acquisition for an amateur's greenhouse, or to the gardener who has forcing houses available, and will be found of great service for the conservatories, or for room decoration during the next five or six weeks. Our old plants are showing twelve to fifteen spikes each, averaging twenty to twenty-five of their trumpet shaped blooms to each spike. Our method of culture consists of disturbing the roots as little as possible, but to increase the stock of any particular variety. Division has to be resorted to as the best means of so doing; but when once established in 10 or 12-in. pots they can, with occasional top-dressing and feeding in their growing season, be kept in a healthy state for some years. The best time for re-potting is immediately after their flowering season, and the compost I find to suit them well, is composed of equal parts of good fibrous peat and loam with liberal additions of charcoal and sand, with good drainage. They must not be potted too firmly and care must be taken to work the fresh soil between the large roots. After potting they should be given an intermediate temperature, with plenty of atmospheric moisture for a few weeks, after which they can gradually be inured to a more airy structure. By the middle of August they can be placed outside to thoroughly ripen their growth. They are easily raised from seed.—*G.W.*

CHRYSANTHEMUMS TO FLOWER IN 6-in. POTS.

CUTTINGS should be inserted the first or second week of March The soil should consist of loam, leaf mould and sand, in equal parts. Put three cuttings round the edge of a 3-in. pot, water gently to settle the soil round the heel of the cuttings. Place them in boxes just deep enough for a pane of glass to be laid over them. When rooted, pot them off into 3-in. pots. When 6 ins. high nip out the point to make them break. Towards the end of June these pots will be well filled with roots. Shift them into 6-in. pots using a compost of good yellow fibrous loam, leaf mould, dried horse droppings, sand, charcoal bone dust, and Thomson's Vine manure. Pot very firmly to encourage sturdy growth, and leave room for a rich top-dressing when the pots are well filled with roots. The plants in their summer quarters should be fully exposed to the sun all day. When the first or second bud is secured, a feed three times a week with weak manure water will do good. They should be housed by the first of October, and fed with Ichthemic Guano, every time the watering is done, until the buds show colour. With careful attention exhibition blooms can be grown in the above size of pots. Their attention is a splendid pastime in spare evenings, and their glorious returns in November pay it all.—*Willie, Lechmelm Gardens, Ross-shire, N.B.*

SINGLE TUBEROUS BEGONIAS FOR BEDDING

ARE fast superseding the Geraniums (Zonal Pelargoniums) for bedding purposes, inasmuch as they require little attention through the winter. If the tubers are stored in a house free from damp and frost after their foliage has died down, they will require nothing more until now, when they should be placed in boxes among leafy soil and watered, placing them in a cold house. They will not require any heat except in case of frost. Tubers started in this way flower better than those brought forward in heat. After the tubers are started, any that are thought too large for planting out, can be divided in the same way as a Potato (a well-worn sharp table knife does this best), and the cut parts rubbed over with a little quick lime to prevent bleeding, and restored again to their boxes. The tubers can be cut before starting, but there is too little to guide one at that stage. Plant out early in June, giving a slightly shaded position, in beds made up with leaf mould and sand; however, I have seen them doing well planted out without either. The plants give the best display when planted all one colour together. It may be said that the Begonia will thrive under the same treatment as the Potato. There is no need for me to enter into the sowing of Begonia seed as it has been fully detailed on in these pages at earlier dates.—*M.*

CARNATIONS IN POTS.

CARNATIONS that are intended for greenhouse decoration, will in a week or two require a shift into their flowering pots, 8 in. being a very suitable size in most cases. Some growers advocate making up a compost in the autumn, turning it several times; so that it may become well incorporated before using. But in many places time is too precious for that sort of work. However, they may be grown exceedingly well without so much extra labour being expended. One important item is drainage, as roots of Carnations are subject to excessive damp. Therefore it is essential to bear that in mind when making up the compost. A very good mixture for them is the following: three parts good loam, two parts leaf soil, one part horse dung well rubbed down, and some coarse silver sand, adding a little hot lime, perhaps two days or so before potting them, so as it may kill any insects injurious to the roots. After potting place them in a dry, airy situation, as they will not stand coddling. Before they come into bloom give waterings of sooty water, not too strong. If any signs of green or black fly appear, syringe with a mixture of soft soap diluted in hot water, which proves effective. Always make it a point to keep the plants neatly staked, so as to avoid the flower stems becoming broken.—*Walter Hogarth, Norton Gardens, Ratho, Midlothian.*

ROYAL GARDENERS' ORPHAN FUND.

THE annual general meeting of the members of the above fund was held at Essex Hall, Essex Street, London, W.C., on Friday, the 15th inst., Mr. H. B. May in the chair. Amongst those present were Messrs. H. J. Veitch, G. Monro, G. Cuthbert, W. Howe, R. Dean, A. Dean, J. Assbee, W. R. Alderson, J. Fraser, Jas. Malady, P. R. Barr, C. J. Denning, W. Roupell, J. F. McLeod, Geo. Gordon, H. J. Jones and W. Cutbush. After the usual formalities had been transacted, the chairman said:—

"Before moving the adoption of the report, I would refer to the loss the nation has sustained in the death of her late Majesty Queen Victoria, but so much has already been said, and so well said by others, it is unnecessary that I should make more than a passing reference to the event. That generous sympathy which her Majesty evinced in the various institutions engaged in promoting the welfare of her poorer subjects, is equally conspicuous in the members of the Royal Family. H.M. Queen Alexandra, as Princess of Wales, has been for many years the patron of the Royal Gardeners' Orphan Fund, and the committee have thought this a fitting occasion to present to her Majesty on the behalf of the subscribers a loyal and dutiful address, assuring her Majesty of our sympathy in her bereavement and our devotion to her person." Mr. H. J. Veitch cordially seconded the motion, which was carried unanimously.

TO HER MOST GRACIOUS MAJESTY QUEEN ALEXANDRA, LADY OF THE MOST NOBLE ORDER OF THE GARTER.

The loyal and dutiful Address of the President, Vice-Presidents, Treasurer and Committee of the Royal Gardeners' Orphan Fund.

MOST GRACIOUS QUEEN:

We, the undersigned, representing the Royal Gardeners' Orphan Fund, humbly approach your Majesty to offer our respectful sympathy, to express our heartfelt sorrow on the death of our late Sovereign Lady Queen Victoria, and to assure your Majesty that we deeply share the profound emotion that has affected all hearts at the irreparable loss which your Majesty, the members of the Royal Family and the whole empire have sustained. We venture also to express our deep sense of gratitude to your Majesty for your gracious patronage of this institution, and to state that this benign influence has greatly conduced to its present prosperous condition, and we humbly beg leave to assure your Majesty of our respectful attachment and devotion to your Royal Person and also of our dutiful loyalty to his Most Excellent Majesty the King.

The above address was beautifully illuminated in black and gold and signed by the president, one of the vice-presidents, the treasurer and chairman of the committee.

The chairman then moved the adoption of the report, having discussed its financial merits, and especially referring to the conversion of the 2¾ % Consols into a more remunerative investment. He also read a number of letters from mothers whose children had been aided by the fund, all of which testified to the thankfulness and appreciation with which the efforts of the institution were received. Mr. H. J. Jones seconded the report.

REPORT OF THE EXECUTIVE COMMITTEE AND STATEMENT OF ACCOUNTS.

The committee in presenting their thirteenth annual report have pleasure in making the announcement that the steady progress reported in 1899 has been

well maintained during the past year, the total receipts from all sources showing an increase over the previous year's revenue of over £100, whilst the committee have also had the gratification of disbursing in allowances to the orphans the largest amount paid in any year since the fund was established, viz., £1,033 12s. 6d., and their pleasure in the success of their efforts in this direction will, they are sure, be shared in by all supporters of the fund. The subscribers will notice in the statement of accounts presented herewith, that the amount disbursed in the form of grants in aid also shows a sensible increase over the amounts paid in previous years, and the committee call attention to this fact as showing that those who have charge of orphans are taking a keener interest in rule 13 and 14, and thus more children are benefitted by the fund at the time when they cease to be chargeable to it, and require assistance in the purchase of clothing or tools when commencing to earn their own livelihood; while those waiting for election are helped as required, such assistance proving of the greatest value to those who receive it.

The number of orphans who have been elected to receive the benefits of the fund during the past twelve years is 127, and the total amount dispensed in allowances during the same period is £8,744 15s. The number of orphans now on the fund is seventy, exclusive of those to be elected this day.

The committee desire to acknowledge with grateful thanks the receipt of £135 from the Reading and District Gardeners' Improvement Association, raised by the members and supporters of the association as a memorial to the memory of the late Mr. James Martin, so well known among horticulturists generally as nursery foreman to Messrs. Sutton & Sons, and one of the most skilful of hybridists, as he was also one of the kindliest natured and most intelligent of men. The right of voting in connection with the memorial will be exercised for fifteen years by the association with which Mr. Martin was so closely identified.

The annual festival, held at the Café Monico, on May 8th, under the presidency of the Rt. Hon. Lord Battersea, was an unqualified success, his lordship's charming address on "Gardens and Gardening," and his eloquent appeal for enhanced support for the fund, resulting in a subscription list which amounted to the gratifying total of £605 18s. The committee have pleasure in recommending that Lord Battersea be this day elected a vice-president of the fund.

It is with much gratification also that the committee make the announcement that the Hon. W. F. D. Smith, M.P., has kindly consented to preside at the next festival, which has been arranged to take place at the Hotel Cecil on Tuesday, May 7th.

In view of the fact that the interest on Consols will be reduced at an early date from 2¾% to 2½% the committee considered it desirable to secure a more remunerative investment, and a favourable opportunity offering, the committee are pleased to be able to report that the trustees have sold £7,070 6s. 10d. of 2¾% Consols for £7,127 14s. 9d., and reinvested this sum in the purchase of £7,240 15s. 10d. 3% London and County Consolidated Stock.

The committee with deep regret record the deaths during the year of Mr. John Fraser, of Lea Bridge, and Mr. T. B. Haywood, of Reigate, the former of whom, as auditor, and the latter, as treasurer, rendered the fund most valuable services in its early days.

With keen regret the committee has to announce the retirement from their body of Mr. Richard Dean and Mr. Edwin G. Monro. The vacancies created by these resignations have been filled by the election of Mr. J. H. Witty, Highgate Cemetery, N., and Mr. J. W. Moorman, of Victoria Park, E. By the resignation of Mr. Dean the fund loses the valued services of one of its founders, who has been a member of the committee since its foundation, and one of the most regular attendants at its meetings, besides taking a most active part in securing contributions as local secretary for the Ealing district. Only his colleagues can fully appreciate what Mr. Dean has done for the fund, but they ask the subscribers to recognise his services by according him a special vote of thanks.

The members of the committee who retire by rotation are, Messrs. J. Assbee, G. H. Richards, G. Gordon, P. E. Kay, J. F. McLeod, T. A. Morris, T. Swales, and W. Roupell; and Messrs. Assbee, Richards, Gordon, Kay, McLeod, Morris and Roupell, being eligible, offer themselves for re-election. Mr. William H. Cutbush, The Nurseries, Barnet, is nominated by the committee for the seat vacated by Mr. Swales, who does not seek re-election.

The committee again desire to record their grateful appreciation of the valued services rendered to the fund by the treasurer, Mr. Sherwood, whose practical interest in its management, and most generous financial support, entitles him to the gratitude of every well wisher of the charity.

To the auditors, Mr. Martin Rowan and Mr. P. Rudolph Barr, the committee also tender their warmest thanks for the good services they have again rendered in the audit of the accounts. Mr. Barr is the retiring auditor and is nominated by the committee for re-election.

CASH STATEMENT

For the Year ending December 31st, 1900.

RECEIPTS.

	£	s.	d.
To Balance from last Account	866	4	5
,, Subscriptions	362	8	7
,, Donations	204	12	0
,, The Emma Sherwood Memorial	13	0	0
,, The James Martin Memorial	135	0	0
,, Annual Dinner	605	18	0
,, Advertisements in List of Subscribers ...	30	13	6
,, Dividends on Stock and Interest on Deposit	310	8	9
,, Return of Income Tax	23	15	6
	2552	0	9
,, Sale of £7,070 6s. 10d., 2¾ per cent. Consols	7127	14	9
	£9679	15	6

NOTE.—INVESTMENTS:—	£	s.	d.
3 per cent. London & County Consolidated Stock...	7240	15	10
3 per cent. Canada Stock	2000	0	0
L. & N. W. Railway Preference Stock... ...	340	0	0
Thomson Memorial Trust: East Indian Railway B. Annuity of £14 (cost)	430	11	0

EXPENDITURE.

		£	s.	d.
By Allowances to Orphans	£988 10 0			
,, Emma Sherwood Memorial ...	13 0 0			
,, Grants in Aid	32 2 6			
		1033	12	6
,, Annual Dinner		157	15	7
,, Secretary's Salary		100	0	0
,, Printing, Posting, &c.		87	8	5
,, Balance		1173	4	3
		£2552	0	9
,, Purchase of £7,240 15s. 10d. 3 per cent. London & County Consolidated Stock ...		7127	14	9
		£9679	15	6

Having inspected the Securities and examined the Books and Vouchers supplied to us, we hereby certify the above Account to be correct.

P. RUDOLPH BARR } *Auditors.*
M. ROWAN }

February 13th, 1901.

Eight resolutions were then successively put before the meeting, being proposed, seconded and agreed to in each case. These were for the re-election of the officers and committeemen. Mr. W. H. Cutbush, Barnet, Herts, was appointed to the committee in place of Mr. Swales, who did not seek re-election.

Mr. P. R. Barr was warmly thanked for his valuable services as auditor, and Mr. Brian Wynne, the secretary, was complimented on his painstaking care and attention to the society's affairs. Mr. R. Dean, V.M.H., on retiring from the committee, received the warmest thanks of the members and subscribers of the fund for his past services, and on the motion of Mr. Assbee, seconded by Mr. Bates, he was elected as a vice-president, for which honour Mr. Dean, who is in his seventy-first year, returned thanks.

The meeting then stood adjourned till 4.30 of the same afternoon, when the ballot having been declared, the following children were duly elected to the fund:—Henry Charles Bevis, 469; Archie Nicholas, 254; Evelyn Ockenden Cooke, 234; Albert Edwin Grantham, 215; Mary Seaton, 155; Mabel Elizabeth Wood, 152; Ethel Ellen Page, 151; Henry Hebblethwaite, 142; Victoria Lavinia Riddle, 131; Charles Gregg, 129; Lawrence Edward Xavier Stephen Seldon, 128; and Rhoda Christiana Cooper, 124. The unsuccessful candidates were John Henry de Gruchy, 119; and Joyce Lucy Gayton, 118; and these, together with two other candidates, David Robertson and Robert William Parker, whose nominations had been received subsequent to the voting papers being issued, were also unanimously elected to receive the benefits of the fund, on the motion of Mr. Harry J. Veitch, seconded by Mr. George Monro.

After the meeting the committee and a few friends dined together at Carr's Restaurant, under the presidency of Mr. Herbert J. Cutbush, and a very enjoyable evening was spent.

ROYAL HORTICULTURAL SOCIETY.

ANNUAL GENERAL MEETING.

(*Concluded from p.* 397.)

A CORRECTED list of the awards made by the society to plants, flowers, fruits and vegetables to the end of 1899 has been issued during the past year. The price of the entire volume has been fixed at 5s., and it is hoped that Fellows will take advantage of this valuable publication. Under the head of ordinary expenditure at Chiswick, £1,817 has been spent on the general work and maintenance of the gardens. The receipts for the sale of surplus produce amount to £337, making the ordinary cost of the gardens £1,480. Mr. S. T. Wright, as superintendent of these gardens, has done good work in the training of the students. During the last three years, one of the Chiswick students has taken a first-class in honours in science and art, one a first in advanced botany, two a first in elementary botany at South Kensington. One has been appointed curator of the Botanic Gardens at Antigua, one is a botanical collector for the London School Board, eleven have taken a first-class in the R.H.S. examination in horticulture, five have taken up business for themselves, four have obtained positions in the Royal Gardens, Kew; one at South Kensington Gardens, two in large private gardens, six in large nurseries, one is studying at the Royal College of Science, South Kensington; one is editor and another is on the editorial staff of a horticultural journal. Mr. Wright reports to the council that "the demand for energetic, trustworthy young men from Chiswick is rapidly increasing; there is no difficulty in placing such in good situations, our supply being unequal to the demand, but *they must all be workers*. During the year applications were received for twenty-eight head gardeners, thirty-eight single-handed gardeners, six foremen and ten journeymen."

At Westminster, twenty-four fruit and floral meetings have been held in the Drill Hall, James Street (Buckingham Gate), Victoria Street, besides the larger shows in the Temple Gardens on May 23rd, 24th and 25th; at Richmond, on June 27th; and at the Crystal Palace, on September 27th, 28th and 29th. Lectures and demonstrations have been delivered at twenty of the meetings. The following is the number of awards granted by the council, on the recommendation of the various committees:—Gold Medals, 18; Silver Cups, 22; Hogg Memorial Medals, 4; Silver Gilt Flora, 48; Silver Gilt Knightian, 20; Silver Gilt Banksian, 35; Silver Flora, 119; Silver Knightian, 26; Silver Banksian, 178; Bronze Flora, 28; Bronze Knightian, 0; Bronze Banksian, 43; First-class Certificates, 68; Awards of Merit, 303; Botanical Certificates, 54; Cultural Commendations, 46. In addition to the above, a Silver Gilt Flora Medal was awarded to Miss E. Welthin Winlo for having passed first in the society's examination. Ninety-five Bronze Banksian Medals have also been granted to cottagers' societies. The council draws the attention of Fellows to the more extended use which the Scientific Committee might be to them if they availed themselves more freely of their privileges in submitting instances of diseased or injured plants, caused by insects or otherwise. The Scientific Committee is composed of gentlemen qualified to give the best advice on all such subjects, either in respect to the prevention or cure of disease. The committee is glad to receive specimens of any subjects of horticultural or botanical interest.

The Temple show held during the month of May was as successful as ever; and so was the exhibition of British Grown Fruit held by the society at the Crystal Palace, on September 27th, 28th, and 29th. As an object lesson in British fruit cultivation this annual show stands unrivalled, and is of national importance. As the importance of fruit growing in this country cannot well be over estimated, the council invite Fellows and their friends to support them in their efforts to maintain and improve this exhibition by visiting it, and by subscribing to its funds. The continuance of the show is absolutely dependent on at least £100 being raised by subscription each year towards the prize fund. The show involves the society in a very large expenditure without the possibility of any financial return. The need of subscriptions will, in coming years, be even more important than heretofore, as the directors of the Palace have signified to the council that they feel compelled to decrease their contribution by £50.

Subscriptions are earnestly requested to be sent at once to the secretary, 117, Victoria Street, Westminster, and if the list prove satisfactory the schedule will be issued in April, and the show held on October 10th, 11th, and 12th, 1901.

An invitation has been received and accepted for sending a deputation to visit a show of Daffodils and other early spring flowers and produce, to be held at Birmingham on the 24th and 25th of April 1901.

The *Journal* of the society has been continued so as to enable Fellows at a distance to enter more fully into, and reap the benefits of the study and work of those actively engaged at headquarters. Vol. XXIII., part 3, Vol. XXIV., containing a full report of the Hybrid Conference, and Vol. XXV., parts 1 and 2, were issued during the year; Vol. XXV. part 3, will be ready in March or as soon after as possible.

An examination in the principles and practice of horticulture was held on April 25th concurrently in different parts of the United Kingdom, a centre being established wherever a magistrate, clergyman, schoolmaster, or other responsible person accustomed to examinations would consent to act on the society's behalf, in accordance with the rules laid down for its conduct. No limit as to the age, position, or previous training of the candidates was imposed. Two hundred and thirty-six candidates presented themselves for examination. It is proposed to hold a similar examination in 1901, on Wednesday, April 24th. Candidates wishing to sit for the examination should make application during February, to the secretary, R.H.S. office, 117, Victoria Street, Westminster. Valuable books have been presented to the society during the past year by the director of the Royal Gardens at Kew, by Dr. Maxwell T. Masters, F.R.S., Messrs. H. J. Elwes, F.R.S., J. Wright, V.M.H., J. Veitch & Sons (Ltd.), A. P. Haig, H. J. Hooper, Mrs. Holman, and others, to all of whom the best thanks of the society are due. The thanks of the society are also due to all the members of the standing committees; and to all who have so kindly presented plants or seeds to the gardens. The council wish to express in their own name, and in that of the Fellows of the society, their great indebtedness to all who have contributed, either by the exhibition of plants, fruits, and vegetables, or by lectures or papers to the success of the fortnightly meetings in the Drill Hall.

The selection of a suitable site for the new gardens of the society in celebration of its centenary, is still occupying the attention of the council. Several Fellows having represented the difficulty they find in identifying the attendants in charge of the different exhibits at the society's meetings, the council have caused a badge to be prepared which may be worn by attendants, but which will carry no special right of admission or other privilege. These badges can be obtained at a small cost by applying at the society's offices, and will bear the exhibitor's name. No other badges will be allowed to be worn by attendants.

The council have the sad duty of recording the death of seventy-nine Fellows during the year. Among them they regret to find His Grace the Duke of Wellington, the Earl of Harrowby, Sir William Cunliffe Brooks, Admiral Sir Henry Fairfax, K.C.B., General Pitt Rivers, F.R.S., Edward Pynaert, R. D. Blackmore, and others. It is with feelings of the utmost sorrow that the council record the loss during the past year of two of their own colleagues, Mr. T. B. Haywood and Mr. Philip Crowley. Mr. Haywood had for many years devoted his business knowledge and capacity ungrudgingly to the society, and by his personal qualities had endeared himself to all his colleagues. It is difficult to give adequate expression to the more recent loss caused by the death of Mr. Philip Crowley, who has so long and so ably filled the office of treasurer to the society, and chairman of the Fruit Committee.

In accordance with Bye-law 61, 62, and 69, the council duly appointed the Right Hon. the Earl of Ilchester to the seat on the council, vacant by the resignation of Mr. Arthur Sutton, V.M.H., and Mr. Geo. Bunyard, V.M.H., to the vacancy caused by the death of Mr. Haywood. They also appoint Mr. J. Gurney Fowler to be treasurer in room of Mr. Philip Crowley, until the annual meeting. The following will show the society's progress in regard to numerical strength during the past year:—Deaths in 1900, 79,=£97 13s. 0d.; resignations, 226 = £276 3s. 0d.; fellows elected in 1900, 673,= £873 12s. 0d.; and if the loss of £276 3s. be deducted we find a net increase or gain in income of £597 9s. Thus 673 new Fellows were elected, and 226 have to be deducted by death and resignation, leaving a numerical increase of 447. The total number of fellows, members, associates, and affiliated societies is now exactly 4,750. A scheme for the affiliation of local horticultural societies was put forward a year or two since, and 120 local societies have availed themselves of it. The council express the hope that Fellows will promote the affiliation of local horticultural or cottage garden societies in their own immediate neighbourhood.

A conference and exhibition of Lilies will be held at Chiswick, on July 16th, lasting for two days. The owners of rare or valuable plants have the option of removing them at the close of the first day.

The following is a summary of the annual revenue and expenditure account for the year ending December 31st, 1900:—To establishment expenses, £3,051 11s. 11d.; Lindley Library, £3 4s.; shows and meetings, £1,315 11s. 4d.; prizes and medals, £365 12s. 5d.; Chiswick gardens, £1,817 13s. 4d., making £6,553 13s.; balance to general revenue account, £1,639 14s. 9d., making a total of £8,193 7s. 9d.

By annual subscriptions, £5,322 6s. 7d.; shows and meetings, £1,548 0s. 9d.; advertisements in *Journal*, sale of journals, and miscellaneous receipts, £516 4s. 3d.; dividends, £290 9s.; interest on deposit, £20 1s. 1d.; painting of Orchids certificated, £103 2s. 6d; prizes and medals, £53 13s. 9d.; Chiswick gardens, £337 9s. 10d., making a total income of £8,193 7s. 9d.

Balance sheet:—To sundry creditors, £29 6s. 9d.; subscriptions and advertisements paid in advance, £142 0s. 3d.; life compositions, December 31st, £1,195 10s.; general revenue account (including balance for the year 1900 of £1,639 14s. 9d.), £9,237 5s. 8d., making a total of £10,604 2s. 8d.

By sundry debtors, £227 1s. 7d.; Chiswick scholarships, £8 6s. 8d.; investments, £10,048 13s. 7d.; cash at London and County Bank, £320 0s. 10d.; total, £10,604 2s. 8d.

Arthur Sutton, Esq., supported the resolution, and said he was glad that clause 20 had been worded as it is. Surgeon-Major Ince advocated that more might be done toward affiliating local societies. H. J. Elwes, Esq., brought up the remark referring to the new site for a garden. He said that the members were still in ignorance (1), as to the finances for the establishment of a garden; (2), its control if secured; and (3), the working of the gardens. He felt sure that if the council would let the Fellows know something more of their plans, many of them would be able to help the council with suggestions, with their time, and with their money.

Mr. Elwes was pleased to hear of the election of such gentlemen as Capt. Holford and Earl Ilchester. These men would no doubt carry an immense number of friends along with them; and these were the men the society wanted. Mr. Elwes also referred to the £38 debited for repairs at Chiswick. If the gardens were to be maintained for a few years, yet he thought that more money was necessary for repairs. Some of the houses are in an exceedingly decayed condition.

Sir Frederick Wigan, Bart., next spoke, and referred to the difficulty he and others had in hearing the lectures in the Drill Hall. The subject of a Horticultural Hall was broached by a Fellow, who even proposed that the resolution passed last April on this subject be rescinded. Later on he withdrew his proposition.

Sir Trevor Lawrence now came to his feet, and in opening his remarks said he had previously omitted to refer to the good work that Mr. S. T. Wright and Mr. T. Humphreys were doing at Chiswick. There was now a complete absence of that friction that used to exist in years gone by about the working of Chiswick. The clerical staff of the R.H.S. office were also complimented upon the manner in which they sacrifice personal convenience frequently for the good of the society's business. In regard to Mr. Elwes's questions, *re* the new gardens, Sir Trevor said that the council had had a great many proposals of sites, but either the soil, the price, the accessibility were such as to abolish any need for further consideration. He promised, however, that nothing would be done without the fullest consent and knowledge of the Fellows. The next business was the election of president, vice-presidents, and officers. The following gentlemen are added to the vacant seats on the council:—

Captain G. L. Holford.
Rev. Hugh A. Berners, M.A.
H. B. May, Esq.

The following were elected vice-presidents:—The Right Hon. Joseph Chamberlain, M.P.; the Right Hon. The Earl of Ducie; the Right Hon. Lord Rothschild; Baron Sir Henry Schroder, Bart.; Sir Frederick Wigan, Bart. Sir Trevor Lawrence, Bart., was of course re-elected president; J. Gurney Fowler, Esq., was appointed treasurer; Rev. W. Wilks, M.A., as secretary; and Alfred C. Harper, Esq., as auditor.

A vote of thanks to the chairman, proposed by Mr. Geo. Gordon, V.M.H., and seconded by Prof. Henslow, M.A., was unanimously carried, after which the business closed.

OBITUARY.

Mrs. J. Cypher.

Mrs. Cypher, wife of Councillor James Cypher, Cheltenham, who is universally known as one of the foremost stove and greenhouse plant and Orchid growers of this country, died on Thursday, February 7th, at the age of 72. Besides the near relatives of the late Mrs. Cypher who attended the funeral on Monday, February 11th, there was a deputation from the employees, numbering twenty-eight, who also followed. The Cheltenham Board of Guardians, of which Mr. Cypher is a member, was represented by many of the leading members, as was Christ Church Council, to which Mr. Cypher is also attached. The coffin was of oak, and bore a brass plate engraved with the following inscription:—"Jane Cypher, died February 7th, 1901, aged 72 years." Besides the many beautiful wreaths sent by immediate relations there was one from the employees. The workmen lined the drive from the nurseries, and also at the entrance to the cemetery.

Richard Smith-Carington, J.P.

We much regret to announce the death, on the 9th inst., of Mr. Richard Smith-Carington, M.A., J.P., senior partner in the business of Messrs. Richard Smith & Co., seedsmen & nurserymen, of Worcester. The business was established in 1804. Deceased, who was 76 years of age, lived at Ashby Folville Manor, Melton Mowbray, and was High Sheriff of the County of Leicestershire. The funeral took place on Thursday last at Ashby Folville.

Mrs. P. C. M. Veitch.

It is our sorrowful duty to record the death of Mrs. Veitch, aged 50 years, wife of Mr. P. C. M. Veitch, J.P., head of the firm of Messrs. Robert Veitch & Son, nurserymen, &c., Exeter, which occurred on Thursday, the 14th inst. Mrs. Veitch only had a few hours' illness. She had attended the Cathedral on the previous Tuesday, was taken badly on her return, became unconscious, and passed away within comparatively a few hours. The funeral was from the deceased's residence at Elm Grove House, and consisted of about forty of the employees of the firm, relatives and friends. Eight of the employees acted as bearers. Mrs. Veitch leaves six children, the eldest 18, and the youngest 9. Their loss is very great and the sympathy of all is with them, and the husband, thus suddenly bereaved. His wide circle of friends will join with us in offering their sincerest sympathy and condolences. The grave outside the east end of St. David's Church was decorated with Conifers by the employees of the firm. The remains were contained in an inner shell of polished Cedar, with an outer coffin of polished Elm, richly mounted.

Mr. Geo. Goodall.

We are sorry to learn of the death of this veteran Scottish horticulturist, who has been in the employ of the firm of Mr. John Downie, Murrayfield, Midlothian, for nigh fifty years. He died at Beechhill Nursery, Murrayfield, aged 78 years, on Wednesday the 15th. Mr. Goodall was a very successful hybridiser, and has done good work in this direction among Violas, Phloxes, Pentstemons, and Dahlias, and many of the varieties raised by him are still unsurpassed for excellence. His funeral took place on Saturday, the 16th inst., and was attended by a large turnout of old colleagues and mourning friends.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to "Lux," for his article on "A Botanical Album," p. 390.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Business communications should be addressed to "The Publisher." Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Tuber of Celeriac full of specks.—*L. H.*: The tubers of your Celeriac are badly infested with the Celery stem Fly (Piophila Apii). The maggot of the fly is legless, cylindrical, yellowish-white, and eats its way into the fleshy part, forming worm-eaten tunnels or passages, which become rusty-red around the gnawed surfaces and for a little way inwards, the rest of the tuber being clean and white so that there is no fungus in the same. The injury is entirely confined to the worm holes which are rather numerous, and quite spoil the tubers for table use. Unfortunately the remedies are few, and though effective enough they must be conducted at great loss. The chief remedy is to destroy all the worm-eaten tubers by burning them or burying them about 3 ft. deep, so that the flies when they are full fed and have passed through the pupa stage, will be unable to reach the surface when they reach the perfect stage in May. The tubers can be burnt in the stokehole furnace, or if very numerous they may be placed on a heap of prunings and other garden rubbish that is being burned. It is useless to throw the tubers on the rubbish heap, as the flies will pass through their various stages and emerge in the winged state as if nothing had happened. This work of destruction should commence as soon as you begin to dig up the tubers for use, and the last of them destroyed by the beginning of March. It would be a good plan to grow your Celery and Celeriac in a field at some distance from the garden for a few years, if you have such a field at command.

To Flower Gladioli in July.—*L. H.*: The system of potting up the corms early, as you mention, is practised to some extent, but it takes up a good deal of time and space, as you say. The plan of putting the corms into boxes, which you suggest, is quite feasible and workable, as we have practised it ourselves with perfect success, and bloomed the plants much earlier than those planted in the open during March and April. Even if you were to plant earlier the low temperature as a rule would prevent the corms from starting into growth. Get some boxes about 3 in. or 4 in deep inside, and over the bottom spread a layer of old spent Mushroom dung and partly decayed leaves mixed. Over this lay the corms with the proper side uppermost, and in lines about 3 in. apart each way. Then cover them up with a mixture or compost consisting of fibrous loam, rough leaf mould and sand, pressing it down rather firmly. This can be done during the first half of March, and the boxes stood on the borders of a vinery at work. Stand them as near the glass as possible to prevent the leaves becoming drawn when they come through the soil. About the middle of April they should have made considerable growth, when you should transfer the boxes to cold frames, keeping them close for a time until the foliage gets hardened, when more air may be given, and sufficient water to keep the soil moist. From the middle to the end of May, according to the state of the weather, they may be planted in the open ground and the flower stems staked as soon as they begin to push out from amongst the leaves, doing it neatly. In your district, if not too elevated, they should commence blooming in July.

Cultural Treatment of Calla hastata.—*A.D.W.*: The cultural treatment required by this plant is similar to that of Richardia aethiopica, better known as the Arum Lily, Arum plant, Lily of the Nile, Calla aethiopica and Richardia africana. The true name of your plant is Richardia hastata. After it has flowered the leaves will gradually begin to turn yellow and die away. When this takes place, gradually withhold water until quite at rest when water may be withheld till growth is recommencing when the plant or plants should immediately be repotted in a compost of good fibrous loam, leaf mould and a little well decayed cow manure. Add sufficient sand to make the whole porous and open. Also give good drainage to allow water to pass freely away as a good deal will be required when growth is being made. Do not give much water, however, till growth is getting vigorous. The precise time when the foliage may die down and the plants be at rest will depend upon the time they make their growth and the temperature given. From 35° to 50° will be quite high enough in winter, and nearer the former than the latter figure. Water abundantly in summer when in full growth. When repotting, the suckers should be taken off and grown separately in smaller pots so as to give more room for the perfect development of flowering crowns. Pot rather firmly.

Caterpillars on Camellias.—*W. B. G.*: The caterpillar you send is one of the Noctuidae, a very large group of night flying moths which greatly resemble one another in the perfect or imago state, and are very difficult to distinguish. This being so it would be more difficult to determine the creature in the caterpillar state, as they are all brown or gray and variously marked with similar dull colours. Many of them infest a great variety of garden plants; in fact, nothing seems to come amiss to many of them. The plan adopted by your friend is the best that can be done under the circumstances. Many of these brown caterpillars hide in the soil by day and come out by night to prey upon the plants. A good plan, where the soil is loose, would be to frequently rake it and then beat it smooth with a spade, so that any holes made by the caterpillars could be detected and the culprits caught. You might also tie a piece of cotton wadding, rough side outwards, round the base of the stem of each Camellia tree, so as to prevent the caterpillars from crawling up by night. This latter method, we think, would be the most effective of any while any buds or flowers still remain upon the bushes.

Genista andreana from Seed.—*B. M.*: The proper name for the plant is not Genista, but Cytisus scoparius andreanus, it being a colour variety of the common Broom. Your best plan is to sow the seeds in pots of light soil and stand them in a cold frame to germinate. After they have made a season's growth you may plant them out in nursery lines in the open, where they may stand till they reach flowering size. You will then see which of them are true to the parent, and mark them for preservation while in bloom. You may then dispose of the yellow ones as you feel inclined, but retain those with crimson wings to the flower.

Names of Plants.—*T. B*; 1, Viburnum Tinus; 2, Erica carnea; 3, Hamamelis arborea.—*A. C.*: 1, Acacia Drummondi; 2, Erica melanthera; 3, Erica hyemalis: 4, Boronia magastigma.—*D. C.*: 1, Pyrus floribunda; 2, Syringa vulgaris var.; 3, Choisya ternata; 4, Libonia floribunda; 5, Tillandsia Lindeni.—*W. H.*: 1, Cupressus obtusa; 2, Cupressus pisifera; 3, Cupressus nutkaensis, not Thujopsis borealis, which is only a synonym.—*A. G. B.*: 1, Coelogyne cristata lemoniana; 2, Cypripedium barbatum var.

Communications Received. — G. Bunyard.—Doonfoot.—F. A. H.—J. B.—J. Grieve.—A. V. M.—W. W.—A. B.—C. W.—D. M.—A. R. J.—W. T. W. N.

TRADE CATALOGUES RECEIVED.

WM. WATSON & SONS, Clontarf Nurseries, Dublin.—Choice Plants for the Garden.

TOOGOOD & SONS, Southampton.—Toogood's Farm Seeds.

NATHAN SMITH & SON, Adrian, Michigan, U.S.A.—A Complete List of the Latest Novelties in Chrysanthemums.

VILMORIN ANDRIEUX ET CIE, 4, Quai de la Mégisserie, Paris.—Catalogue of Autumn Chrysanthemums.

LITTLE AND BALLANTYNE, Carlisle.—Farm Seeds.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

FEBRUARY.

26.—R.H.S. Committees.
28.—Kew Guild Annual Meeting.

MARCH.

2.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
4.—Wimbledon Horticultural Society Meeting.
7.—Linnean Society Meeting.
11.—United Horticultural Benevolent and Providential Society's Annual Meeting at Caledonian Hotel.
12.—R.H.S. Committees.
21.—Linnean Society Committees' Meeting; Royal Botanical Society Meeting.
26.—R.H.S. Committees; Brighton and Sussex Horticultural Society Show (2 days).
27.—Liverpool Horticultural Show.
29.—Blackheath Horticultural Society Meeting.

APRIL.

3.—Royal Caledonian Horticultural Society Show, Edinburgh (2 days).
4.—Linnean Society Meeting.
6.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
9.—R.H.S. Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society Spring Show (2 days).
10.—Shropshire Horticultural Society Show at Shrewsbury.
22.—Chesterfield Spring Show.
23.—R.H.S Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

MAY.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
7.—R.H.S Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days).
11.—Bath Floral Fete and Rose Show.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S, Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days).
24.—Strabane Hort. Exhibition (2 days).
25.—Prescot Exhibition; Selby Exhibition.
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts. Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldcarn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition.
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.
21.—Banffshire Exhibition; Eastbourne Exhibition; Hastings Flower Show.
27.—R.H.S. Committees.
28.—Henley-on-Thames Exhibition; Hinckley Exhibition.
29.—Dundee Exhibition; Thame Exhibition.

SEPTEMBER.

3.—Bicester Horticultural Society.
4.—Milton and Sittingbourne (2 days).
6.—National Dahlia Society (2 days).
10.—R.H.S. Committees; Durham Flower Show (2 days).

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The Gardening World

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, MARCH 2nd, 1901.

The Editorial and Publishing Offices are now **removed to 4, Dorset Buildings, Salisbury Square, Fleet St., London.**

Editorial matters are to be addressed to **the Editor.**

All other communications and Remittances must be addressed direct to the Proprietors—

HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS

MONDAY, March 4th.—Wimbledon Horticultural Society Meeting
THURSDAY, March 7th.—Linnean Society Meeting.

ENGLISH ARBORICULTURAL SOCIETY AT CHATSWORTH.—Amongst other places this Society paid a visit to Chatsworth on August 16th, 1900, during their annual excursion on days preceding and succeeding that date. Chatsworth is the home of the Cavendish family, and situated in the heart of Derbyshire, so renowned by the writings of various popular authors. The general characters of Derbyshire scenery are that it consists of "stretches of somewhat bare uplands, in which finely cragged and wooded glens and river gorges are cut so deep that we might look over an open landscape hiding half a dozen of them." There is a black ridge well known as "The Peak," and some distance from it is Chats-

worth, the "Palace of the Peak." Concerning "The Peak" itself Mrs. Humphry Ward gives an interesting description, and this being the wildest and most elevated spot in that country it will bear quotation. "The top of the Peak is, so to speak, a vast black glacier, whereof the crevasses are great fissures, ebon black in colour, sometimes ten feet deep, and with ten feet more of black water at the bottom. For miles on either side the ground is seamed and torn with these crevasses, now shallower, now deeper, succeeding each other at intervals of a yard or two . . . a region which has no features and no landmarks, where the earth lays snares for you and the mists betray you, and where even in bright sunshine there reigns an eternal and indescribable melancholy." That this should be so is somewhat astonishing when one considers that the prevailing formation consists of limestone, relieved at intervals by millstone grit.

When the members of the society reached Bakewell, they were met by the under forester, in the absence of the head forester to His Grace the Duke of Devonshire. During these annual excursions the members make a point of combining pleasure with business, in order that they may pick up hints of a useful nature that may be put into practice when they return home. This is not the least recommendable feature of excursions, and might well be adopted by societies in general, and is to our knowledge practised by some societies, associations and communities of gardeners. It gives them wider views than those are likely to acquire whose scope of observation is confined to the scene of their daily labours. The primary object of the society under notice is the cultivation of trees for commercial purposes, so that in passing through the Duke's grounds, the members paid good attention to the good specimens and plantations of timber, their kind, and the nature of the soil with the surroundings of the places where such occurred. Chatsworth House is in the Palladian style, the building being commenced in 1687 by the first Duke of Devonshire, and completed in 1706, the architect being William Talman, though rumour also states that Wren had something to do with it. The sixth duke made some additions to it, and the grounds were re-modelled by Sir Joseph Paxton, under his directions. The party were favoured with permission to inspect the interior of the mansion, the Great Hall of which is 60 ft. long by 27 ft. wide. The chapel is wainscotted in the lower story with Cedar, which is here stated to give forth a pleasant odour. "Between the larger panels of Cedar are marvellously carved pendants of flowers, fruit, corn and foliage." Other rooms are lined with various fancy woods. "All the wood-carving in England fades away before that of Gibbons at Chatsworth. The birds seem to live, the foliage to shoot, and the flowers to expand before your eyes."

The party finally passed through the Orangery on their way to the grounds surrounding the mansion. The building is partially gallery and the rest conservatory. Here are fine old Orange trees many of which once formed part of the collection of the Empress Josephine at Malmaison. The Italian garden outside is furnished with sculptured figures, and in summer with bright parterres of flowers. The grounds and general landscape are adorned with fine old trees of various kinds, reminiscences of old time planting. A tree of Abies nobilis stands 85 ft. high and contains 195 cubic feet of timber, and no doubt is one of the finest of its kind in the country. Beeches tower up above 100 ft., and a Sweet Chestnut, 85 ft. high, contains some 700 cubic feet of timber. Great interest was aroused in a dendrometer which was originally designed by the head forester for measuring not only the height but the cubic contents of standing trees.

The great conservatory, designed by Sir Joseph Paxton, is considered the finest building, perhaps, of its kind in the country. This was built in 1839, and supplied the design which was enlarged or extended so as to meet the requirements of the structure which housed the Great International Exhibition of 1851 at Kensington, and now forming the Crystal Palace on Sydenham Hill. The design of these buildings is known as the ridge and furrow system. The Chatsworth conservatory is 277 ft. long, 123 ft. wide, and 67 ft. high in the centre. As a glass structure it is exceeded by the Temperate House at Kew, which has a total length of 628 ft. and a width of 164 ft. The Chatsworth building contains 70,000 square feet of glass. The writer of the report probably had little time for note-taking and sums up the vegetable contents by saying that they ranged "from the smallest aquatic plants to the most stately Palm trees, and from the Banana to the Papyrus.

After the luncheon liberally supplied by the Duke of Devonshire the party proceeded to the Stand Wood where are extensive plantations of young and thriving trees. On the way up the hill some fine old trees were noted, including a Beech over 100 ft. high. The Stand Wood is situated at an elevation of 800 ft. above sea level, and on rocky ground. Here much of the timber is old and the trees stand thinly apart owing to necessary removals from time to time. Now a certain area is cleared of trees annually, and the ground prepared for replanting; and this is being done upon a plan which will apportion the ground into regular rotations. Where the old wood consisted of Coniferous trees, the bark is carefully peeled off the roots so as to destroy the breeding places for the Pine Weevil (Hylobius Abietis) and other insect pests of woods and forests. The young plantations are thriving splendidly. Beech and Sycamore are intended for the final crop, while the interspaces in the meantime are occupied with Scots Fir and Larch. The Bunker's Hill plantations, at an elevation of 1,000 ft., are also in a flourishing condition. Chatsworth is one of the few English estates on which the proper management of woods has been systematised or put into a regular working plan. The secretary of the society is Mr. John Davidson, Estate Office, Haydon Bridge, Northumberland.

Glasgow Botanic Gardens Management.—With a view to secure greater unity of management in the work of the department as a whole, it is recommended by the Parks Committee that the duties of Mr. James Whitton, the superintendent of parks, should be extended to the Botanic Gardens, which are at present under the charge of Mr. Daniel Dewar, curator.

Botanic Garden for the Seychelles.—Mr. Chamberlain has given his sanction to the establishment of a botanic station in the Seychelles, which, with the co-operation of the director of Kew Gardens, was started on the first day of the new century. Some people have actually assigned the site of the Garden of Eden to the Aldabra group in the Indian Ocean, now famous for little else than the gigantic land tortoises, of which so many have been sent to the Zoological Gardens through the instrumentality of the Hon. Walter Rothschild, M.P. Every description of plant which is likely to be of the slightest economic value will be obtained from other countries, and the treatment of the soil will be made the subject of special experiments. The islands are in direct communication by steamer with Colombo, Mauritius, Aden, Zanzibar and Bombay, a factor which is likely to play an important part in the development of their internal resources.

Thyrsacanthus rutilans as shown from Aldenham House, at the Drill Hall, on Tuesday last, was much admired. The plant has been long known to our stoves but somehow has become neglected. It is easily grown and for decorative effect its long pendent racemes of crimson flowers are valuable.

Fumigation.—A bill requiring the fumigation of all nursery stock has been re-instated in the New York legislature, and is again arousing the determined opposition of all nurserymen. Wm. Pitkin, secretary of the Eastern Nurserymen's Association, says the bill will be fought to the limit.

Seychelle Islands.—The administrator of the Seychelle Islands has recently issued an ordinance which provides for the admission free of duty into the islands of fresh fruits and vegetables, except Potatos, Onions and Garlic. Also of all live plants and vegetable productions connected with the study of botany and illustrative of natural history. Also seeds intended for agricultural and horticultural purposes.

Best Market Cabbages.—By the use of a few early and late varieties and by sowing and planting at different seasons of the year, the year's supply is kept up. The varieties recommended are Ellam's Dwarf, Earliest of All, Wheeler's Imperial, Early Offenham, Early York, Enfield Market, and Winnigstadt. The last is a very shapely, conical Cabbage, but a variety of it named Dobbie's Selected Winnigstadt (also spelt Winningstadt) is, by reason of its small size and dwarf, compact habit, more recommendable for private culture and use.

Beckenham Horticultural Society.—On February 22nd, Mr. E. Beckett, gardener to Lord Aldenham, Aldenham House, Elstree, gave a lecture on growing vegetables for exhibition. Mr. Beckett stated that good fertility must be in the soil before good results could be expected. Deep trenching was absolutely necessary, from 3 ft. to 3ft. 6in. deep. When trenching, the work should be carefully done. The manures should be thoroughly incorporated with the soil. Light soils needed trenching earlier in the winter than the heavier soils. Each vegetable was taken separately, and it was thoroughly explained to the members how such good results could be obtained as Mr. Beckett exhibits at the leading shows. But to obtain them gardeners must be thoroughly energetic. In the description which followed, the members must have gained some valuable information, which should be noticed at their forthcoming show. Mr. Burge (who occupied the chair) thanked Mr. Beckett for his lecture and all the members thoroughly endorsed it.

Croydon and District Horticultural Mutual Improvement Society.—There was a crowded meeting in the Society's Room at the "Sunflower Temperance Hotel" on Tuesday evening, 19th ult. The usual preliminary business being disposed of, the chairman, Mr. W. J. Simpson, introduced Mr. Cole, of Messrs. John Peed & Sons, who gave a very interesting paper on "The Cultivation of the Gloxinia." Mr. Cole prefaced his subject with the introduction of the Gloxinia and origin of the name. He then treated of the practical cultivation, the sowing of the seed, management of the seedlings, and growth up to the flowering stages. The popularity of the Gloxinia and its beautiful decorative effects were specially noted, and a list of the most charming varieties were given, the following being a few of the best, viz., Mrs. W. Weaver, Charles Young, Lady Warwick, Duchess of York, Queen of My Heart, Lady Roberts, Princess of Wales, Ellen, Mrs. Fisher, Burgundy, Mrs. John Peed, Her Majesty, &c. Few flowers possess such lovely colouring and form as the Gloxinia. The interest in the subject was evidenced by the remarks and discussions which followed the reading of the paper, and a hearty and unanimous vote of thanks was given Mr. Cole, and the members will, no doubt, be treated to a fine display of Gloxinias later in the season. To Messrs. Peed was given a vote of thanks for a table of Primula stellata of very good form and colour. To Mr. J. R. Box the society's thanks were given for a beautiful exhibit of his splendid varieties of Primula sinensis. The secretary, Mr. Gregory, announced the special arrangements for the dinner and social at the "Greyhound Hotel" on Wednesday evening next. With a vote of thanks to the chairman, a very profitable evening was brought to a close. Ten new members were elected.

Weather in London.—The weather of the past week has been mild and more or less humid, in place of the frost and snow of the previous week.

American Fruit has risen greatly in favour in European markets by reason of the excellence of the showing made at the Paris Exposition—at least, so the Americans say!

The Fern Bulletin for January.—We have received the January issue of *The Fern Bulletin* The portrait of Dr. Lucien Marcus Underwood forms the frontispiece, and an appreciative editorial sketch of his work finds a place on the pages.

"The Canadian Horticulturist,"—This well organised Canadian journal for January contains numerous special articles of a very practical nature, to which we may more fully refer. The number contains a frontispiece of the Directors of the Fruit Growers' Association of Ontario all in their beaver caps, and a fine body of gentlemen they seem to be. The index to volume xxiii. is also given.

Kew Guild: Annual General Meeting.—By a regretable oversight we stated last week that the annual general meeting of the Kew Guild was to be held on Thursday, February 28th. Although not alone in making this mistake, we apologise to old Kewites, and say that the old date of the annual meeting has been altered. This year it will be held at the Holborn Restaurant, London, at 7 p.m., on Monday, May 20th. (The Temple Show opens on Wednesday, May 22nd). The annual dinner of the Kew Guild will also take place on May 20th, at 7.45 p.m., just after the general meeting.

Croham Hurst for the Public.—About two years ago the Croydon Town Council purchased thirty-five acres of the beautifully-wooded hill, known as Croham Hurst, to the south of Croydon. The remaining forty-five acres were under the invidious eyes of the builders, and about seventy of the members of a committee met at an open-air meeting for the purpose of considering what steps should be taken to preserve the wood intact. The result of this meeting on January 22nd, 1899, was that the whole of the eighty acres have been preserved for the use of the public for ever. The council decided to offer £15,000 for the remaining forty-five acres, thus bringing the resolution to a very successful issue.

Spring Catalogues.—Many of the spring catalogues contain, says an American journal, besides order blank and return envelope, an application for post office money order properly filled in, save spaces for the amount and name of sender.

Miss Jekyll's Favourite Colour in Cinerarias.—Amongst the many and varied expressions of her loves and tastes in the world of flowers it is interesting to note that Mess Jekyll says that "except in the case of the clear blue and the white the range of colouring of the Cinerarias is of a coarse and unpleasant character." Many of them, it is true, are of an uninviting character, even although extremely rich in many of their more intense hues. The dark velvety blue found amongst them cannot, as far as we remember, be matched by any other blue amongst plants, and some have cherished a special admiration for this hue, but many of the shades forcibly recall the royal purple, so extensively used as a sign of mourning during the obsequies of the late Queen Victoria.

Hamilton and District Gardeners.—The young gardeners of the Hamilton and District Association and their friends had their combined dance and assembly in the Liberal Club Hall, on Friday, 15th ult., when there were over forty couples present. Dancing commenced at 10 o'clock with great merriment, and they tipped the light fantastic toe to the excellent music of Mr. Johnston's Quadrille Band "till the wee short oors ayunt th' twal." Messrs. Stewart and Jones did the honoured duties of M.C.'s in a happy and creditable manner, ably assisted by a willing and energetic committee. The whole affair was a great success. At the close the committee met and handed over 10s. 6d. to the *Scotsman* War Fund. They also did honour to a young gardener, Private James Maxton, of Allenshaw Gardens, being a private in the 1st Coy. V.B. Scottish Rifles, and leaving for South Africa. He acted as treasurer for the above assembly, was presented with a handsome silver-mounted pipe and pouch with 3 lb. of good tobacco. Mr. D. M. Burns, Earnock Gardens, the secretary of the above, made the presentation, and wished the young soldier a good journey and a speedy return. Private James Maxton feelingly replied.—*J. M.*

The National Diploma in Agriculture.—Publicity has just been given to the regulations and syllabus of the examination for the National Diploma in agriculture, which is to be held under the joint auspices of the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland this year. The examination is to be again held at the Yorkshire College at Leeds, and is to commence on the 6th May. As our readers will remember this examination was instituted for the first time last year when it took the place of the separate agricultural examinations annually held by the Royal and the Highland societies respectively. Under the new conditions the examination is to be taken in two parts, one of which is known as the first year course, and includes mensuration and land surveying, agricultural botany, general chemistry, geology, and agricultural entomology. At least a year must elapse between the taking of this examination and the second part in which the subjects are—practical agriculture, agricultural book-keeping, agricultural chemistry, agricultural engineering, and veterinary science. Of these subjects agriculture very properly gets the highest number of marks with a total of 500. In the first year's examination (for which agriculture is not a subject) mensuration, land surveying and agricultural botany get 200 each, and general chemistry, geology, and agricultural entomology, 100 marks each. In the second year's examination 500 marks are, as already indicated, allotted to agriculture, 200 to agricultural book-keeping, 200 to agricultural chemistry, 200 to agricultural engineering, and 100 to veterinary science. All particulars regarding the examination can be obtained either from the secretary Royal Agricultural Society of England, 13, Hanover Square, London, W.C.; or from the secretary Highland and Agricultural Society of Scotland, 3, George IV. Bridge, Edinburgh.—*The Farmers' Gazette.*

Utility Poultry Club.—Laying Competition, 1900—1901.—The laying competition of the Utility Poultry Club ended on February 5th, after a duration of sixteen weeks. The pens, consisting of four pullets in each, were under the management and personal supervision of Mr. Geo. C. Ring, The Manor Poultry Farm, Slough.

Pen. Breed.	1st month. Eggs. Pts.	2nd month. Eggs. Pts.	3rd month. Eggs. Pts.	4th month. Eggs. Pts.	Total. Eggs. Pts.	Order.
1.—Faverolles (E.)	0.. 0	0.. 0	1.. 2	25..50	26.. 52	7th.
2.—Anconas	0.. 0	0.. 0	0.. 0	11..22	11.. 22	12th.
3.—Langshans (Bl.)	0.. 0	2 . 4	15..30	1.. 2	18.. 36	9th.
4.—Houdans	0.. 0	0.. 0	2.. 4	13..26	15.. 30	10th.
5.—Lincs. Buffs	16..30	32..61	12..24	13..25	73..140	3rd.
6.—Leghorns (Br.)	0.. 0	2.. 4	6..12	0.. 0	8.. 16	13th.
7.—Orpingtons (Bl.)	0.. 0	0.. 0	11..22	14..28	25.. 50	8th.
8.—Leghorns (Bf.)	28..56	19..38	22..44	12..24	81..162	2nd.
9.—Orpingtons (Bf.)	0.. 0	17..34	31. 62	19..38	67..134	4th.
10.—Leghorns (Bf.)	0.. 0	3.. 6	21..42	14..28	38.. 76	6th.
11.—Ply. Rocks (Ba.)	56..112	22..44	19..38	30..60	127..254	1st.
12.—Leghorns (Br.)	0.. 0	0.. 0	2.. 4	5..10	7.. 14	15th.
13.—Wyandottes (Bf.)	0.. 0	0.. 0	0.. 0	0.. 0	0.. 0	20th.
14.—Leghorns (Wh.)	0.. 0	0.. 0*	0.. 0	0.. 0	0.. 0	20th.
15.—Wyandottes (Par.)	0.. 0	0.. 0	0.. 0	1.. 2	1.. 2	17th.
16.—Leghorns (Wh.)	0.. 0	0.. 0	11..22	28..56	39.. 78	5th.
17.—Wyandottes (S.)	0.. 0	0.. 0	3.. 6	5..10	8.. 16	13th.
18.—Minorcas (Bl.)	0.. 0	0.. 0	0.. 0	1.. 2	1.. 2	17th.
19.—Wyandottes (Wh.)	0.. 0	0.. 0	3.. 6	10..20	13.. 26	11th.
20.—Minorcas (Bl.)	0.. 0	0.. 0	0.. 0	7..14	7.. 14	15th.

* One Pullet died at the beginning of the month.

N.B.—In scoring two points are given for every egg weighing over 1½ ozs.; one point for every egg reaching that weight or being under.

Prizes.—1st, Mr. C. Booth, Hundleby Grange, Spilsby, £3; Mr. Holmes-Tarn's, £1; Mr. J. Dunn's value, £1; Mr. Simon Hunter's value, 15s.; Mr. J. W. A. Pedley's value, 10s. 6d., for pen making highest score in the first month; 2nd, Mr. J. Lupton, Boardman Terrace, Ingleton, Yorks., £3; Mr. Simon Hunter's value, 15s.; Mr. J. W. A. Pedley's value, 10s. 6d., for best pen of Leghorns; 3rd, Mr. W. F. Snell, Marsh Farm, Yeovil, £2; 4th, Mr. J. Swales, Bents House, Reeth, Richmond, Yorks., £1; 5th, Mr. W. Berry, Upper Gate, Ingleton, Kirby Lonsdale, 15s.; 6th, Mr. W. H. Pugh, Blackburn Road, Clayton-le-Moor, Accrington, Lancs., The Dairy Outfit Company's "Cosy" Brooder, value 15s.; 7th, Mrs. Austin, Allscott, Wellington, Shropshire, Mr. P. Percival's value, 10s. 6d. Mr. J. Robinson's Consolation Prize.—Mrs. J. Wright Crewdson, Inglewood, Wilmslow, Cheshire. Mr. T. Garnett's Prize, value 10s. 6d., for the best pen judged from show standard is awarded to the owner of Pen 19, Miss L. Bethell, Newton Kyme, Tadcaster. Age.—The pullets in the winning pen were hatched March 10th; 2nd pen, April 10th; 3rd, April 2nd; 4th, March 31st; 5th, March and April; 6th, April 30th; 7th, April 17th. Pen 12, May; Pen 13, Jan. 7th.

The results of the preceding competitions were:—

			1899—1900.	(At Clitheroe).	
1897—8. (At Northallerton)	1st pen ..	161 eggs.	1. Mr. C. Bird ..	S. Wy. ..	223 eggs.
	2nd pen ..	149 ,,	2. Mr. Wilson ..	Br. Leg. ..	161 ,,
1898—9. (At Penrith)	1st pen ..	154 ,,	3. Mr. W. Richardson	Bf. Orps. ..	151 ,,
	2nd pen ..	149 ,,	4. Mr. T. Garnett ..	Bl. Langs. ..	132 ,,

It should be noticed that the first four pens in the preceding competition laid 667 eggs as against 565 laid by the entire 20 pens in the competition just ended. N.B.—These competitions are not given to determine which is the best *breed*; the club recognises that good laying is a question of *strain* and *not* of breed, and endeavours by means of these competitions to make known those fowls which under a systematic treatment during the four worst months of the year have proved themselves to be good layers.

SALVIA PATENS

Produces spikes of beautiful blue flowers—and a charming shade of rich sky-blue it is. This is one of the good old Salvias, which have withstood the test of time. It is admired to-day for the unique shade of its dazzling blossoms. This Salvia, when employed in alternation with dot plants of Lobelia cardinalis Queen Victoria to relieve a carpet of white Violas, produces a sight of gorgeous brilliance and exquisite purity, especially so when the silvery white Viola Niobe (Sydenham's) is used for the ground work. The easiest and best mode of propagating Salvia patens is by sowing seed in February, when, if grown on, it will flower the first or same year. They make good pot plants, and may be placed outdoors when all danger of frost is gone. They make enchanting masses when associated with white or scarlet flowering stuff. Salvia patens is tuberous rooted, but only half hardy (as a rule) and requires rest during winter.—*H. H. Gibson, The Gardens, Glencairn, Belfast.*

PHYSALIS

Is a genus of perennials generally grown for their decorative fruit pods or calyxes. There are P. Alkekengi (Winter Cherry), producing long, slender stems with terminal white flowers in summer, much resembling the Abutilon in habit of growth and flower. P. Francheti is a Japanese form of recent introduction, with enormous fruit pods of an orange colour. This is undoubtedly the best of the three. Honesty (Lunaria biennis) and P. Francheti require no description for their effectiveness for filling large vases at Christmas and throughout winter. In autumn cut these above-named varieties when they change colour, and store in a dry room for future use. For Physalis edulis, better known as the Cape Gooseberry, the glass structure is essential to bring it to maturity. Edulis, as we know, denotes edible fruits. I do not imagine it is grown universally for its fruit, but the flower of the same is admirable for cutting. Propagate from young growths or seeds. Now is the time to sow seeds of the first-mentioned two. Sow in 6 in. pots filled with sifted soil and place in a greenhouse. Prick off in boxes or pots, and harden off to be planted out at the end of May in their permanent situation on the warm side of a wall if obtainable. In severe winters cover the roots with litter or bracken.—*Adam V. Main, Coltness Gardens, Wishaw.*

CEDARS.

THE Cedar of Lebanon is a highly ornamental tree and is very suitable for beautifying pleasure grounds. It must have been rather profusely planted some hundreds of years ago, for on almost every nobleman's estate less or more of very old ones are to be found. There are several very large ones on Hopetoun estate, the seat of the Earl of Hopetoun, and also on one of Earl of Elgin's estates, "Culross Abbey," on the north side of the Firth of Forth. The largest one there is said to have the greatest expanse of branches of any in Scotland, and is certainly a very beautiful tree, especially when one goes underneath it to view its many points of beauty. The branches droop down in umbrella form, touching the ground at the points all round; and many of the limbs are naturally grafted through each other, giving them a very uncommon and interesting appearance. I took the exact measurement of it some years ago and herewith give them, hoping that some of our English friends may give us the size of the largest in the south. Measurements: height, 52 ft.; spread, 833 sq. yds.; circumference of trunk 6 in. above ground, 16 ft. 10 in.; 10 ft. from ground, 17 ft. 6 in. I may say that the above tree is growing in several feet of fine dark loam on the top of a pale blue fireclay.—*J. C. Dick, Champfleurie, Linlithgow.*

HEDYCHIUM.

THIS beautiful genus of Zingiberaceae is a native of the East Indies, and is well worth growing. Many of its species produce showy fragrant flowers. If it is desired to increase the stock the present time is most suitable, as the plants are now sending forth new growth. The pots should be very carefully drained, as the plants when growing require watering very freely. The compost should consist of two parts of peat, one of loam, and some silver sand added. They love plenty of pot room. Two varieties well worth growing are H. coronarium and H. angustifolium. The former produces close compact heads of white fragrant flowers, and the latter large terminal heads of bright scarlet flowers in the summer months. When the leaves decay very little water is necessary, but do not withhold water altogether. If this is done the tubers get dry rot and fall away to powder.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

GARDENING MISCELLANY.

KENNEDYA AUDOMARIENSIS.

THE *Revue de l'Horticulture Belge* for February, contains a coloured figure of the above-named Kennedya. The coloured plate, however, does not in this instance give a very clear impression of the form of the flowers. Kennedya is a genus of leguminous plants, very nearly related to Hardenbergia of the same natural order. The *Revue* fully described the difference between these genera in an article published in 1896. The species of Kennedya under note is particularly interesting in the fact that amid all the New Holland plants enumerated by Bentham in his work describing these (*Flora Australiensis*), he does not include this beautiful subject. In vain, too, have the writers in the *Revue* consulted all works of repute for a reference to it. By writing to a correspondent at St. Omer, however, the following particulars were received:—"Kennedya audomariensis was obtained by M. Delache, Senr., horticulteur of St. Omer. It was obtained as the result of a cross between K. bimaculata and K. Marryattae, the latter having red flowers." K. bimaculata, or Glycine bimaculata is nothing else than Hardenbergia monophylla (Bentham), and K. Marryattae is a larger flowered and much finer thing than K. prostrata of Robert Brown. The cross has produced a plant having similar growth to H. monophylla, but possessing the red flowers of K. Marrayattae. It flowers in March and April, the long, slender shoots requiring no support. The colour of the blooms is soft rose maculated with yellow. This hybrid resembles Hardenbergia monophylla rosea, except that it is more elegant, refined, and graceful. Seeds or cuttings can be used for its propagation, the latter being under bell-glasses and given moderate bottom-heat. The winter-watering of the plants should be prudently performed. The plant is of very great merit to all who wish to have gay conservatories early in the year.

THE LATE MR. GEORGE GOODALL.

IT is with great pleasure, Mr. Editor, I enclose you a photograph (here reproduced) and general notes of the life and labour of one of Scotland's greatest florists and general nursery manager, Mr. George

MR. GEORGE GOODALL.

Goodall. He was born in the Royal Burgh of Musselburgh in the year 1823, and was apprenticed to the late Mr. Thomas Handayside, The Glen Nurseries, Joppa, at that time one of the foremost of Scottish nurseries for all novelties either in the more choice vegetables, trees, shrubs, and especially florists flowers, including a selection of herbaceous and alpine plants, scarce bulbs, &c.

Much of the success of the nursery was owing to its genial climate, being only a few hundred yards from the sea beach, the free and kindly nature of the soil, and in its being in the immediate vicinity of Edinburgh.

In those days transit of plants, seeds, &c., was only by the carrier's cart, stage coach, canal, and per ship from Musselburgh, Leith, &c., to all parts of the kingdom. Ribes sanguineum album, and Iris reticulata, were first propagated in quantities and sent out to the world by this noted firm. Seedling Dahlias were raised annually by the thousand, and after careful comparison with the noted English and Continental varieties, were sent out to cultivators. Hollyhocks, Phloxes, Pentstemons, Pansies, hybrid Calceolarias, and choice vegetable seeds, were harvested with the best results, such as the celebrated Musselburgh Leek, Beetroot, Broccoli, Cabbage, &c. Early seed Potatos were also grown in quantity for early forcing. The market gardeners of Musselburgh were famed for their supplies of early vegetables and fruit to the Waverley Market. (By the way, Musselburgh was a station of the Romans, and many of the choice fruits and vegetables were introduced by them. Not a few of the remains of those early invaders of Britain are still to be found.) Gardening was one of the special crafts, and by the law of this ancient royal burgh, Rule I. was: "There shall no man of this society break the Sabbath day, or be found drunk, or breaking and abusing any of the Lord's most holy laws, under the penalty of twenty pounds, Scot's money."

Mr. Goodall left the Joppa Nurseries to take up the cultivation and management of the nurseries of Messrs. Downie and Laird, at West Coates and Pinkhill, in 1854; and during all those intervening years and changes of these enterprising pioneers of Scottish floriculture, Mr. Goodall has been always pushing forward whatever he found most useful for the firm's welfare, and the best interests of their ever increasing arm of customers all over this country as well as in the colonies. The many thousands of Hollyhocks, Dahlias, Pansies, and all other florists' flowers, as well as the more choice florists' flower seeds, were under our friend's careful eye.

Fruit trees, and the scarcer varieties of Roses, shrubs and other gems loved by the florists of bygone days found a happy home under his care. The deep interest in the welfare of his masters, on the part of the servant or friend, was his lifelong study, and the feeling I am glad to record was not mis-spent; for to see the happy greetings on a show day between him and the younger members of the Messrs. Laird was most enjoyable. When the firm was changed, or rather the partnership dissolved, our friend chose to remain with Mr. John Downie and founded the Beechhill Nurseries, where is to be found an immense stock of all plants, &c., of use to the general run of gardening establishments in the kingdom.

It is now upwards of forty years since I became acquainted with Mr. Goodall, and during those years we have acted as judges at all the principal flower shows in the country; and a better judge and more kindly friend it has not been my lot to find. Till his decease it was my hope and trust that he might be spared to carry on the many improvements he had inaugurated, during his well-spent lifetime. There are many gardeners spread over the globe who can attest the good advice from and early training given them by our friend. Mr. Goodall has scarcely ever been absent from a flower show in Edinburgh for upwards of half a century. He was one of the pioneers of the Scottish Pansy Society and the Scottish Horticultural Association. We shall all miss such a good, honest Scotsman. His remains were borne to the grave in Corstorphine Churchyard. You must have met him at our Edinburgh shows.—*J. Grieve.*

[We had known Mr. Goodall for some years past, having met and been introduced to him in the Beechhill Nurseries. We also mentioned the fact in our pages that we met this homely, and humble, faithful and leal-hearted servant; and we had ample evidence that he was trusted and respected by Messrs. R. B. Laird & Sons, by Mr. John Downie, and all their employees, in whose service he had practically spent a lifetime. We had the pleasure of a chat with him as recently as September last, and found him still faithfully attending to his duties, and happy in the performance of the same. The more arduous duties had been taken up by a younger generation, who respected him none the less for that. Our mutual friend passed away at the ripe old age of seventy-eight, on the 15th ult. as mentioned in our last issue, and was laid to rest in Corstorphine Churchyard a few days afterwards.—ED.]

TALES FOR THE YOUNG.

I HAVE been often amused by observing the tendency writers have to deprecate brawn as opposed to brain, and to select for the man that is to "save the ship" a large-browed youth, with dreamy gaze—what the irreverent might term a moony calf with the big head. Two stories I read lately are no exception to this rule. They are both horticultural. The first finds the hero an unwelcome guest on his uncle's mortgaged farm, where all work save this studious youth. At last he requests a small piece of land to "grow something on," and selects a patch which had been planted with Asparagus by a former owner, and let run to weeds as useless by the present incumbent. Manuring it and weeding it took the starch out of the hero pretty well, and he hired the ploughing done. When he began to market his produce in little bundles he was rallied pretty much by his bucolic relatives, and his uncle contemplated letting him off somewhat on the price for ploughing. Finally the curtain rises on them all lamenting the coming foreclosing of aforesaid mortgage, and consequent loss of farm. Enter to them Mr. Boy with a roll of notes. "Here, uncle, is your interest." Grand tableau, during which they weep all over Mr. Boy, who smiles serenely, and informs them he has the local market cornered on Asparagus, and therefore is rich.

Number two is less spectacular, but similar. In both cases they are stung by hearing derogatory remarks, and therefore are stirred to action, which shall silence their detractors. This time it is a heroine who takes the centre of the stage. She is a deceased florist's daughter, and everything is going to rack and ruin when she wakes up. The old foreman is refusing orders for table decoration, and for bouquets and wreaths, when our young friend sails in, and with only "natural artistic faculty"—I think that was the word—eclipses all records No experience required. Isn't that lovely? Only ambition and previous idleness as a preparation for action, and success crowns their efforts every time. —*C. Macquarie, Chicago.*

JOURNEYMEN.

HAVING read the articles in THE GARDENING WORLD, February 23rd, under the headings "Gardeners' Grievances," and "Journeymen," my opinion, as an individual, and his matters for example of the diary, is, I think, he would be the better of another ounce of experience before he goes another hour in front of the present time. When the boys are prepared to face the revolver shots, &c., they will find me here. I am seldom from home, whether in the bothy or in lodgings. Some chaps are left longer with their mother than others are. I suppose when one comes up to be fit for bothy life he is none the worse of a "Guid feer o' the auld wife. I've he'rd the like o' 'im afore." As regards the cooking, I prefer to chum the cook; and for the 'prentice being punished for swearing, poor boy! Only it is a grand thing to bring up the younger gardener in the true faith, if that be what it means. In bygone days I was aye a true Gordon, would never have run away from the midst of war without making some attempt to assist the next to follow. As for the time of attending to the diary it does not matter, should one not forget altogether. The suppers in the bothies I have seen are not of a very spoiling kind. I am pleased to learn that another chap is comfortable. The bothy here has seldom been seen, but will stand a visit of inspection with the majority of the best.—*Wullie, Ross-shire.*

THE PLANT HOUSES.

THE CONSERVATORY.

LILIUMS for early summer flowering should be potted on in succession to those that are being grown for Easter. Such species as L. auratum, L. speciosum, L. eximium (syn. L. Harrisii), and others are most frequently grown. A compost, consisting of peat and loam in equal parts, with one part of good leaf mould and some coarse sand, should be given. The plants for Easter should now be maintained in a temperature of 60° to 65°. They like to be syringed on bright sunny days, and vigorous syringing helps to keep them free from pests. It is well to fumigate the plants once in three weeks, for even with all the syringing one may give, aphides *will* find their way to the tips of the shoots. The above injunction is specially necessary where the plants are growing on the shelves of fruit houses.

CINERARIAS.—Successional batches of these beautiful greenhouse plants come along steadily. The cooler they can be maintained the better they will be, and the longer they will last. The plants in small pots will benefit from having weak applications of liquid manure about twice each week. Those who have been so well advised as to raise a batch of the Star Cinerarias will soon be delighted by their magnificent grace and bright, attractive inflorescences.

SWEET PEAS in pots demand little notice further than to suggest that pinching should now be discontinued. During the growth of the plants it is good and necessary to keep them dwarf and bushy. Now, however, they can be allowed to develop flower buds as soon as they will. A house with a temperature ranging from 55° to 60° will suit them. The stages upon which they stand would be well to be covered with ashes; and it is certainly to their advantage to damp between the pots; especially on bright days. Sweet Peas are susceptible to thrips and greenflies, and a mild occasional fumigation with XL All will do them good in this connection.

RICHARDIAS or Callas are valuable in the greenhouse and conservatory because of their handsome, dark green foliage. Placed toward the back of the stages, provided they are allowed freedom of space, they are indeed very attractive. According to the time they were potted and started, and also according to the after method of treatment, will their appearance and condition of growth now depend; many will be in flower; some may be showing flower, and others may not be expected to throw up their spathes for weeks. R. elliottiana and R. Pentlandi, of course, require slightly warmer treatment than does the common Arum. Still, I have seen R. elliottiana flowering in the open air (in the neighbourhood of London) during summer, so that a warm greenhouse really suits it when grown under glass.

ROOTS and bulbs for forcing should be attended to. The young batches of Cyclamen, zonals and fancy Pelargoniums, &c., for the later part of the season's display, should be potted on as they need it. At all times give them as light a position—consistent with their needs—as possible.

THE STOVE.

In the stove potting occupies a good deal of time and labour. The Palms rarely require a complete shift, unless it be the young ones. The older specimen plants are more often only reduced and top dressed. Many fine exhibition specimens are persistently subjected to the "cutting-in" method; that is, the roots are turned out of the pots, and about 1 in., or perhaps 2 in. of the circumference is removed by sharp cuts. The same size of pot thus suffices for a constantly increasing Palm. Beyond a certain stage, however, it is not advisable to continue this barbarous practice. It is barbarous in so far that it is very unnatural, but it is a good way of saving space, and from a practical point of view is commendable. After being treated in this way they should be kept in a warm stove with a temperature of 65° at night. Such a house ought also to be maintained in a humid condition. Tepid or perceptibly warm water should be used for watering them.

CALADIUMS should now be sought out for potting. An earlier batch of course may have, in some cases, been prepared previous to this. Propagation of a special variety is best and most easily effected by means of offsets and by dividing the tubers. A light, moderately enriched compost suits them well. A stove temperature must, of course, be accorded to them.

CROTONS (or Codiaeums as one should call them) and Dracaenas are the pride of all collections of stove plants. Cuttings may now be taken of both the genera, and it will be well to dispense with some of the larger plants to make room for younger and fresher specimens. It is a practice all too commonly followed—and perhaps naturally too—of hording up old plants even while there are, or could be, younger and better stock to take their place. This fault of crowding ought to be completely overruled; it is bad in every way.—*J. H. D.*

FRUIT UNDER GLASS.

EARLY PEACHES AND NECTARINES.—The weather recently experienced has been unfavourable to fruit forcing, and at present the conditions do not seem to be an improvement. The night temperature in the earliest Peach house should register 50° to 55°, but it should not fall below 50° in the hardest weather. The day temperature may rise up to 65° or 68°, but judicious ventilation must be practised. With the present state of the early houses, dishudding must be constantly attended to. It does the trees an infinite amount of harm to leave them until the growth absolutely requires to be removed. The foreright shoots (that is, those on the upper part of the old shoots when trained to curvilinear trellises or those in front growing outwards, on trees trained upright) may be removed at once, and the side shoots, other than the base laterals that will be required for next season's fruiting wood, should be pinched back to form spurs. The thinning of the fruits will also engage attention, the best fruits being retained and those that are least promising being removed. One fruit per square foot is usually the percentage of fruits retained. When syringing the trees, use chilled water; the syringing, by the way, should be done morning and afternoon, omitting the second or afternoon syringing on dull, cold days. The soil beneath and around the pipes must, however, be kept well damped.

For houses started about eight weeks ago, in which the trees have just got through the setting period, less syringing will be necessary. A night temperature of 50° may be allowed, and up to 75° from sun heat. Of course, the day temperature when it has to be maintained artificially, need not rise higher than 58° or 60°, and on mild days ventilation may be given from 60°, enlarging the amount if there is a tendency for the warmth to increase. No cold draughts should ever be tolerated. It will be found rather trying to prevent high temperatures on days that are intermittently cloudy and sunny, while there is at the same time a cold cutting wind blowing. It is better to let the temperature run up somewhat, and only to keep on a chink of top air. One is apt to shut off all fire heat on such days, but spring weather is very deceptive, and though a house may become heated during a blink of sunshine, that heat soon dissipates when the sun withdraws. The heating system must be watchfully and thoughtfully managed. The borders of the second early house may require a good soaking with tepid rain water. The evaporating troughs (which should always exist) ought to be kept filled with liquid from the farm manure heap. The ammonia which arises from this liquid manure is never strong enough to do any harm to the trees; but, on the contrary, especially in vineries, it does good. Of course, the odour is not agreeable, and might be sufficient to deter visitors from inspecting and interesting themselves in the growing crops. The houses for mid-season supply should be closed in March.

FIGS.—The earliest batch of pot Figs require to be kept in a close and moist house. They can now be placed a little wider apart upon the stages so as to afford the leaves and fruits more air and light. Supplies of weak liquid manure should be given thrice a week. Vary these stimulants every other week. A handful of Thomson's or Clay's manure in a gallon can of water acts beneficially. The successional planted-out Figs should have the borders top dressed with decayed dung. The trees enjoy plenty of soft rain water at the roots. The night temperature should not be lower than 55°, but may rise 15° or 20°, according to the condition of the weather during the day.

CHERRY HOUSE.—The low night temperature (40° to 45°) is beneficial at the present time for permanently planted Cherries. It is advisable to fumigate the house before the flowers expand.—*D. K.*

KEEPING QUALITIES OF APPLES, &c.

EVERYBODY knows that some varieties of Apples are ready for use in September and are out of season in a week or two, while others come later and are "good keepers." The Canada experimental fruit farms have been making tests with Apples, Cherries, Plums and other fruits to see which varieties of these would keep longest under certain conditions. They tried twenty-three varieties of Apples (the names of which are not well known to growers here) and tested their relative keeping qualities. They thus obtained a knowledge of the percentage of sound, of partly decayed or of rotten fruits that each variety would give after being subjected to the test. The fruits were stored in a cellar, the temperature of which ranged from 35° to 40° Fahr. for three months, with the exception of one very cold snap when it fell to 26°. The Apples were undoubtedly frozen but they were in the dark and thawed out gradually. Four of the twenty-three varieties went rotten; eight had 40% and upwards of rotten fruits; while 17⅞% of the fruits of the remaining varieties were totally decayed, and a large percentage were partly decayed. The Ben Davis Apple returned 10[illegible]% of sound fruits, while Newell, Wagener, Rawles Genet and Walbridge had all over 80% of good Apples.

Grapes in sawdust gave better results than those in baskets or open trays. The berries seem to hold to the stem better than in either of the other cases. They were slower to show mildew, owing to the fact that the sawdust absorbed the moisture that evaporated from the Grapes and kept them moist. A difficulty with sawdust packing is that it adheres to the fruit and stem so that in shaking it off, the berries are detached. Cut cork suggests itself as better packing material than sawdust. Dryness is essential to the successful preservation of Grapes.

Plums differ much in their behaviour in cold storage. Tomatos picked when they were just about to redden, wrapped separately in tissue paper and placed in a crate packed on the bottom and top with "excelsior," were kept about two months. Green Tomatos may be kept for several months, but when removed to undergo ripening, they simply rot. At present the Cucumber is not a success in cold storage. Strawberries kept fairly well for three weeks in a temperature of 30°, but it was necessary to surround the fruit with cotton wool. Black Currants remained fresh and saleable for ten days; Red Currants for six weeks; Cherries covered with wool kept for a month when maintained at 36°. Greengages kept for ten weeks, and Victoria Plums for nine weeks, but cooking varieties of Plums with this exception did not lend themselves satisfactorily to cold storage. The above particulars appear in *The Canadian Horticulturist* for December.

HINTS FOR AMATEURS.

CARNATIONS.

The various sections of Carnations.—The hardier species of the Carnation tribe (Dianthus) have been amongst the most favoured plants since times far back. Their popularity was never greater than it is at the present day; and there is the National Carnation Society and other minor societies, whose special existence is to encourage the cultivation of this special flower. The "garden" or border Carnation is now sub-divided into selfs, fancies, yellow grounds, and so on. The parent species of these Carnations is usually stated to be Dianthus Caryophyllus. The section of Carnations, which for long have been specifically called Picotees, originated as a sport from the true Carnation. The separation is purely artificial, and were it not that our leading growers exerted strict vigilance in selecting and keeping up the type, we would very probably find the majority of Picotees losing their distinctive character, and becoming flaked or bizarre Carnations. Then there are the Pinks, not the Mrs. Sinkins type, but the fringed Cottage Pinks so often used as edgings to walks and alleys. These are traced to Dianthus plumarius. The latter also gave us the stronger and more substantial flowers, found in the Pinks Mrs. Sinkins and Her Majesty. Marguerite Carnations originated from a cross with the Indian Pink and the Carnation.

Dianthus barbatus is the Sweet William; D. hybridus, the parent of the Mule Pinks; D. sinensis Heddewigii is the type of an annual class, whose forms are now quite numerous, including "stellaris," "laciniatus," and double-flowered varieties. Self and flaked Carnations would seem to have been known for some centuries. Certainly a yellow "Gilloflower," as the Carnation was then called, was in vogue about the year 1600—the end of Queen Elizabeth's time. Several striped varieties are noted by Parkinson in his "Paradisus," published thirty years later.

The Carnation then, has gradually been undergoing change and improvement, till at the present day we have the following groups or sections of Carnations: Bizarres, flakes, selfs, fancies, yellow grounds, tree Carnation, Malmaisons, and of course Picotee, which is again sub-divided into white and yellow grounds, and further according to the light, medium, or heavy edging colour.

Selfs have only one colour, or shades of that colour.

Fancies embrace all flowers with markings on coloured grounds, and all those distinctly marked on white ground too.

Flakes have one colour only, laid lengthways on a white ground, and are classed as scarlet, rose, or purple flakes.

Bizarres have two colours disposed longitudinally on a white ground, and are sub-divided into scarlet, crimson, and pink and purple forms.

Yellow grounds are a very fascinating section. The name is applied to those whose petals are yellow (as a "ground" colour) and marked over with pink, rose, or rich plum, often lavender, and forming lovely combinations. Yellow ground Picotees and fancy Carnations are easily confused.

The foregoing remarks may be useful to some of my readers, and if fuller information is desired on some of these points, I would recommend Mr. Wegnelin's book on Carnations, to be had from Messrs. George Newnes, Ltd.

The culture of Carnations demands a good deal of experience, more especially the culture of the tree and Malmaison sorts, these being of course almost entirely grown in pots. Cool treatment is one of the first rules in their management. Careful watering, shading, potting, and ventilating are further items whose proper and careful providing means success or the opposite. I cannot go fully into the details of management now, but a few lines may be appended.

Border Carnations.—This is the hardiest section of the present day Carnations. Carnations, as a general rule, are quite hardy. The coddling treatment should not be practised, it lays the beginnings of weakness and future failures. The ground for border Carnations should be well prepared. A sunny sheltered spot should be preferred to any other, but a good deep soil is essential. It is advisable to make a bed specially for these plants, providing a medium quality of loam with a goodly proportion of the best rooted dung. When once made the bed should be yearly top dressed with the same good quality of dung, and should be dug 1½ ft. deep. The layers are generally rooted and ready in October, either for potting into 3-in. pots to be kept in cold frames through the winter, or for planting at once into beds at distances of half a foot apart.

In April the spring planting should be done. The plants may then be allowed more space, say 1 ft. or 18 in. apart either way. When the planting has been completed a wire netting guard should be fixed neatly around the bed or border. By bed I do not mean simply a small round bed or a square one, but a bed large enough to contain a collection of fifty or sixty varieties, and its shape might be oblong. Stakes will be required for the flower spikes after growth has started. It is well to do some dishudding; and an occasional watering may be necessary, as heat and dryness are the ruin of Carnations. The surface of the soil between the plants should also be frequently stirred.

Marguerite Carnations, especially the pink varieties, are very pretty, and have the advantage of being free bloomers, and will do well anywhere. Seeds should be sown in gentle heat in boxes indoors about March, and young plants will be fit for planting out in May.

Malmaison Carnations have recently been greatly increased as regards the numbers of fine varieties that are now offered by the florists. For a very long time there was no other sort than the old Blush Pink, but Sir Charles Freemantle, Prime Minister, Lady Middleton, Trumpeter, and Churchwarden, are now well known favourites of this particular group. Plants of three and four years of age flower most freely. Cuttings can be taken in September, and struck in frames among sandy soil, a practice which I have seen performed with successful results and very little trouble. The more frequent practice, however, is to layer the plants. The developed specimens are laid on their sides, and are then layered in the ordinary way among suitable soil It is advisable to keep Malmaisons constantly potted on, for growth is slow. During all their growth they should be maintained in cool temperatures. In winter the shelves of a Peach house within 1½ ft. from the glass, should be accorded to them, and at that period the temperature should be kept between 40° and 50°.

Shortly before the Peach house is about to be closed for forcing or starting the Carnations should be removed to a greenhouse. The young plants should be kept to a single stem during the first year (growing them in frames during summer, and shading from bright sun), and after flowering a number of stems will branch out, and these should be staked into shape. During the winter period the plants are as a rule kept almost dry, a practice which I never strictly followed, and yet was able to grow healthy, firm-wooded plants.

Tree or Winter flowering Carnations.—Why this type should be specified as "tree" Carnations I am altogether unable to say. Some florists assert that it is because of their tree-like habit—save the mark! However, the name is widely current, and we must accept it. The cuttings should be taken as early in the year as possible, choosing good strong shoots, of 2½ in. to 3 in. in length. These should be inserted round the edge of 3-in. pots; or a 5-in. pot may be used, placing a 3-in. pot inside it and filling in the sandy soil between the two pots. This practice is commendable in this that it tends to keep the soil warmer, better aerated, and does not expose the cuttings so much to damping off.

The pots should be plunged amongst ashes in a warm frame. The ashes and the soil in which the cuttings are placed must be kept moist. When rooted pot the little plants into thumb pots, but still maintain them in the warm temperature. After a day or two in a house ranging between 60° and 65°, remove the newly potted plants to a greenhouse, and grow them afterwards in a cool temperature. During their early stages of growth, the young shoots should be stopped once or twice to form bushy specimens. Keep them shaded from strong, direct sunshine.—*Beacon.*

The Temperature at Dawson fell to 68½° below zero on January 17th.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Making Flower Boxes.—*J. T.*: The width and breadth of the window-sill will have to be taken. White deal is the best wood. If the window ledge slopes you will require to fix pieces of wood to the bottom of the box, so as to keep it level. The front can be ornamented by Fir or Pine cones or by panelling. Pieces of coloured wax-cloth when properly arranged are very attractive.

Conifers and shrubs from cuttings.—*F.S.*: The Thuyas, Cupressus, and Cryptomerias which you name can be propagated from cuttings taken in the month of September, and placed an inch or two into light soil in a sheltered border. They gradually root and remain in good condition throughout the winter. At first they may be inserted at a few inches apart in rows; but when rooted in spring time they may be lifted and set out wider. In the case of deciduous shrubs many of them can be increased by means of cuttings taken during the winter. Good clean shoots of firm wood should be selected. In length these need not be longer than 1 ft. A spot preferred by ourselves would be any nice fruit border where the surroundings afford shelter from cutting winds. It is of the first importance to have a light quality of soil. On any but a sandy or well drained loam, the percentage of those that perish is bound to be large. The ground should first of all be well prepared by digging. After this tread it moderately firm, and take out shallow trenches about 3 in. in depth by the use of a spade and a tightly stretched line. The cuttings having been prepared with the usual care, insert them letting the base rest at the bottom of the trench. Fill in the soil and tread moderately firm. A space of a foot should be left between the rows, although an inch or two will suffice between the cuttings themselves. Shrubs that may be treated thus in the outdoor border include Diervillas (Welgelas), Aucubas, Forsythias, Deutzias, Philadelphus, Ribes, Sambucus, Lilac, Ivies, Berberis, Hydrangeas, Roses, Laurels, Wych Hazel, Veronicas (hardy species), Crataegus, Privet, numerous species of Prunus, Olearia Haastii, Honeysuckles, and many others. Those shrubs that are not quite so resistive to cold weather, including Buddlelas, Exochorda grandiflora, species of Cistus, Hibiscus, Hypericum moserianum, Viburnum plicatum, Tree Paeonias, Spiraeas, Tamarix, and others, should be allowed the benefit of a cold pit or frame. Cuttings of these shrubs may be inserted in October, or indeed any time till growth starts in spring.

Selection of Roses for backwall of greenhouse.—*C. Dickson*: The following will suit your purpose:—Celine Forestier, Belle Lyonaise, climbing Devoniensis, climbing Niphetos, climbing Perle des Jardins, W. A Richardson, L'Ideal, Marechal Niel, Mdme. Berard, Rêve d'Or, Gustave Regis, and others of the climbing Tea, Hybrid Tea, and Noisette group. A narrow border, say 2 ft. in width and slightly less in depth, composed of three parts of the best quality of loam, with less than one part each of sand and leaf mould, and a dash of pounded charcoal, should be allowed. Roughly broken bricks covered with turves, should be arranged as drainage. The planting must be carefully performed.

Treatment of Rose borders.—*C. Dickson*: Unless the weather is very frosty and the outlook very uncertain, the pruning of all kinds of Roses in the open air may be left for fully a month yet. But if your borders are well sheltered and the situation is dry, pruning may safely be performed by the beginning of March. At any rate you can fork-in the manure, leaving the soil in a rough state as it can be hoed and broken down later on.

Plants for contrast in beds.—*J. F. Read*: The "Red hot Poker" plants (Kniphofias) contrast well with the white, beautifully fragrant flowers of Nicotiana affinis. Blue Delphiniums and the common White Lily are also fine, and even the Lily tribe itself can be used to good effect. At the same time we think it best to keep a species or variety of Lilium by itself, and if dwarfer Azaleas are seen along with Liliums nothing better could be

imagined. Again one could use Delphiniums (as being the best, tall, blue-flowered plants) in a bed along with Hydrangea paniculata grandiflora. The mauvy Lythrum Salicaria contrasts with the yellow Loosestrife, and the white and red Epilobiums, so much used in the wild garden or in "natural" gardening. Verbascum Lychnitis and Lychnis chalcedonica; Pentstemon barbatus above blue Aquilegias, blue and white Campanulas intermixed; and mixtures of Glyceria spectabilis or Phalaris arundinacea with any erect and showy perennial or annual, might all be considered. We presume these are suitable plants for your purpose. The dwarfer bedding contrasts are easily managed. Galtonia candicans contrasts with Gladioli; Spiraea Anthony Waterer with Lilium candidum; Salpiglosis and blue Cornflowers with something dwarfer below them would be pleasing. Very fine foliage effects can be produced by planting together masses of Solanums, Cannas, Caladium esculentum, Coleus, Ricinus, Lavateras, and a few selected species of Polygonums, as for instance P. lanigerum. P. orientalis, &c.

Plants for a dry border.—*H. S.*: By a proper selection even dry ground can be attractively furnished. Many hardy perennial plants do not object to a dry border, though of course they do not develop so well as in borders that are liberally provided with moisture, &c. Pyrethrums and Phloxes are a case in point. The tuberous Begonias flower continuously in dry beds or borders; as also Poppies, Lavender, Canterbury Bells, Everlasting Peas, Portulacas, Helipterums, Coreopsis, Sunflowers, and Lychnis chalcedonica. Where dry borders exist you must do the best you can for them by adding moisture-retaining material, such as leaf soil, vegetable mould, and well decayed manure. Where bulbous plants are set in dry borders, they should be more deeply planted than is the rule.

Fragrant plants for the garden.—*L. J. R.*: Plants with typically fragrant leaves or flowers to form "scent" borders would include the following: Aloysia citriodora (grown in pots and plunged out during summer), Artemisia Abrotanum or Southernwood, Balm (Melissia officinalis), Bergamot (Monarda didyma), Birdsfoot Trefoil (Lotus corniculatus), splendid for dry banks, a British wild plant; English Bluebells (Scilla nutans), Wallflower, Heliotrope, Lily-of-the Valley, Winter Heliotrope (Petasites fragrans), all the Primrose family, Daffodils, Daphnes, Day Lilies, Common Elder, Epilobium hirsutum, Golden Feather, Violas, Jonquils, Sweet Peas, Lavender, Liliums, especially the common White Lily; Lilac, Honeysuckle, Marjoram (Origanum officinale), night scented Stock, Mentha, the Mint tribe, Mignonette, Mimulus moschatus, night scented Tobacco (Nicotiana affinis), Paeonies, scented Pelargoniums, of which P. tomentosum, P. quercifolium, P. Lady Mary, P. Lady Plymouth, P. crispum, P. Lady Scarborough, P. Radula, and P. denticulatum majus, are the most fragrant. Phloxes are markedly fragrant; Mule and other Pinks; Ribes sanguineum, Hesperis matronalis or Dame's Violet, Roses, Rosemary, Common Rue (Ruta graveolens), Stocks, Sweet William, Tansy, Thyme, Woodruff, Violets, and Yarrow (Artemesia). Most of these subjects are suitable for any garden border in summer.

ANTHURIUM VEITCHI.

Whatever objections some people may have to the flowers of various Anthuriums, no objection need be taken in the present case, as the spathes are unattractive and the plant grown solely for the sake of its foliage. Fine specimens make leaves 3 ft. to 5 ft. long, this length referring to the lamina or blade alone, the stalk measuring so much more. Plants having leaves of such dimensions usually take up a great deal of space, and can only be accommodated in a few establishments of large size; but A. Veitchi takes up remarkably little room owing to the peculiar habit of the plant. The caudex or rootstock is erect, and from it the leaf-stalks ascend at a very sharp angle, being almost erect. Then from the top of the stalk the leaf-blade hangs down perpendicularly, unless too heavy for the stalk. Then all that is necessary is to stake the stalks, and let the leaf-blade hang, which will hide both stalks and stakes. The rugose nature of the leaf, its dark green colour and leathery nature when mature, as well as the small space it occupies are arguments in favour of the extended cultivation of this noble Aroid. The accompanying illustration shows the points and features we have just indicated.

THE WOOD LEOPARD MOTH. (ZEUZERA AESCULI.)

The caterpillars of this beautiful and formidable moth have of late years in particular committed a great amount of damage amongst several species of trees in the London parks and gardens. Evidently it is far more plentiful than is generally supposed, and in many cases the ravages have been wrongly attributed to the goat moth, another pest of our forest and woodland, which is also far from uncommon around London. The attacks of the Wood Leopard Moth, unless in the case of young Thorns and various members of the Pyrus family, are usually confined to the upper portions of the trees, where recognition is difficult and remedies almost beyond reach. It requires three seasons from the laying of the egg for the perfect development of the caterpillar, during which time the tunnelling engaged in not only acts injuriously on the timber, but it also so weakens the branch or shoot that it readily snaps across during windy weather. The tunnels or galleries vary according to the age of the caterpillar, from one-fourth to nearly one-half inch in diameter, and are carried through the hardest heart wood, or even such as has become almost petrified through age or disease, the trees usually attacked being the Spanish Chestnut, Lime, Elm, Poplar, Thorn, and Beam Tree. For all constructive purposes the timber that has become tunnelled is perfectly useless, the galleries being carried in all directions, and often to such an extent that the trees attacked are killed outright in consequence. For this reason, although the moth is one of our largest and most beautiful, we would recommend any of the following methods of destroying the caterpillars:—

1. With a piece of unctuous clay form a cup-shaped receptacle around the aperture and fill this with gas-tar. The tar following the course of the tunnel generally kills or dislodges the caterpillar.

2. Insert a piece of cyanide of potassium into the entrance hole, and plug with clay or wax to prevent the fumes escaping.

3 Plug the holes with a mixture of soot, lime, and cow manure, the two former in about half the bulk of the latter.

4. A piece of pliable hooked wire inserted into the hole has been successfully employed to kill or dislodge the caterpillar.

5. Prune off and burn the branches of infected trees, and as the caterpillar rarely attacks the stems this will not necessitate the total removal of any specimens.—*A. D. Webster.*

RIVINA HUMILIS.

Plants of this make exceedingly pretty berried subjects where well cared for. They are less conspicuous for their flowers than their highly-coloured berries, about the size of small peas. When well grown they present a highly ornamental plant for decorative purposes, the long spikes of bright scarlet berries remaining on the plants for months. They are readily increased from seeds of their own throwing off, which makes them much less troublesome than many other decorative plants. They are of robust growth and may be had in splendour nearly all the year round, if necessary. Anyone having a little store accommodation might do well to add to its beauty by securing a few plants of this serviceable subject. For a compost, they delight in equal proportions of peat and loam, with a little sand added, giving occasional syringings overhead to prevent the ravages of red spider. Although classified as stove plants, if carefully hardened off, they can be used for conservatory decoration—that is, after coming to maturity. For table decoration they are found hard to surpass, their soft, alternate,

Anthurium Veitchi.

light green leaves showing off their long spikes of bright scarlet berries to advantage. They do best if kept in small pots, giving occasional waterings of artificial manure. They are subject to become bare and unsightly at the base if grown into large specimens.—*Walter Hogarth, Norton Gardens, Ratho, Midlothian.*

ASTER TRADESCANTII.

A FEW years ago I saw this beautiful Starwort at a Chrysanthemum show. The plants were grown in 7-in. pots. and arranged along the centre of the tables through the hall. I was so much attracted by its beauty that I resolved to grow some plants also, and should like to commend it to the notice of gardeners who are readers of the GARDENING WORLD and who may not as yet have tried it as a pot plant. When I first obtained a plant of A. Tradescantii, I divided it and potted the pieces into 4-in. pots and started them in a cold frame with Chrysanthemums. Subsequent treatment was identical with that accorded to the Chrysanthemums, the plants growing away with three and four shoots each, which were fastened to neat stakes when the plants received their final shift in June into 10-in. pots. Water was needed and given in abundance, also weak soot water varied with liquid manure and the plants well syringed every evening. When in flower the plants were about 3 ft. high and as much in diameter and must have carried thousands of flowers. The usefulness of these sprays of small starry blossoms can scarcely be overestimated for arranging with cut Chrysanthemums or other flowers. As pot plants they are also of great value for room and conservatory decoration. Many other Starworts would doubtless well repay for pot culture.—*Cantab.*

THE BOSTON FERN.

THIS, which is identical with our Nephrolepis exaltata, is one of the most popular Ferns in America. Among seedlings there will generally be found some variation, and the best means to increase the stock is by taking off the young offsets, which are produced freely when the plants are in a healthy growing state. Or perhaps the most rapid way to increase stock is to plunge a few free-growing plants in some suitable material where the stolons (or rhizomes) will spread freely and produce young plants in all directions.

It was a long time before our English florists would take up this useful Fern, but it is now most extensively grown for market and good plants always find a ready sale. I find as a Fern for house decoration it will last as well as any of the popular Pterises, and as a basket Fern it has no rival.

I have previously referred to the American N. bostonensis and our N. exaltata being the same variety, and I may mention that when I once met Mr. Eisele, of H. A. Dreer & Co., Philadelphia, he confirmed this, and I find a note to the same effect in the *American Florist* of February 2nd.—*A. Hemsley.*

NEPENTHES MASTERSIANA.

THE Pitcher Plant, as this is sometimes called, forms one of the best stove plants. When well grown these pitchers can sometimes hold about a pint of water. They require a moist temperature and free exposure to light, the latter being most essential, and for this reason the plants are better grown in baskets in a temperature of 70° to 75°. The best rooting material is peat fibre, sphagnum moss, with pieces of crocks and charcoal. Potting should be done in early spring when fresh growth is made. They are better to be shaded from the strong rays of the sun. On no account use manure water, as this only causes rank growth without pitchers. In the above-named variety the best growths for forming pitchers are the dwarf and close growing sucker-like shoots which spring from the base. A good plan is (after some pitchers are formed and growth commences to lengthen) to pinch out the points which will cause such growths to be made, or old plants can be cut over to within 3 in. of the base. The firm portions of the shoots removed may (if a big stock is desired) be cut up into lengths of two joints and placed in a well drained 2½-in. pot, using a mixture of peat fibre, sphagnum moss, and coarse sand. If placed in a propagating case and kept continually moist they root well.—*T. S. Dick, Castlemilk Gardens, Lockerbie.*

A STRAWBERRY SUPPORT.

MANY growers of the luscious Strawberry have, at one time or another, been grieved or annoyed at the rotting or decaying of the fruit just when about fit to gather. This applies to plantations in the open air, as well as to plants in pots when being forced to produce an early supply. The labour and expense entailed by the operation of forcing urges the gardener to take means for supporting the fruits and thereby prevent them from being damaged in watering or otherwise. By supporting the trusses of fruit the berries by exposure to the sunshine take on a much deeper and richer colour, and are consequently of better flavour, than if one side only is exposed to light.

The ordinary method of supporting Strawberries in pots is by using wooden pegs with a fork at the

STRAWBERRY SUPPORT.

end. All this entails labour, which comes to be a heavy item where large quantities are forced. Mr. Henry Low, The Gardens, Larbert House, Falkirk, Stirlingshire, has contrived a simple invention by which the fruits can be supported by two pieces of wire. One of these pieces is termed the standard, and consists of a straight rod, the top of which is twisted so as to form a horizontal circle or ring of moderate size. The other piece is termed the sling, one end of which is spirally curved and intended for receiving the main stalk of the truss of fruit. The middle portion of the sling is bent or curved into a series of hooks or catches, intended for raising or lowering the bunch to any desired height according to circumstances. The hooks or catches fit into grooves or depressions in the top ring of the standard, thereby keeping the whole sling in proper position and on that particular side of the plant which may be desired. One standard is sufficient for each, but one, two or more slings may be necessary according to the number of trusses on the plant. Two contiguous trusses might be put into one sling at the discretion of the operator.

All this may be done very quickly on account of the simplicity of the invention and the few things that need be handled in fixing up the fruits of a batch of plants. The accompanying illustration shows a pot plant, the fruits of which are supported by the two pieces of wire forming the simple invention of Mr. Low.

NOTICE OF BOOK.

THE GROWERS' GUIDE TO HOW TO MAKE THE MOST OF THE LAND. New Century Edition. Up-to-date. Three complete sections in one book. Illustrated. Price 1s. By Sampson Morgan. London: The Express Publishing Company, 50, Fleet Street, E.C.

THE author of this book of some 142 pages has done much in the interests of fruit at one time or another, and claims to be the "founding editor of the first fruit trade newspaper published in the United Kingdom (1885), and the originator of the fruit growing movement." On the present occasion he says that some growers have failed because they worked in the old beaten track of their forefathers. It is more than likely that many of them will continue to do so to the end of their time; and that it remains for the more versatile to change with the times, and the younger generation to proceed on modern lines and prove whether the business of fruit growing can be made to pay or not. Preferential protection is inimical to the welfare of the industry, as was proved when the fruit growers in the early years of the past century (not the present as is stated here by a *lapsus pennae*, we presume) induced the government to impose a tax on Apples, and later on a heavier one. The value of English Apples declined in like ration, and the growers induced the legislature to rescind their previous enactments in relation to Apples.

The author contends that protection makes producers careless. If such were really the case, as there is little room to doubt, the products would be of inferior value and the foreigner would reap the advantage of the best market in spite of the impost or duty on their importations. The influence of free trade has induced such an improved method of production as to be without parallel in the history of horticulture. Free trade has sharpened the wit of the grower with results that prove the Briton capable of holding his own when driven to it.

Short chapters are given on the cultivation of Figs, Gooseberries, Apples, Cherries, Apricots, Currants, Brambles, Grapes, Melons, Mulberries, Nectarines, Peaches, Pears, Plums, Raspberries and Strawberries, all of which are market fruits in every sense of the term. The instructions given are short and precise, the various points being dealt with in a sentence or short paragraph. The best early dessert Apples are given as Devonshire Quarrenden, Worcester Pearmain, Ingestrie; and the best late ones, Cox's Orange Pippin, Blenheim Orange, Gascoyne's Scarlet Seedling, Golden Knob, and Barnack's Beauty. The latter, we fancy, is not yet very widely known. Early culinary Apples recommended are White Transparent, Julien, Keswick Codlin and Lord Suffield; best late varieties are Small's Admirable, Blenheim Orange, Prince Bismarck, Wellington, Lane's Prince Albert and Bramley's Seedling. The lists are short, it is true, and many would no doubt include some of their own favourites. Public demand would have to decide the point ultimately. The most important factors in the case are that the fruits must be good for the purposes recommended, and that they are grown in such quantities as to render the supply continuous, if the growers and retailers are to retain the customers who come to buy and are pleased with the article furnished them.

The second part of the book deals with the production and marketing of those vegetables which are most in demand and the quality and condition in which they must be marketed. Asparagus, Beans, Broccoli, Brussels Sprouts, Cabbages, Cauliflowers, Celery, Cucumbers, Mushrooms, Onions, Peas, Radishes, Tomatos, Seakale, Potatos, Mint and Turnips, are the vegetables dealt with, and a perusal of the instructions can hardly fail to be of service to those who intend growing for market or have already commenced.

Flowers constitute the theme of the third portion of the book, and include such well known and popular subjects as Arums, Bouvardias, Chrysanthemums, Eucharis, Forget-me-nots, Gardenias, Hyacinths, Lily of the Valley, Liliums, Mignonette, Narcissi, Pelargoniums, Roses, Spiraeas, Sweet Peas, Tuberoses, Tulips and Violets. It will be seen that these must constitute a small fraction only of the flowers which find their way into Covent Garden Market, but they are flowers practically always in demand, when to be had in season or out of season. By adopting various methods of forcing, accelerating or retarding them so that they can be produced on the market out of season, the value obtainable for the same is greatly enhanced.

MONSTERAS.

EVERY gardener has seen the Monsteras, those large tropical climbing shrubs with their peculiarly lobed leaves with round holes. They seem to be confined in their natural state, to the islands of the West Indies and to the tropical parts of South America and to Mexico, growing as they do in the rich forests, climbing upon the vegetation of stronger growth. In its young state the tissue of the leaf is entire; but the tissue between the veins ceases to grow rapidly, becoming dry and tears away, thus leaving holes. At the edge the marginal part usually breaks, and the leaves become lobed. It is also remarkable to notice, that though the plant begins as a climber with its roots in the soil, it frequently becomes an epiphyte with aerial roots.

According to Mr. Willis, M.A., the genus (first named by Adanson) contains fifteen species, but the one mostly grown in our warm plant houses is M. deliciosa having edible fruits. The fruit has a peculiar taste, described by some one as being a combination of the flavours of the Melon, Pineapple and Banana! The colour of the honey-comb like

fruit-spadix, certainly resembles that of the Banana, but I never detected much of the flavour of the latter. I think that a very small portion of this fruit is sufficient for any one. Still, I recall one household where any amount of Monstera fruits were consumed with gusto. When this plant is grown, it should be in a deep, rich border such as one finds bordering the paths of a warm glass corridor. Abundance of moisture both above and at the roots is wanted by this rampant grower.

When a plant becomes too tall its top growth may be severed, and as it readily emits roots, such a shoot can be used for propagation. Plants in 8-in. pots when kept dwarfed and grown "hard" are very suitable and serviceable for summer house decorations used along with Palms and other foliage plants. The appearance of the great leaves is picturesque and highly effective.—*H. G.*

UNION IS STRENGTH.

Reading weekly the many interesting letters on the above subject, I ask the privilege, Mr. Editor, to say something on the matter through the columns of your valuable and interesting paper. Like Mr. J. C. Dick, as he stated in one of his many excellent contributions to this paper, about other trades having unions, I repeat why not gardeners having one also. It certainly stands to reason by any earnest thinking person, that what gardeners have to learn, and the hardships they have to endure before attaining the position of a head gardenership, that they are by far the worst paid men of the present day. So to better our position must be by union, or left to drag along as in the present case. To secure this union would mean a vast amount of arduous labour, chiefly amongst young gardeners at the introductory stage, as is well known by the most of us, that head gardeners cannot be so independent as their younger brethren. To have the power to act on such a motive, would mean to several the position they hold. But I have not the slightest doubt as regards forming a union, that there are young men in the profession competent enough to set the mill agoing; and I am sure, many, if not all the head gardeners would soon unite with us after a satisfactory footing had been obtained.

My suggestion would be this, where a few of us young gardeners could co-operate, to arrange for holding a meeting in some of our most central towns, for instance our capital, on a flower show day, when so many both head and under gardeners generally meet their many friends and acquaintances, it would be the ardent request of every old or young gardener interested in the welfare of his profession to induce his fellow gardeners to attend that said meeting. There would be some kind hearted gardeners present that could give their views on the subject in question, and would willingly do so I feel sure. The formation of a union would mean to all connected with horticulture a great benefit for more reasons than one, namely, to exclude all would-be gardeners from being employed in our midst under the heading of gardeners, which means a bit of "chucking overboard" at the present time, as there are too many of the would-be sort, lurching around encroaching under a false *nom de plume*, which answers for our present circumstances.

Our aim would be to secure a good all round man, one who knows gardening in all its branches, its drawbacks, etc., that said man to be paid a suitable wage, to enable him to act with a free hand, and devote his full time to the interests of the union, by holding meetings throughout the various districts. Our duty would be to insure ourselves of the funds of the said union, which means a larger premium for a year or two, until the membership increased enough to be able to lighten the premium. For instance say 5s. or even more would never be missed for a yearly contribution, which would in the course of a few years, I am positive, be in exchange to us as much in a week. I should have been pleased to have added more, but I should like to hear the opinion of a few others on the subject before doing so.—"*Je vis en espoir.*"

Swiss Produce.—The quantity of orchard and market garden produce imported into Switzerland is considerable. For 1899 the values were as follows: Fresh fruits, £167,127; fresh vegetables, £4,858; flower bulbs, £2,824; trees, shrubs, &c., £36,721 (of these quantities the United Kingdom supplied very little indeed of the fresh fruit); fresh vegetables, £14; flower bulbs, £8; trees, shrubs, &c., £83.

PLANTS IN FLOWER AT CHELSEA.

In the extensive and widely representative collections of plants grown by Messrs. J. Veitch & Sons, Ltd., Chelsea, something may be found in bloom at every period of the year. On entering a house the first plant we noted was Exacum Forbesi, with light blue flowers similar to those of E. affine, but with leaves almost as large as those of E. macranthum. The plant is perennial, evergreen, neat, and very pretty.

Greenhouse Rhododendrons.

The hybrid javanico-jasminiflorum Rhododendrons bloom from January to December, as has been proved by the exhibits of them at the Drill Hall. Last week we found quite a large number of them in bloom considering the early period of the year. Rhododendron King Edward VII. is a hybrid between R. javanicum and Teysmanni, the latter being the pollen bearer. The flowers are of great size, intermediate between the parents and of a handsome golden-primrose shade of colour. R. javanicum itself has orange flowers, while those of R. Teysmanni are pale primrose, deepening with age; and in both cases they are smaller than those of the progeny. The flowers of Thetis are yellow, shaded with salmon and have darker nerves, red filaments, and crimson anthers. Little Beauty (malayanum × Monarch) has bright red flowers, very brilliant in bud and shining. Cloth of Gold has large, open, yellow flowers, in size like those of King Edward VII. Mrs. Heal is the only pure white Rhododendron in this section, and is also of good bushy habit. The flowers of Princess Royal are rosy-pink, while those of Brilliant are rich red and shining.

The five varieties of double Rhododendrons of this hybrid strain have never been supplemented, and curiously enough they were all flowering simultaneously last week. Balsamaeflorum roseum has double rose flowers, with a long tube. Those of Balsamaeflorum aureum are yellow; B. album, white; B. carneum, flesh colour; and Rajah, salmon-orange.

Greenhouse Plants.

A fine display of flowers is kept up in the greenhouse at all periods of the year, but we think the plants are never more interesting than in the early months of the year, owing to the fine contrast between them and the bleak condition of the outdoor subjects. A mixed and delicious aroma also pervades the atmosphere of the house, arising from Boronias, Mignonette, Hyacinths, Cinerarias, Narcissi, Lily of the Valley, and other plants which may be in bloom. Boronia megastigma is supreme for scent at the present time. The well known Acacia Drummondi, with its long catkins of flowers, is very fine; but equally pretty is the less common A. ovata, with its myriad globular clusters of deep yellow flowers. Several Heaths are now in perfection, including the pink and white mouthed Erica wilmoreana, E. campanulata, with pink, bell-shaped flowers; E. melanthera, with tiny white flowers and black anthers; and E. persoluta fastigiata alba, having its short side shoots as erect as those of the Lombardy Poplar. Its myriads of tiny flowers are white with the faintest tint of blush. The typical E. persoluta flowers about a month later than this. A companion will shortly be added in E. persoluta rubra, having red flowers. It is a pity these bushy and neat old-fashioned flowers are not more generally grown for greenhouse and conservatory decoration, for they last a long time in bloom.

The early flowering Indian Azaleas are very acceptable at this early period of the year. The finest of the double white varieties is undoubtedly A. Deutsche Perle, naturally early and easily forced or hastened into bloom. A. narcissiflora is a semi-double white, and useful on account of its early flowering. Professor Walters has very large flowers and wavy petals of a salmon-pink, blotched with crimson on the upper segments, and edged white. A. vervaeneana is double salmon-pink with broad white edges, and very handsome. A few of the plants sport a little to a soft colour. A. indica Kaempferi has soft rosy flowers. It is hardly necessary to observe that all the Azaleas are now classed under Rhododendron, so that the above are all varieties of Rhododendron indicum.

Many varieties of Epacris, the New Holland representatives of the Heaths, have already commenced to flower. E. Premier has long-tubed, rosy-red flowers, and was originally sent out by Messrs. Veitch. With the exception of the anthers the flowers of Her Majesty are pure white. Those of E. Diadem are deep crimson-red; E. Attraction, pink with a large and wide flower; and Fireball, orange-red. A large batch of Daphne indica alba, in one house, has been scenting the atmosphere with its deliciously fragrant flowers for a long time past. A house formerly occupied with Araucaria excelsa is now completely filled with the finest lot of Aspidistra lurida variegata which one could wish to see.

Stove Plants.

The Anthurium house will soon be bright with a long succession of richly coloured spathes, some of which are already expanded. The last of Coleus thyrsoideus is still flowering in the stove, having kept up a display for over two months. Very pretty is the hybrid Vriesia leodinense with its red and yellow bracts, and yellow flowers, the former being the most durable. The Otaheite Orange (Citrus sinensis) carries small and highly ornamental fruits. Begonia Gloire de Lorraine and B. Gloire de Sceaux are leading plants amongst their kind at the present time.

A houseful of Crotons, even at the present time, is very bright with the best decorative and show varieties, whether broad, narrow, or long-leaved. Warreni, Prince of Wales, and Reedi are three of the best for exhibition purposes. Other bold and handsome varieties include Baron James Rothschild, Cronstadti, aneitumense, and Williamsii, the latter having bronzy-red and green leaves much more undulated than those of Baron James Rothschild. On the other side of the house are many of the highly coloured Dracaenas, as well as the paler silvery and yellow variegated types like D. godseffiana, D. goldieana, and D. sanderiana. Both in this house and others close by Kentias are grown by the thousand, as they are the most frequently required in all kinds of floral decorations.

A very useful room plant is Maranta major, the leaves of which are green above, silvery beneath and stand a great deal of bad usage. On the occasion of our visit the fine collection of Nepenthes was being overhauled and re-basketed. Many fine pitchers were still hanging, including a large quantity of N. Mastersi. The pitchers of N. Curtisii are notable for their long and narrow outline as well as the distinct elongated green patches on a crimson ground. Elsewhere was a large and fine batch of Cocos weddeliana, and dark red and bronzy-purple leaved Dracaenas. A two-year-old specimen of D. sanderiana, consisting of many stems with numerous suckers at their base, stood 6 ft. to 7 ft. high. Here again were Palms in quantity, including such popular subjects as Kentias, Latanias, Phoenix, &c.

Orchids.

The long Orchid range, but particularly the warmer divisions, contains a considerable number of species, varieties and hybrids in bloom. In baskets hung up near the glass are well-flowered pieces of D. atroviolaceum, D. findlayanum, D. crassinode, D. euosmum, D. euosmum virginale, D. endocharis and D. japonicum × aureum, the two latter being hybrids. The hybrid Laeliocattleya Antimachus displays a large, crimson-purple lip. The lip of Cattleya miranda is rich purple. The long, squirrel tail, straw coloured racemes of Platyclinis glumacea smell of new mown hay. One of the most interesting of the small Angraecums, namely, A. citratum, has drooping racemes of flowers of the palest lemon with a blush blotch on the lip. By no means a common Phalaenopsis is P. Cassandra, having white sepals and petals and a rose base, the lip being purple and spotted with orange at the base. P. schilleriana is also in bloom. Very strong spikes are now being thrown up by fine plants of Oncidium ampliatum, with large pseudobulbs.

Cypripediums, particularly hybrids, are always plentiful here, and at present include C. barbatum, C. microchilum, white with purple ribs; C. lathamianum in great variety; C. godseffianum having a yellow dorsal sepal, overlaid with orange; and C. Euryades Leonidas albidum, having the dorsal sepal white and spotted with violet and brown near the base. There are numerous variations of the secondary hybrid named Cypripedium leeanum × villosum Boxallii, the dorsal sepal of which is generally conspicuously blotched with black markings. Very handsome is that named Leonidas, which has the dorsal sepal spotted with rich brown on a yellow ground. C. Aeson is brown on a yellow ground and spotted. The dorsal sepal of C. Boxallii superbum is of a rich blackish-crimson.

The Orchid rockery also contains a good sprinkling of different species in bloom, amongst which Lycaste Skinneri is one of the most conspicuous. The blue lip and brown sepals and petals of Zygopetalum Clayi also marks a pretty species. A fine bold Epidendrum is E. macrochilum album, with its white lip. Lycaste cruenta is also a good thing. Coelogyne cristata, and C. c. lemoniana have also commenced to bloom at this early period. A large plant of Cymbidium lowianum will be fine presently. Some Oncidiums also call for notice. Very varied and beautiful are the many varieties of the hybrid Epidendrum elegantulum, whose flowers are yellow and beautifully spotted with violet in different proportions. Many Odontoglossums are also flowering in the cool houses, with many more to follow presently.

THE APIARY.

Leaking Roofs.—A great many beekeepers are often troubled with this, more especially in cheap hives. In the summer this is not of so much consequence, because the natural heat of the air soon dries it up; but if this occurs in the autumn it should be seen to at once. Nothing kills a stock quicker in the winter than damp. They can stand any amount of frost and snow with very little protection, provided they are kept dry, but let the wet once get on the quilts and amongst the combs and it spells ruin.

A good coat of paint is sometimes all that is necessary; if it is very bad, give a coat of paint, and before it is dry spread a piece of calico over it sufficient to cover the whole, and tack it round the edges. Soak as much paint into this as it will take and you have a thoroughly waterproof roof that will last for years. Some prefer to use a sheet of thin zinc that can be got for the purpose and nail it on, soldering at the nails and corners. This makes a more lasting roof than the former, costing a little more to commence with.

All roofs should have two or three holes under the eaves back and front; this has a great deal to do with keeping everything sweet and dry. The holes can be provided with bee escapes or perforated zinc nailed over them to keep out robbers.

Dysentery is one of the few diseases that our little friend is subject to. The bees feeding on fermented food during long confinement, damp, or being disturbed during winter and too early in spring, may be said to be the principal causes of dysentery. It is usually found during early spring and may be detected by seeing the bees' excrements all over the combs and inside the hive, the same being of a dull muddy appearance and having a very bad smell. Where there is sufficient bees' they should be given a clean hive and combs with sealed honey in them, if possible. If this cannot be done, do the next best thing, namely, remove them into a temporary box, while their old one is being thoroughly cleaned; return them, giving no more combs than they will cover, and feed with 6 lbs. of good warm syrup. When they have taken this place, a good cake of candy over the top and pack up warm.

With a return of warmer weather the bees are able to get an occasional fly, and we will soon have them busy amongst the Crocuses, tumbling about three and four in the one flower. Those who are short of pollen-bearing plants in the spring can give artificial pollen about the beginning of March. Get a shallow box and place a few shavings or chips of wood along with a handful of Pea flour in it, also a piece of honeycomb to attract the bees at the beginning. Place in a warm, sunny corner, and it is amusing to watch the little insects diving down amongst it and rolling it into the pollen baskets with their legs. Very little can be done this month except to see that they are kept dry, with plenty of food, and the entrance clear of dead bees.—*Doonfoot.*

[Our correspondent will be pleased to answer any questions which readers would like to ask concerning their bees.—Ed.]

There is:—

A lesson in each flower,
A story in each tree and bower,
On every herb on which we tread
Are written words which rightly read
Will lead us from earth's fragrant sod
To hope, and holiness, and God.

Gleanings from the World of Science.

The subjects given below were discussed at the Scientific Committee meeting of the Royal Horticultural Society on the 12th ult.

In response to the invitation of the council of the R.H.S. to well-known men of science to join the scientific committee, with the view of reinstating it on a firm basis and of rendering it more useful, a large gathering of new and old members assembled after the annual meeting; and a very interesting discussion took place over the numerous exhibits sent, as well as upon a valuable *viva voce* abstract of his paper upon "Hybrid Conifers," by Dr. Masters, which will appear in full in the *Journal*. A cordial vote of thanks was given unanimously to Dr. Masters. Mr. Elwes observed that it would be of much assistance to the secretary if there were an unwritten rule that whoever contributed specimens, whether sent or brought to the meetings, should always accompany them with as full details as possible, for preservation in the reports, which would finally be recorded in the *Journal*. He also thought that when a valuable series of plants was shown, as on the present occasion by Mr. Lynch, the most important at least should be preserved, as they might not even be in the National Herbaria. With regard to notes, &c., on specimens sent, Mr. Henslow observed that as a rule something was usually said about them, but too often of a very meagre description. What, however, would enhance the value of the reports, would be for those who had observations to make at the meeting to send him a more complete account than is conveyed by the remarks which occur at the moment, if such should be thought desirable.

Hybrid Conifers.—Dr. Masters presented a paper on this subject in which he remarked on the rarity of hybrid Confers in Nature in spite of the profusion of pollen that is formed. This rarity he attributed to the fact that, in the old world at least, the forests consist mainly of one species. Allusion was then made to the various hybrids in the genus Pinus, described by Beck, Wettstein, and others, and to the so-called hybrid between Juniperus nana and J. communis, in reference to which the speaker showed specimens of both forms taken from the same bush. Biota meldensis, a supposed hybrid, is only a transitory stage of Thuia orientalis. The only two artificially produced hybrids known to the speaker are one raised by M. Croux between Abies Pinsapo (male), and A. nordmanniana (female), and another raised by the late Henry de Vilmorin between Abies cephalonica (male), and A. Pinsapo (female). Specimens of these hybrids, by the courtesy of M. Croux and of M. P. de Vilmorin, were shown. M. de Vilmorin's hybrid Abies had produced cones, two of which were exhibited, together with those of the parent plants. Last year a single fertile seed was obtained, whose progress will be watched with interest. Details relating to the external features and internal anatomy of these hybrids are given at length in the paper, which will probably be published in the *Journal* of the Society. Specimens of the foliage, and of the cones of the parent plants and of the hybrids, were shown in illustration of the speaker's remarks.

Snowdrops diseased.—Mr. H. Lewis Jones, 61, Wimpole Street, sent some specimens of Galanthus Elwesi, with the following note:—"They were planted for three years. A topdressing of manure was put over them in autumn. There was nothing wrong until this year, when a large number came up healthy, but the later members (about half of 500 in all) came up slowly, were yellowish later, and proved to be diseased. It seems to be spreading in both of my beds of bulbs. They are at the foot of a wall, with an easterly aspect. The soil is light, with a chalky subsoil. Professor Farmer undertook to investigate the nature of the disease, and specimens were also sent to Dr. W. G. Smith, Yorkshire College, Leeds.

Cypripedium malformed.—Mr. O'Brien exhibited a dimerous flower of C. insigne, and a pale yellow-green leaf from the same plant. He remarked that these two features had been constant on one and the same plant for three or four years. Though both peculiarities are not uncommon, it was unusual to find them on the same individual.

Galanthus, species.—Mr. Elwes showed flowers and foliage of G. Elwesi, and the so-named G. Whittalli, pointing out that the latter is only a local variety of the former with somewhat broader leaves and sepals, there being also a slight difference in the green colouring of the petals. He observed that G. Elwesi is a great seeder, and apparently, in consequence, fails to produce bulbils for propagation; such is also Mr. Barr's experience.

Mistleto, vars.—Mr. Burbidge sent several varieties from the Botanical Gardens of Trinity College, Dublin, with the following observations:—"I beg to send five varieties of Viscum album, all, as I think you will see, slightly different in habit, size of leaf, &c., as also in earliness or time of flowering. You will observe that in all cases but one the male plants have larger leaves than the females. Another point is peculiar about Viscum and its time of flowering—viz., the males in all cases flower a week or more earlier or before the females, as is also the case in Aucuba japonica and some other dioecious plants. The male Viscum has foliage of a brighter green, while the females have leaves of a deeper and more sombre or sap-green colour. Amongst the female or fruiting plants of Viscum there is also considerable difference in size, colour and time of ripening of the berries, as there is also in the time of opening of the male flowers, some individuals being weeks earlier in bloom than are others. The male Viscum has often in its young state on young Apple trees, or on the Mountain Ash, enormous leaves but these become smaller as they begin to flower. The host plant, soil, aspect, &c., may affect the plants, but there is also a considerable range of seminal or inherent variation. Note the beautifully regular dichotomous growth of the branches, all the twigs lying in the same plane, and the half twist in the leaf at the base."

Plants from the Botanic Gardens, Cambridge. Mr. R. Irwin Lynch contributed the following interesting plants and notes, for which a unanimous vote of thanks was recorded:—

Iris histrioides.—This species is not recorded in Sir M. Foster's book, and is probably of more recent introduction.

Iris stylosa.—A narrow form of this species, Mr. Elwes observed, was introduced by him in 1874 as I. cretensis, allied to I. unguicularis, exhibited by Mr. Bowles.

Galanthus Erithrae.—Not mentioned by Mr Baker.

Hyacinthus ciliatus (azureus).

Narcissus Trimon.—Sir M. Foster's hybrid between N. triandrus and N. monophyllus It is the earliest of all in flowering this year. The preceding are flowering out of doors.

Cyrtanthus lutescens.—Mr. O'Brien contributed the following remarks upon this plant:—"Some time in 1893, I think, Mr. J. Medley Wood, of the Botanic Gardens, Durban, Natal, sent me a few small bulbs of a Cyrtanthus, afterwards described from a specimen which flowered with me by Mr. J. G. Baker in *Gardeners' Chronicle*, June 9th, 1894, page 716, as Cyrtanthus O'Brieni. A reference to its interesting discovery on the Drakensberg I embodied in a note on Cape Flora (*Gardeners' Chronicle*, January 20th, 1900, page 33). Prior to that I had got C. lutescens from the same region, and either at the same time as C. O'Brieni or soon after, a rather showy Cyrtanthus (also from the same region), which Mr. Baker said was nearest to C. Tucki, though it was a much nearer approach to the showiest forms of C. angustifolius than the original C. Tucki (not too well figured in *Gardeners' Chronicle*, August 6th, 1892, page 155), which, by crossing with C. lutescens, gave me C. × Marian (*Gardeners' Chronicle*, March 6th, 1897), in describing which I gave also some other experiences with Cyrtanthus which may or may not coincide with the experience of others. Cyr. O'Brieni, imported, was always delicate, and ultimately died. Before that event, I had crossed C. lutescens with the Drakensberg species, allied to C. Tucki, and on its flowering I was pleased to find that it was practically identical with the imported C. O'Brieni, but much freer growing. I think it points to the probability of the wild Cyr. O'Brieni being the result of a natural cross between the two plants, from which I got it at home. I think that view is strengthened by the fact that Cyr. O'Brieni, of Natal, is only found in the one unfrequented spot, and, so far as I can glean, only in a small patch. All the plants referred to are of the

Monella section of Cyrtanthus. I may say, in justice to Mr. Baker, that the many points of resemblance between my C. × Marian and my C. × O'Brienl go far to prove the correctness of the name 'variety of C. Tucki' given by him."

Urceocharis Clibrani (*Gardeners' Chronicle*, September 23rd, 1899, page 239; fig. 85, page 251).—This is a bigener between Eucharis grandiflora and Urceolina pendula. Mr. Elwes called attention to the fact that the green tint characteristic of the Urceolina is only transitory in the hybrid, being present in the bud but not in the fully developed flower. Mr. O'Brien added the following observations on the point :—"The point commented on applies in a more or less degree to most hybrids—viz., the varying evidence of one or other of the parents in the different stages of the growth of the flower. In the buds of the Urceolina ×, the yellow and green colours of U. pendula are strongly shown. So also is the form of the bud of Urc. As the flower matures these characters gradually get obliterated by the influence of Eucharis grandiflora until, in the mature flower, the yellow colour and most of the green has departed, and the white of Euch. grandiflora asserts itself, the chief indication of Urc., this being the ventricose form of the perianth. The vanishing of the colour, where white or some of the fainter tints are used on the one side is, I think, a natural consequence, as the colour of the coloured species is mostly surface colour."

Dioscorea sativa.—This bears tubers (one of which was sent) at every joint for a length of 40 ft. The tuber, which was globular, would send out a shoot 3 or 4 ft. or more in length if kept indoors.

Kola acuminata.—A flowering shoot of this tree which bears the Kola nut. The calyx is orange coloured, the corolla is wanting. and the leaves are dimorphic, like that of the Fig, &c.

Aloe sp. nov.—This is said to agree with specimens collected in Somali-land. It was taken to the Nat. Hist. Mus. for identification.

Heterotoma lobelioides.—The Bird Plant of Mexico; the flower is remarkable for the receptacular tube extending as a beak in front, carrying two small sepals at the extremity, and the tubular corolla adherent to it throughout.

Cornus mas.—Flowering from the middle to the end of January, even on to March.

Hamamelis virginiana.—Wych Hazel; the nut is eaten in Virginia, and is regarded as a valuable medicine there.

Hardenbergia comptoniana.—A very pretty climber for a greenhouse.

Siphocampylos lanceolatus.—A quite uncommon plant.

Distiacanthus scarlatinus.—A brilliant Bromeliad.

Crocus Imperati, chrysanthus and Sieberi.—Winter flowering species, now nearly over.

SOCIETIES.

ROYAL HORTICULTURAL.—*February 26th.*

The meeting last Tuesday was quite a large one, the quantity of flowers present giving evidence that spring has woke up in earnest, with, of course, the cultivator's assistance. Forced Daffodils, Polyanthus Narcissi, Lilacs, Laburnums, Crab Apples, Cherries and other bright flowering subjects were present in great quantity, filling all the tables with a bright array of flowers. Orchids were also present in great quantity. Cyclamens, hardy herbaceous and alpine plants, Cinerarias, the Polyantha strain of Cinerarias, and Camellias were all noticeable features.

Orchid Committee.

Present:—Harry J. Veitch, Esq., in the chair; with Messrs. James O'Brien, T. W. Bond, de B. Crawshay, H. M. Pollett, H. Ballantine, H. Little, F. Sander, H. J. Chapman, H. A. Tracy, W. H. Young, H. T. Pitt, W. Thompson, Frank A. Reader, Jer. Colman, Jas. Douglas, E. Hills and F. J. Thorne.

Messrs. J. Veitch & Sons, Ltd., Chelsea, staged a collection of Orchids, all freely flowered and in a great variety of kinds and colours. Conspicuous amongst them were Laeliocattleya Pallas, Lc. callistoglossa, Lc. c. Ignescens, Dendrobium schneerianum, D. splendidissimum grandiflorum, D. Wiganiae, D. euosmum, D. eudocharis, D. Socius, D. pitcherianum, D. Cordelia and many other hybrids of this latter genus. Epidendrum obrienianum, Phalaenopsis Mrs. James H. Veitch, P. Hebe, Sophrolaelia laeta, Laelia Mrs. M. Gratrix, Phaius amabilis, Cattleya Empress Frederick and Epidendrum Clarissa were some of the choicer and rarer things in the group. The last-named is very variable, consisting of numerous beautiful varieties. (Silver Gilt Flora Medal.)

G. Colman, Esq. (gardener, Mr. W. P. Bound), Gatton Park, Reigate, exhibited a group of Orchids, including many well flowered pieces of Dendrobium crassinode, D. nobile nobilius, D. aureum, D. nobile Cooksoni, D. melanopthalmum and others. He also showed Epiphronitis Veitchi, Cymbidium eburneum, Brassavola grandiflora nodosa, Lycaste costata and other interesting things. (Silver Flora Medal.)

J. Rutherford, Esq., M P. (gardener, Mr. G. Lupton), Bearwood, Blackburn, also set up a group of Orchids on a groundwork of Ferns and Asparagus Sprengeri. The more prominent species were Odontoglossum crispum, in many varieties, Cochlioda noetzliana, Cattleya Trianaei, and Lycaste Skinneri alba. (Silver Flora Medal.)

Lord Aldenham (gardener, Mr. E. Beckett), Aldenham House, Elstree, set up a very telling exhibit, consisting of eight large well-flowered pans of Coelogyne cristata, and C. c. lemoniana, backed up with splendidly grown and flowered plants of Thyrsacanthus rutilans about 3 ft. high.

A large and highly attractive group of Orchids was exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking. Very handsome were the profusely flowered Dendrobium melanodiscus, D. m. Dido, D. m. Luna, D. m. pallens, D. rubens grandiflorum, D. Juno, D. The Pearl, D. nobile Burford var. and others. He had a collection of cut flowers of Phalaenopsis in large panicles, including P. schilleriana, P. stuartiana aurea, P. s. punctatissima, Odontoglossum Edwardii, O. loochristiense Arddarroch var., Sophronitis rossiteriana, Odontoglossum excellens, and other choice and lovely things. (Silver Gilt Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, Middlesex, staged a group of Orchids including a massive piece of Dendrobium wardianum, a blush-flowered variety of Cattleya Trianaei, the pretty Dendrobium wardiano-japonicum, D. nobile Cooksoni, and the choice Cypripedium callosum Sanderae.

Mr. James Cypher, Cheltenham, exhibited a group of Dendrobiums, most of which were splendidly flowered. Very handsome were D. nobile nobilius, D. splendidissimum Stand Hall var., D. nobile Cooksoni, D. n. elegans, D. Ainsworthii Cypher's var., D. splendidissimum Thompson's var., D. barbatulum, D. atroviolaceum, and others, presented in first-class condition. (Silver Flora Medal.)

J. F. Wilkinson, Esq., Highlands, Hampton, exhibited a finely marked variety of Cymbidium tracyanum. Sir F. Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, exhibited Phaius tuberculosus. MM. Le Breton & Warpur, c/o Silver Hall Nursery, Isleworth, Middlesex, exhibited Phaius Warpuri. A splendid spike of Cymbidium lowianum Veitch's var. bearing twenty-nine flowers was exhibited by Captain Holford, Westonbirt, Tetbury, Gloucester. (Cultural Commendation.)

Floral Committee.

Present:—W. Marshall, Esq., in the chair; with Messrs. Owen Thomas, H. B. May, R. Dean, G. Reuthe, Jas. Hudson, J. F. McLeod, Charles Dixon, C. E. Pearson, R. C. Notcutt, J. W. Barr, Chas. E. Shea, E. H. Jenkins, Herbert J. Cutbush, Harry Turner, Geo. Paul, Wm. Howe, J. Jennings, Chas. T. Druery, H. J. Jones, C. Blick and E. T. Cook.

F. H. Archer-Hind, Esq., Coombe Fishacre House, Newton Abbot, Devon, staged a small but interesting collection of Hellebores, very fresh and beautiful.

Mr. C. J. Wakefield, 58, Hindon Street, showed his "Floral-aid."

Messrs. Wm. Paul & Son, Waltham Cross, Herts, came forward with a grand collection of bush-grown specimen Camellias in large pots. Each plant was exceedingly well formed, having also plenty of fresh young wood bearing large flowers. Along with the plants were cut blooms in boxes. The best or most pleasing varieties were alba plena, rosa perfecta nova, Marchioness of Exeter, fimbriata (white, with fimbriated petals), and Montiorii vera, smooth and white like a large Gardenia. They also staged a yellow Banksian Rose clustered with flowers. The groups were extensive.

Messrs. Barr & Sons, King Street, Covent Garden, W.C., had a very attractive group of hardy plants, but chiefly Narcissi in pots. The bicolor Sir Watkin of the incomparabilis section was shown in fine style; the Tenby Daffodil was deep in colour; Golden Spur, the beautiful Baroness Heath, bicolor Horsfieldii, the drooping albicans, together with Hyacinths, Anemones, Irises, Snowdrops, Crocuses and Cyclamens. (Bronze Flora Medal.)

Messrs. B. S. Williams & Son, Upper Holloway, London, N., set up a bright collection of forced shrubs including Spiraea Van Houttei, Lilacs, Azalea mollis, Pyrus floribunda and Staphylea colchica. Prunus triloba was also shown.

Messrs. Wm. Cutbush & Son, Highgate, London, N., showed an exceedingly massive collection of Narcissi and Daffodils in pots. The White Moschatus was pleasing; Trumpet Major stood out well; and the strong bicolor Empress, so useful for all purposes; together with the newer Victoria, a beautiful bicolor with round perianth lobes. But perhaps finer and more interesting than any other section, were the Polyantha or Tazetta varieties, of which there were over a dozen distinct sorts. The variety named Newton was the richest yellow in this section. (Silver Gilt Banksian Medal.)

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, had an interesting group, including such hardy gems as Primula acaulis lilacina fl. pl., P. marginata, P. Forbesi, Morisia hypogaea, Fritillaria aurea, Puschkinia libanotica, and the pretty little Adonis amurensis. Early forced Paeonia Moutan varieties were set up, together with a good assortment of Narcissi. (Bronze Banksian Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, staged a varied and splendidly grown collection of Cyclamen latifolium varieties. The plants were in 5-in. and 6-in. pots, and bore from forty to seventy blooms each. These were moreover large, well formed, and deeply coloured. They also showed a group of Cineraria polyantha. (Silver Gilt Banksian Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, S.W., sent up Cineraria polyantha Feltham Beauty, a variety with lavender-violet flowers, quite distinct and bright.

Mrs. Thorneycroft (gardener, Mr. F. Mears), Chiswick Mall, Chiswick, showed forced plants of Iris germanica, three weeks earlier than the plants shown by him last year. The spikes are strong and bright, and any unexpanded buds open well after the spikes are cut and placed in water. (Vote of Thanks.)

Messrs. Thos. S. Ware, Ltd., Hale Farm Nursery, Feltham, Middlesex, had a large assortment of exceedingly interesting hardy and alpine plants in pots. Amongst these we took particular note of Hepatica or Anemone triloba rubra pl., Scabiosa caucasica, forced a little; Iris persica purpurea, I. Dandfordiae, yellow; I. reticulata purpurea, I. r. sophenensis, I. histrio, I. stylosa speciosa, Primula obconica rosea and the Galax aphylla with bronzy leathery leaves. There was also a goodly collection of hardy Cyclamens, and the pretty little Soldanella alpina. (Silver Banksian Medal.)

Messrs. R and G. Cuthbert, Southgate Nurseries, Middlesex, had one of the largest and most elaborate displays seen in the hall. Their group included standard hybrid Azaleas, standard Cytisus purpureus, Staphylea colchica, Wistaria sinensis, and dwarf Azaleas, mostly representing varieties from crosses between mollis and sinensis, such as Anthony Koster, M Koster, Elizabeth, President Cleveland and some promising seedlings. Laburnums, Prunus and Ribes were also shown, together with many nice foliage plants. (Silver Gilt Flora Medal.)

Messrs. John Laing & Sons, Forest Hill, London, staged a miscellaneous collection of greenhouse flowering plants, including Indian Azaleas, Epacris, Cyclamen latifolium, Crotons, Codiaeums, Acacia Drummondi and Cocos. Calla elliottiana was also in flower. (Bronze Flora Medal.)

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, showed Iris reticulata major, Galanthus Ikariae, G. Elwesii var., Whittalli, Adonis amurensis and other things.

Fruit and Vegetable Committee.

Present:—Geo. Bunyard, Esq., V.M.H., in the chair; with Messrs. Henry Esling, W. Farr, Geo. Kelf, S.

Mortimer, Alex. Dean, C. Herrin, Wm. Pope, H. Markham, J. H. Veitch, John Bushman, A. Ward, Geo. Wythes, F. Q. Lane, H. Balderson, A. H. Pearson, W. Wilks and J. Smith.

C. P. Serocald, Esq. (gardener, Mr. R. Bullock), Taplow Hill, Maidenhead, staged a nice collection of Apples, including good dishes of the varieties Northern Spy, Cox's Orange Pippin, American Mother and Egremont Russet. (Silver Banksian Medal.)

A small collection of Apples and Pears came from the Earl Beauchamp (gardener, Mr. W. Crump), Madresfield Court, Great Marlow.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. Walter Hopkins, Leighton, Westbury, Wilts, for his article on "Gloxinias," p. 406.

Would competitors note the address—The Editor, THE GARDENING WORLD, 4, Dorset Buildings, Salisbury Square, Fleet Street, London, E.C.? This would facilitate early delivery by the postman, and so save much time. Competitive articles may be sent any time after Wednesday for the following week's competition.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Paradise Tree from Argentina.—*A.V.M.*: We have never heard of a Paradise Tree or Tree of Paradise from Argentina and conclude that it must be a local name for something of which we can have no conception without a specimen. We might get some idea of it if you send a few seeds, or a bit of a plant after you have raised seedlings and grown them to some size. Grains of Paradise are the seeds of Amomum Grana Paradisi, and A. Meleguetta, plants belonging to the same tribe or group of plants as Ginger. Another plant, Paradisia Liliastrum is a species of St. Bruno's Lily, sometimes named Anthericum. Some small Orchids are named Paradisanthus in allusion to the beauty of the flowers, but have no other connection with Paradise. We do not think that any of these are in any way related to the seeds you have received and counsel you to have a little patience till the plants grow and show themselves. In the meantime we take it for granted you will have to sow the seeds in sandy loam and put the pots in a stove or warm pit.

Burning Heavy Clay Soil.—*C. W.*:—Under certain conditions and within limitations this might be both advantageous and desirable, but you cannot disregard those limitations with impunity. We should never advise the burning of the top spit of soil, because you would destroy all the humus or carbonaceous matter and nitrogen, both of very great value to the plants grown on such soil. Soil that is black or brown should not be burned, but taken off to the depth of the black matter, as it contains humus or decaying vegetable matter. When you come to yellow, red, or blue clay you can burn that by piling it in layers above wood or other combustible matter. After it has burnt out and become cold it will have assumed a red colour and gritty character like fine, angular gravel. This makes good material for mixing with heavy garden soil, and as in your case where it is very heavy we should advise you to mix the top spit with about a fourth part of the burnt matter. Then dig up the lower strata or trench it so that the whole will be 2 ft. to 2½ ft. deep at least, mixing with it as large a proportion of the burnt matter which you can afford. This will greatly improve the mechanical condition of your soil without destroying the humus and nitrogen in the top part.

Forcing Ornithogalum arabicum.—*D. M.*: There is no special difficulty in forcing this plant, provided you give it treatment similar to that accorded Hyacinths forced in the ordinary way. If you want the plants for decorative purposes you should pot up the bulbs singly in small pots or three to five in larger ones in the autumn and plunge the pots in ashes or cocoanut fibre, preferably the latter, leaving them there till roots are formed, after which the plants may be brought along in a gentle heat. If the flowers are merely required for cutting purposes you can plant the bulbs in boxes, about 3 in. apart each way, and afterwards treat the plants in the same way as those in pots. A compost consisting of two parts good fibrous loam, one part good leaf mould, and a liberal quantity of sand to render it porous, will make a compost perfectly suitable for the requirements of this bulb.

Nicholson's Dictionary of Gardening.—*J. C.*: In four volumes, cloth gilt, the price of this work, with the original supplements, is £3, or by post, £3 2s. A supplement is in preparation, bringing the work up to date. Vol. I. of this supplement, containing the letters from A to F, is now ready. Price 10s. 6d., or by post, 11s. The publisher is L. Upcott Gill, 170, Strand, London, W.C.

Exhibitors at Cottagers' Flower Shows.—*J. B.*: It is a pretty general custom for the committees of flower shows to grant free passes to the exhibitors; but at the same time we believe they have the right of granting or refusing tickets according to circumstances or under certain restrictions. For instance, if prizes were offered for a bouquet of wild flowers without respect to age or person, it would only be necessary for all of the people in a district to gather a handful of wild flowers on the way to the show to insure their getting inside the gates of the show ground on the principle that they were exhibitors, if their being so secured their admission. Between that class of exhibitor and the exhibitor of the first prize group of plants there would be a wide gulf, so that some restrictions would have to be imposed. We believe, however, that *bona fide* exhibitors at most shows have passes granted to them. In the case of every exhibitor of any importance we believe it would be to the interest of the committee to grant one or more passes at their discretion and in proportion to the number or quantity of fruits, flowers, vegetables, &c., exhibited. The schedule of every flower show should state clearly what privileges are granted to exhibitors.

Names of Plants.—*W. T.*: 1, Cyclamen ibericum; 2, Galanthus Elwesii; 3, Arabis procurrens; 4, Iberis gibraltarica. — *W. N.*: 1, Cymbidium eburneum; 2, Cattleya Trianaei var.; 3, Oncidium pulvinatum; 3, Cypripedium villosum Boxallii.—*A. S. M.*: 1, Doodia aspera; 2, Lomaria gibba; 3, Blechnum occidentale; 4, Pteris hastata; 5, Pteris quadriaurita argyrea; 6, Lomaria ciliata.—*W. G.*; 1, Viburnum Tinus; 2, Prunus triloba; 3, Prumnopitys elegans; 4, Cestrum elegans.

Communications Received.—H. H. G.—Wm. Carmichael.—W. B.—J. C.—A. M.—H. J.—A. K.—R. M.—W. D.—Omega.—A. S.—H. W. D.—J. B.—L. W.

TRADE CATALOGUES RECEIVED.

M. CAMPBELL & SON, Blantyre, N.B.—Catalogue of New and Select Florists' Flowers and General Nursery Stock.

FREDK W. KELSEY, 150, Broadway, New York, U.S.A.—Choice Trees and Hardy Plants.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

MARCH.

2.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
4.—Wimbledon Horticultural Society Meeting.
7.—Linnean Society Meeting.
11.—United Horticultural Benevolent and Providential Society's Annual Meeting at Caledonian Hotel.
12.—R.H S. Committees.
21.—Linnean Society Committees' Meeting; Royal Botanical Society Meeting.
26.—R H.S. Committees; Brighton and Sussex Horticultural Society Show (2 days).
27.—Liverpool Horticultural Show.
29.—Blackheath Horticultural Society Meeting.

APRIL.

3.—Royal Caledonian Horticultural Society Show, Edinburgh (2 days).
4.—Linnean Society Meeting.
6.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
9.—R.H.S. Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society Spring Show (2 days).
10.—Shropshire Horticultural Society Show at Shrewsbury.
22.—Chesterfield Spring Show.
23.—R.H.S Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

MAY.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting
7.—R.H.S Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days).
11.—Bath Floral Fete and Rose Show.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S, Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days).
24.—Strabane Hort. Exhibition (2 days).
25.—Prescot Exhibition; Selby Exhibition.
30.—Buckingham Exhibition; R.H S. Committees.
31.—Wilts. Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldcarn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Evnsford Exhibition.
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.

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are used. Neither boards, slates, nor ashes are required to stand the pots on, so that money, time, and injury to plants are saved; they fit any pot, and last for many years. All Chrysanthemum growers should use them,

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"I will thank you to send on the following 88 Chrysanthemums. Those you sent me last year brought me such splendid blooms, and gave the best I ever had."

Mr. F. THORNTON, The Gardens, Boothby Hall, Lincoln.
Dec. 6th, 1900.

"I am sure you will be pleased to hear those varieties of Chrysanthemums you sent me last year enabled me to carry off at our two largest shows, five firsts at the one and three firsts at the other, also premier for Incurves. Of course you are aware I have exhibited with similar result now for many years from what you have sent me."

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AWARD OF MERIT, R.H.S.

This new variety may be classed as one of the best late kinds of recent introduction. It is an excellent keeper and a most abundant cropper.

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"POTATO, SYON HOUSE PROLIFIC.—I am pleased to say that *as regards quantity and quality the results are very satisfactory.* Last winter I considered it one of the best cooking Potatos.—A. W." *The Garden*, October 14th, 1898.

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This splendid addition to the second early varieties is an abundant cropper; the tubers are kidney-shaped, large, with russet skin, and both at Chiswick and in our own trials have shown no signs of disease.

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AWARD OF MERIT, R.H.S.

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The Gardening World

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, MARCH 9th, 1901.

The Editorial and Publishing Offices are now **removed to 4, Dorset Buildings, Salisbury Square, Fleet St., London.**

Editorial matters are to be addressed to **the Editor.**

All other communications and Remittances must be addressed direct to the Proprietors—

HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 11th.—United Horticultural Benefit and Provident Society's Annual Meeting at the Caledonian Hotel.

TUESDAY, March 12th.—Royal Horticultural Society's Meeting.

POLLINATION IN ORCHARDS.—After a favourable summer to develop and a dry autumn to ripen the wood and plump up the flower buds, gardeners, as a rule, are satisfied with the prospect of an abundant fruit crop in the following season, provided the blossom is not injured nor destroyed by late frosts in spring. All these amenities are, of course, necessary preliminaries to an abundant harvest, but even "with all appliances and means to boot" the crops may be more or less of a failure from some cause or other not always readily determinable. The causes at work are really very complex. These are the kind and quality of the soil, the heat and moisture or otherwise of the growing season and the district in which the trees may be grown, over which the cultivator has no control. Top and root pruning, and, to a certain extent, pollination, are causes or agencies which an intelligent gardener may control. The last named aspect of the case is the object to be discussed in these notes.

Apples, Pears, Plums, Cherries and other fruit trees may be loaded with blossom so that the orchard or plantations may look like so many woods or groves of snowy or pink blossom, as the case may be, and the weather at the time of blossoming may be all that could be desired and yet the trees may be relatively or more or less completely unfruitful after the fall of the blossom. Investigations into the various causes which contribute to this result have for the last four years been a self imposed task by the professors, or more particularly by Mr. S. W. Fletcher, of the Extension Work department of the Cornell University, Ithaca, New York; and the results of three years' investigations are recorded in *Bulletin* 181. Mr. Fletcher commences his report by the statement that "not all the flowers can set." Just why this should be is not easy to determine except, perhaps, that Nature produces a superabundance of flowers so as to favour the chances of pollination in spite of the many adverse circumstances to which the trees may be subject. Only a small percentage of the blossom sets even under favourable circumstances in the case of the most productive varieties. This, however, is immaterial seeing that even then the fruits may require thinning if fruits of good size and form are desired. Should all the blossoms upon a tree give rise to fruits the labour and expense of thinning them on the part of the cultivator would be greatly multiplied. Out of 4,725 untouched blossoms on Apples, Pears, Plums and Apricots under observation, only 617 fruits set, or about one for every eight blossoms. Moreover, the blossoms were apparently uninjured by winter and the weather was favourable for the setting of the fruits. The wholesale failure of fruits to set is termed self-sterility or self-unfruitfulness. This particular phase of the question is often confused with barrenness due to other causes. Some of the latter may be the results of (1) heavy wood growth, (2) the attacks of fungi, (3) frost, and (4) unfavourable weather at the critical time of the blossom.

Heavy wood growth refers to that made by young trees which bear very little fruit for some years. In Britain that statement would apply to certain varieties, including Blenheim Orange, also to trees on the free and Crab stocks and to trees whose tops are cut down disproportionately to the root system—all of which phases are well known to gardeners. Overfeeding, but particularly with nitrogenous ingredients, would also serve to stimulate wood and leaf growths to the detriment of the fruiting proclivities of the trees. Lack of vigour through age or starvation would, to a much greater extent, conduce to unfruitfulness. Fungi might bring about sterility directly by attacking and destroying the blossom, or indirectly by ruining the foliage and thus robbing the blossoms of the sources of sustenance. In this country Peach blister ruins the foliage and likewise the chances of a crop in this way. Apple and Pear scab may kill the blossoms, but more likely destroys the young fruits just after they are set; and in any case fruits that are attacked in their early stages never develop into perfect samples.

In the United States it would seem that the flower buds of Apples, Apricots, &c., are more likely to be injured by severe frost in winter than is the case in Britain. Here, the most likely time for injury from this

source is when the newly expanded blossoms of almost any kind of fruit tree have been wetted by falling rain during the day and then frozen at night while still in this saturated condition. Only the stigmas or tips of the pistils may be affected at first if closely examined, but the injury extends to the base, the whole of the pistil becoming black as it dies, even although the petals may remain fresh and uninjured. As soon as the petals drop, however, the young fruit falls likewise sooner or later, generally at an early period. Even when the injury is so slight as to damage the stigma only fertilisation can never afterwards take place, and the unfertile fruits are bound to fall. Yet another cause of injury is mentioned, namely, rain after the expansion of the blossom. Rain may wash away the pollen or cause it to stick together, making it too heavy for dispersal by the wind, or preventing its proper dissemination by bees, by keeping them at home. It may destroy the vitality of the pollen by keeping it in a sodden condition and at a low temperature, or in the latter case by preventing the pollen tube from germinating until it has lost that power. Rain may also injure the stigmas by washing away the secretions which enable the pollen grains to germinate. Cold and drying winds in spring may also destroy the blossoms by lashing them about, or by drying up the juices of the stigma. In this country we have noticed injury to many things in March owing to the prevalence of cold and arid east winds for days or weeks together, but even under these conditions we have noticed Peach trees on walls at least setting good crops of fruit. The conditions on the continent of America are no doubt often more severe than in our island climate where the Peaches may withstand several degrees of frost with impunity, simply because the blossom and the atmosphere are dry, thus favouring the dispersal of the pollen, and at the same time escaping injury from frost.

The causes of self-sterility are not due to any of the above external agencies, some of which are preventible in the case of valuable wall trees at least. Self-sterility may also be remedied to a considerable extent by human agency, so that the subject is deserving of some attention. In large orchards where extensive plantings of one variety of tree are effected it may happen that the trees blossom regularly every year yet fail to fruit. A self-sterile variety is one which is unable to set fruit when grown at a distance from any other variety. The samples of self-sterility here mentioned do not seem to be cultivated in Britain, but many of our fruit trees many possibly be in the same condition if the matter were properly investigated. The pollen on the one hand and the pistil on the other might be perfect and the pollen capable of fertilising the pistil of other varieties or *vice versa*, yet it might be incapable of fertilising the ovaries on the same tree or those on other trees of the same variety. On the other hand both may perform their respective functions perfectly by reciprocity with other varieties. The remedy for this self-sterility is to plant only a few rows of one variety of fruit tree together, the contiguous rows on either side being occupied with others that are known to give the desired results. Which trees will fertilise those of another variety in proximity to them can only be discovered by experiment. As far as this country is concerned, the subject might be undertaken by some party or society with the means of experimenting at hand, and this might well be undertaken by the Royal Horticultural Society. Hand or artificial pollination might be undertaken in order to prove which varieties are self-fertile and self-sterile respectively, and at the same time which varieties are capable of fertilising the self-sterile ones. Such information placed at the disposal of the Fellows, first and the public afterwards might result in rendering our orchards and plantations of fruit trees more or less productive every season instead of once in every three to five years. Two varieties might be partially or wholly self-sterile when planted at a distance from one another and from others, yet might be heavily productive if planted in contiguity. The subject is worthy of investigation.

Models of Plants.—At the meeting of the Linnean Society of London on the 7th inst, Mr. H. E. Smedley, F.L.S., exhibited collections of models of Fungi, *Nepenthes*, *Saracenia*, and Aroids, and models of sections of Flowers.

United Horticultural Benefit and Provident Society.—The annual meeting of the above society will be held at the "Caledonian" Hotel, Robert Street, Adelphi Terrace, Strand, W.C., on Monday evening next, March 11th, at 8 o'clock. W. Roupell, Esq, will preside.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, March 12th, in the Drill Hall, James Street, Westminster, 1-4 p.m. A lecture on "Climbers for Pergolas, Verandahs, and Walls" will be given by Mr. G. Davison, at 3 o'clock.

The Wood Leopard Moth.—As my note on the ravages of the caterpillar of the above moth amongst the trees in the London parks, has caused a considerable amount of public and private correspondence, might I ask you to state that I have forwarded to the Forestry Museum, Surveyors Institution, London, specimens of tunnelled wood, showing caterpillar and chrysalides of this destructive moth; also old borings tenanted by the blue bottle fly.—*A. D. Webster.*

Begonia Culture.—This was the subject of an exceedingly practical paper read by Mr. F. Lever, The Gardens, Hillside, Reading, before the members of the Reading and District Gardeners' Mutual Improvement Association at their last meeting. The president, Mr. Leonard G. Sutton, occupied the chair, and there was a large attendance. Mr. Lever dealt very fully with the subject under the following headings:—Seed, soil, preparing for sowing, sowing, treatment, shading, air, pricking off the seedlings, potting, planting out, labelling, lifting, seedlings for pot culture, starting old tubers, tubers for planting out in beds, fibrous rooting for bedding, division of roots, preparing the beds, propagating double tuberous varieties from cuttings, seed saving and fertilisation, storing tubers, winter-flowering Begonias, Rex varieties, insects and rust. A very interesting discussion followed, in which Messrs. L. G. Sutton, Hinton, Bright, Wilson, Fry, Wicks, Neve, Townsend, Harris, Macdonald, Cretchley, Pigg, G. Smith, Alexander, and Barnes took part. A feature of the meeting was the numerous exhibits staged by the following members:—Mr. F. Lever, Calla elliottiana, Odontoglossum, Begonia manicata, Rex Begonias from seed; Mr. A. F. Bailey, The Gardens, Leopold Lodge, batch of Primula stellata in small pots; Mr. H. House, the Gardens, Oakfield, Lachenalias, and Narcissus cyclamineus; Mr. E. S. Pigg, The Gardens, Samoa, Orchids; Mr. F. Fry, The Gardens, Greenlands, Alfriston and Newton Wonder Apples (splendid samples for the time of year); Mr. H. Wilson, The Gardens, Lower Redlands, Begonia hydrocotylifolia; Mr. W. Townsend, The Gardens, Sandhurst Lodge, blooms of Begonia manicata; and Mr. F. Bright, The Gardens, Whiteknights, some wonderfully grown Lachenalia Nelsoni. The former four exhibitors entered for the society's certificate of Cultural Merit, and the judges' awards were to Mr. F. Lever, for his Odontoglossum, and to Mr. F. Bailey for his beautiful batch of Star Primulas. A hearty vote of thanks was accorded to the lecturer and to the exhibitors. A warm discussion took place with regard to the electing of a lady gardener as an "ordinary" member of the association, but being put to the vote 90 per cent voted in favour of the lady being elected as an ordinary member.

Histology of Plants.—At the meeting of the Linnean Society of London on the 21st. ult., Mr. H. E. Smedley, F.L.S., exhibited with the aid of the lantern a series of photomicrographs illustrating the histology of various types of plants. Mr. Smedley also showed some fossil remains of *Balaena* from the Crag, with other undetermined bones, on which some remarks were made by Mr. Lydekker.

French Beans for Market.—Long lists of vegetables are never recommended for market use. Beans are simply Beans when gathered and placed on the stalls and benches for sale. For early use, that is, for forcing, Ne Plus Ultra, Canadian Wonder, and Syon House, are recommended. Surely Osborne's Prolific would also prove useful as it is largely grown, and gives great satisfaction in private establishments.

Ealing Gardeners' Society.—On the 26th ult., Mr. C. Edwards, Oakshott Gardens, St. Stephen's Road, Ealing, talked about "Herbaceous Calceolarias" before a very good attendance of the members. Mr. C. B. Green presided, and stated that in consequence of a disarrangement of the programme, Mr. Edwards had kindly come forward at a few hours' notice to fill the vacancy. Mr Edwards, however, needed no excuses; he is a well known local grower of herbaceous Calceolarias, and brought half a dozen specimens to show the members the condition they ought to be in at this season. Mr. Edwards gave a little history of the plants, spoke about the various strains in the market, and recommended the Golden Mean as regards height and size. Veitch's strain, he thought, fulfilled this condition—at least he was well pleased with the results he invariably obtained from this source. The plants exhibited were sown in the first week of August last, the soil used being Ealing loam, Oak leaf soil, old mortar rubbish, and some charcoal. Mr. Edwards insisted on cool treatment and an occasional fumigation with XL-All; the plants must be kept clean and grown on as freely as possible, and if manure was requisite Icthemic Guano seemed to suit those requirements. Mr. Edwards was complimented on his address and the condition of his plants. An excellent discussion ensued, in which Messrs. Geo. Cannon, H. Burgess, Holloway, Long, Chaffer, Frubrey, Wood, Wait, and the chairman took part. On the motion, which was very complimentary, of Mr. Long, seconded by Mr. Burgess, Mr. Edwards received the Society's thanks.

Liverpool Horticultural Association. — On Saturday evening last a most instructive and enjoyable lecture was delivered by Mr. R. W. Ker on the "Sweet Pea Conference" and "My Russian Journey," both subjects being illustrated by many well executed lime-light views. The Sweet Pea was introduced in an able manner by the lecturer, giving many details of its history, and the initial steps of the conference held at the Crystal Palace under the able chairmanship of Mr. G. Gordon. The exhibition and conference was declared to be a great success, surpassing the expectations of the hard worked committee. Views of the various exhibits were thrown on the screen, and greatly enhanced the information of the lecturer. The staging, it was stated, was done in a variety of ways, but the most successful was that where the flowers were lightly interspersed with their own foliage. A group of workers in connection with the show was much appreciated, that of Mr. Eckford being received with applau e. The "Journey to Russia" was detailed in a pleasing manner, the difficulties, in many cases amusing, were surmounted. A description of the gigantic show at St. Petersburg was fully described. The Roses, Palms, Rhododendrons, Lilacs, Orchids, and many other plants gave evidence of the highest culture, and being in huge quantities made a most effective combination. The run of 500 miles for a hasty peep of Moscow showed how well the time of the Bros. Ker was spent. The pictures were of great merit, showing many palaces, churches, and other buildings of great beauty and architectural grandeur. Other calls were made at Berlin and Potsdam, making a charming three weeks' tour. The large attendance of ladies and gentlemen present followed the lecturer with rapt attention, and the chairman, Mr. T. Foster, in tendering the thanks of the meeting to Mr. Ker, was supported by prolonged applause.

Varieties of Asparagus largely grown for market are Conover's Colossal and Reading Giant.

Gardening Appointment.—Mr. Bogie, who has been twenty years gardener to the Hon. G. R. Vernon, at Auchans, Kilmarnock, has just been appointed land steward and gardener to Sir James Bell, Bart., Mont Greenan, Ayrshire. Mr. Bogie takes up his duties shortly.

National Sweet Pea Society.—A meeting will be held at Winchester House, Old Broad Street, E.C., Room 21, on Tuesday, March 12th, at 5.30 p.m., with the view of forming a National Sweet Pea Society. The chair will be taken by N. Sherwood, Esq. Anyone interested but unable to attend should communicate with the Hon. Sec. (*pro tem*), C. E. Wilkins, 19, Lyndhurst Road, London, S.E.

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of the society was held at St. John's Parish Room, Redland, on Thursday, February 28th, Mr. G. Brook presiding. The paper was provided by Mr. McMillan, of Stoke Bishop, on the "Management of Outdoor Wall Fruit Trees," it being the essay which secured the first prize in a competition for prizes offered by Mr. A. Garaway to under gardeners. Mr. McMillan dealt with the subject in a manner that won the commendation of his audience, treating in his paper the culture of the Peach, Nectarine, Apricot, Fig, Plum, Cherry, Pear, Apple, &c., giving in each case his opinion as to planting, training, disbudding, pruning, and the treatment of insect pests. A good discussion followed, and the cordial thanks of the meeting was voted him for his effort. Prizes offered for two pots of Narcissus were secured by Messrs. Price, McCullock, and Lewis. Certificates of Merit were awarded Messrs. Frampton (Primula); White (Platyclinis glumacea); and Murrell (collection of Orchid blooms).

Notts Horticultural and Botanical Society.—The annual dinner of this society was held at the Spread Eagle Hotel, Goldsmith Street, Nottingham, on the 28th ult., under the presidency of Mr. Philip S. Clay, the chief constable of the city. He was supported by the Sheriff (Councillor J. Brown Slm, M.D.), Mr. J. H. Richards (Deputy Town Clerk), Mr. C. H. Kitchen, Mr. C. J. Mee (Hon. Secretary of the society), Councillor J. Skerritt, and Councillor A. Page. Altogether about seventy sat down to dinner. After the removal of the cloths the chairman proposed his Majesty the King, the toast being received with enthusiasm and to the accompaniment of musical honours. He next submitted "The Mayor, Magistrates and Corporation." He had nothing but praise for the high authorities who ruled the destinies of the city—a young city but a very old town and an old burgh. He coupled with the toast the name of the Sheriff. The latter was enthusiastically received, and said that those in authority were trying to do their duty as citizens of the good old city. Mr. C. H. Kitchen proposed "Success to the Notts Horticultural and Botanical Society," and referred to the admirable work it had performed. It provided shows in summer and lectures in winter in order to give the members instruction in special branches of their work. Councillor J. Smith, chairman of the committee, replied, giving a sketch of the society's career, and was happy to state it was now solvent and in a good position. He also touched upon the lack of success that attended their shows in the Arboretum. In the unavoidable absence of Mr. J. W. Woodward, Councillor A. Page (one of the founders of the society) proposed "The President, Vice-Presidents and Officers of the Society," coupled with the name of Mr. C. J. Mee, who, in replying, corroborated what Councillor Smith had said about the status of the society. They had many difficulties with which to contend but they had striven and won, the society now having a balance on the right side of the ledger. They had a capital list of members, but in the finest town of England for the cultivation of flowers, they could not get the people to support their shows. That was the reason why the shows at the Arboretum were not a financial success. Mr. J. H. Richards, in proposing "The Visitors," reminded his audience that the society was an educational one. Mr. H. Douglas Fleming, in replying, acknowledged the compliment. The remainder of the evening was rendered enjoyable by the rendering of musical sketches, songs, and by permitting free conversation amongst the guests assembled.

Disposal of the Queen's Residences.—A good deal of speculation is taking place as to the disposal of the Queen's residences. Windsor, of course, goes to the new King as by right. It is also understood that he gets Balmoral, her late Majesty having always, it is said, been anxious that this should become a permanent Crown residence. Such an arrangement would be highly gratifying to the Scottish people. The Osborne estate will, in all probability, be left to Princess Beatrice, who is already Governor of the Isle of Wight.

A National Sweet Pea Society.—I have received a circular signed by Charles E. Wilkins, advising me that a meeting will be held in the city on Tuesday, March 12th, with a view of forming a National Sweet Pea Society; and the reason assigned for this course is "that the labours of the Bicentenary Committee should not be lost." What is meant by this? There is no fear whatever of the labours of the Bicentenary Committee being lost. At the present time the Executive Committee are putting through the press a full report of the proceedings of the celebration; and thus a permanent record of them will be handed down. The Executive Committee having published its report, will then lay it before the General Committee, and that body will have to determine whether the Committee shall be continued in some permanent form, or whether it shall dissolve. Seeing, therefore, that the Bicentenary Committee has not yet completed its labours, it seems premature to propose to form a National Sweet Pea Society while this truly National Committee is still in existence and quite capable of taking care that its labours are not lost.—*Richard Dean, Hon. Secretary* of the Sweet Pea Bicentenary Celebration.

Devon and Exeter Gardeners' Association.—At the meeting of the members of the association on Wednesday, the 27th ult., an important paper on "Hardy Fruit Growing for Devonshire," prepared by Mr. F. J. Fletcher, was read by Mr. Andrew Hope, the hon. secretary. Mr. Fletcher commenced by stating that the idea got abroad that the farmer had only to plant a few acres of fruit trees to reap a golden harvest. On the other hand, the pessimist wailed that it was all a ghastly mistake, that English fruit would not pay for gathering. The truth lay between the extremes. The pessimist did not distinguish between fruit and fruit, but placed it all on the lowest level. The optimist was equally mischievous, inasmuch as he encouraged the inexperienced to engage in an enterprise of which he had no technical knowledge. He remembered several orchards which were planted about ten years ago as the result of this agitation, without any proper preparation of the soil, without reference to varieties, and without that care which would have been exercised by one possessing a knowledge of the subject. Many of the trees are not taller than when planted, others became cankered and were grubbed up, while others on more favourable soil give an indifferent sample, and that of unprofitable varieties. Much of the fruit in this country is taken from old and badly cultivated trees, particularly Apples and Pears, that the majority of the samples is very moderate from a market point of view. The size and appearance of Ribston Pippin and Blenheim Orange Apples and Williams' Bon Chrêtien and Marie Louise Pear are very much below par. Those who catered for the public were not to blame in the matter if they preferred the best samples offered, whether English or foreign. As practical gardeners, his hearers knew that no fruit grown under the heavens can compare with our hardy fruit for quality. Devon had long had the reputation of being a fruit country, but he regretted that he had scarcely come across a really up-to-date orchard such as one may see in Kent. Every fruit in the foreign parcels had been selected for the trade. The only orchards he had seen that retrieved the name of Devon were a few worked upon up-to-date principles by market gardeners, and they would increase. They were inclined, however, to plant their trees too closely. Mr. Fletcher then referred to the fruit grown at Poltimore and Crediton, not only the larger but the smaller and softer fruits as well. The sunny southern slopes of Devon offered a splendid field of enterprise for Strawberry culture, bush fruits, Raspberries, Blackberries, Gooseberries, &c. Mr. W. Charley occupied the chair and a vote of condolence was passed with Mr. Veitch in his late bereavement.

Society for the Protection of Birds.—It may interest your readers to know the result of the Prize Essay Competition of the Society for the Protection of Birds, which you were kind enough to announce in the columns of your newspaper in November last. Over 100 essays were sent in. The first prize (£10) has been awarded to Mr. J. J. Baldwin Young, of Sheffield; the second (£5) to Miss H. M. Capper, of Liverpool, and an award of two guineas presented to Mr. E. Hancock, of Southam, Rugby, for the excellent paper sent in by him.—*Margaretta L. Lemon, Hon. Secretary.*

Croydon and District Horticultural Mutual Improvement Society.—The members of this society, of some twelve months' standing, now number 106, and met to celebrate their first annual dinner on Wednesday, the 27th ult., in the large dining-room of the Greyhound Hotel, Croydon. Mr. Stanley Jast, the chief librarian of the Croydon Free Library, occupied the chair. The hall was beautifully decorated by Mr. Naylor (late Mr. Butcher), Mr. Tennant, Mr. J. R. Box., Messrs. J. Peed & Son, Mr. W. Carr, and others. The chairman had as his supporters Mr. Percy F. Bunyard (vice-chairman), and Messrs. E. Kromer, the well-known Orchid nurseryman, Bandon Hill, Beddington, W. H. Woodgate (Mr. Walk's head gardener, Yew Bank, Kenley), J. Bannerman, "Oaklands," Kenley, and gardener to Mr. Sheriff Lawrence, Mr. Ball (gardener to Mr. A. Klaher, Northurst), J. Dingwall (gardener to Mr. Stanley, South Norwood), and Messrs. C. A. Blogg (the well-known Cactus grower), Harry Boshier, A. C. Roffey (secretary of the Croydon Horticultural Society), Cole, Howe, Jay, Turney, A. H. Thomas, Hutchings, F. Phillips, W. Tyrrel, W. Middleton, Farrel, J. Barnshaw, T. Williams, W. Collins, W. Lamond, G. H. Cooper, W. Carr, Peter Richardson, C. A. Holbrow, F. J. Jeffries, C. Phillips (Thornton Heath), E. W. Smith, G. King, J. A. May, A. S. Relf, T. Naylor, J. Gillard, W. Richardson, T. Bates, F. B. Phillips, A. Farrow, A. Chipperfield, W. H. Wise, H. Stanbridge, T. W. Briscoe, W. Caffin, W. Philpott, H. W. Reedham, A. Osborne, H. Lisle, J. Gregory (secretary), W. E. Humphreys, W. Simpson (Sutton), W. H. Young, Wm. Laing (Sutton), W. J. Simpson, W. Harris, W. Turney, A. Naylor, C. Moore, R. F. Bunyard, W. Walker, F. Oxtoby, F. Matthews, and others to the number of eighty. After dinner the chairman, in proposing "Success to the Croydon and District Horticultural Mutual Improvement Society," thanked the society for according him the honour of presiding at their first annual dinner. Looking at the balance sheet and statement of accounts he desired to congratulate them upon its very healthy and vigorous condition. They had accomplished a most excellent year's work, and thus justified their existence, which some societies had failed to do. No one knew everything about his particular trade or profession, consequently their meeting together for mutual improvement must have a good effect individually and collectively, and tend to the benefit of the subject they had at heart. He hoped the society would flourish like the green Bay tree in the parable. The toast was well received. Mr. W. J. Simpson, in replying, said he hoped the society would advance along the lines mentioned by Mr. Jast in his encouraging remarks. The man who had nothing to learn was a phenomenon. He believed the society was doing a large amount of good, and he hoped it would flourish, root and branch, during the next twelve months. Mr. Percy F. Bunyard gave "Kindred Societies," and said he was a great believer in such societies, and had no fear of the future of this one so long as they had such an indefatigable secretary as Mr. John Gregory, and a chairman like Mr. W. J. Simpson. Mr. Jay replied, stating that the St. Barnabas Society, Sutton, had received kindly help from Mr. Gregory, Mr. Humphreys, Mr. Simpson, and others. Mr. Turner proposed the "Horticultural Press," admitting generous support from the same. In the absence of any representative, Mr. Gregory replied, acknowledging the receipt of telegrams from pressmen unable to be present. Mr. Humphreys proposed "The Horticultural Trades" in a humorous speech, and Mr. H. Boshier replied. Mr. Simpson gave "The Visitors," Mr. Howes, of Dulcote Gardens, Tunbridge Wells, replying. Mr. Gregory proposed "The Croydon Horticultural Society," to which Mr. Roffey replied. Many songs were pleasantly rendered during the evening, making the whole very enjoyable, so that the meeting did not break up till midnight.

GARDENING MISCELLANY.

BEGONIA GLOIRE DE LORRAINE.

In the February issue of the *Revue de l'Horticulture Belge* the above popular subject is honoured by a coloured plate. It is mentioned there that Messrs. Veitch & Sons, Ltd., first introduced it to commerce twenty years ago, it having been raised at Nancy by Messrs. Lemoine as a hybrid between B. socotrana and B. Dregei. In the establisment of Truffaut, at Versailles, several houses are devoted to its culture. During summer they grow the plants in a nice, warm greenhouse, well aired nearly every day, and shaded from the direct rays of the sun. The plants are staged on graduated or sloping stages, sufficiently apart to permit an ample circulation of air around the plants, which is very necessary for the sake of the rather delicate foliage. Watering and syringing are liberally performed when the weather is very hot. Azote (a nitrogenous compound) is supplied as a liquid manure in weak but repeated applications, plants intended for specimens being especially well treated in this respect. Cuttings are taken in springtime; and a light compost is always used, the plants being repeatedly pinched during growth. In baskets the young plants are inserted between the openings of the wire framework, and form beautiful baskets.

CAULIFLOWER

Is one of the most important vegetables the gardener has to grow. How often one sees a break in the succession of the Cauliflower crop. I do not think this need be so if we went in more for one variety—Dwarf Erfurt—and sow oftener than is generally done. A sowing should be made about February 1st, indoors, a sowing in March—about the 18th—on a south border, a sowing in May—about the 15th—on an east border, and one about the middle of June. The June sowing would serve to plant up the ground where early Potatos have been. A sowing might also be made about August 12th to stand the winter, in frames; but it is not necessary, as the plants from the February sowing are very much better as they have very little check. I have cut Cauliflower from the February sowing most seasons before those wintered in frames were fit. I know some will say, "Why Dwarf Erfurt?" and so many other good varieties. I find it is very hardy and does not take up much room (it can be planted 18 in. or 20 in. apart) and it stands drought better than any other variety that I know. I can get a longer succession from one planting than I can get from almost any of the others, and a nice table size. Take Early London, for instance (a great favourite with some of the older gardeners), when it comes in for using, it is all ready about one time, and generally the autumn sorts are not ready for some time afterwards. If the gardener can keep a constant supply of good medium-sized Cauliflower and good green Peas, he will not hear much about it, if he happens to have a break in the succession of some of the other vegetables commonly grown.—*F. Ross, Strathtyrum Gardens, St. Andrews, N B.*

JASMINUM NUDIFLORUM.

A few weeks ago a writer in The Gardening World called attention to the above-named plant, but nothing was said as to its management. From my own observation it appears to me to be one of the most mismanaged of hardy wall plants. It may be found growing and attempting to flower under many conditions—in one instance known to the writer growing in the form of a hedge, and annually clipped as if it were Whitethorn. In few instances does this fine plant get the treatment calculated to induce it to do its best. It suffers many things at the hands of the "jobbing gardener" in his zeal to keep a place tidy.

When one plants this Jasmine (and this may be done in any month from October to March) it should be given a position sheltered as much as possible from cold and rough winds. The growth should be so distributed as to cover the wall space at command with shoots placed 7 or 8 in. apart. Leading growth should extend until all wall space is covered, All lateral growth should be spurred in exactly as we prune our Vines as soon as the flowering season has passed, which will be about the middle of March. The resulting shoots required for extension must be cared for and nailed in or otherwise fastened as they grow, and very strong lateral growths will need to be fastened into secure positions to prevent damage from wind. But in the main the laterals should be allowed to grow at will. They will then become well ripened, and every shoot will be wreathed with blossoms for the greater part of its length during the ensuing winter, and not being formally tied or otherwise fastened in will display its beauty in the most natural, which is also the most graceful manner.

If any of the readers of The Gardening World have in their care or possession old neglected plants of this Jasmine the same may be entirely renovated in a season by cutting out with a free hand this spring all weak wood, and fastening in enough growth to cover space at command like so many Vine rods (except as previously stated they should be left 7 or 8 in. apart). The result will more than pay for the labour. Sprays of J. nudiflorum are often acceptable in the cut flower arrangements, especially where glass is not over abundant.—*A Plant Lover.*

STARTING BEGONIAS

Will now have to be attended to, and like many other operations, can be performed in either a right or a wrong way. Many still start the tubers in the old soil, and repot after they have made growths 3 in. or 4 in. long. This is entirely wrong, as it is impossible to remove all the old soil without doing great injury to the tender roots. The proper way is to shake the dormant tubers entirely free of the old soil, removing carefully all the old roots. Then prepare some nice light soil, say one part good loam, one part nice sweet leaf mould, and a good dash of sharp sand. Use clean pots, only slightly larger than the bulbs—3-in. ones are usually large enough. Do not press the soil into the pots. Two or three sharp taps on the bench to settle it round the bulbs are quite sufficient. Cover the bulb only very slightly. Give a gentle watering with a rosed pan. I consider it best to place them in a fairly high temperature, say 60° at night. I find the tubers start more regular than if placed in a cooler house. As soon as the roots are "travelling" strongly round the pots, a shift should be given. I usually place them in the flowering pots—7-in. ones are usually large enough, unless very large plants are desired. Use sound loam, leaf mould, sand, and finely ground bones. I also consider that Thomson's Vine and Plant Manure is much superior to any other, either animal or artificial, for the Begonia.—*C. Blair, Binny, Uphall, N.B.*

VENTILATION OF GREENHOUSES.

A free circulation of air is necessary to the health of greenhouse plants; but it must always be regulated to their requirements. During the winter and spring months, sufficient air is admitted from the top ventilators without opening the front vents. or sashes at all. Cold currents of air drifting through the bottom ventilators against the plants are very injurious. The air of any greenhouse can be changed in cold weather with the top ventilators alone. To open the top ventilators one or two nicks early in the morning as the temperature rises, is better than leaving them too long and getting too hot, and then having to throw the ventilators wide open to get down the temperature. This is the way greenhouse plants get burned, and the young growth severely checked. Steadily increasing the ventilation as the sun is softening the air outside, would be a good rule to remember. Air pipes in walls below or on the same level as the hot water pipes, should be kept closed up, except in very sultry weather.—*Willie, Leckmelm, Ross shire, N.B.*

ACHIMENES.

For summer flowering the numerous varieties of Achimenes are extremely useful, and though essentially stove plants, they can be employed in greenhouses and conservatories with admirable effect. In fact, it is for the decoration of these houses we principally grow them. Whether in pots or baskets, they are charming when in flower. To ensure a long succession, they should be started at different periods. The Achimenes have been great favourites with me for many years. The simplest method, or, at least, that which gives the least trouble, is to place the tubers at once into the pots in which they are intended to flower. When arranging the tubers select those nearly the same size for each pot, twelve tubers for a 48-pot. The following compost will grow them well:—Loam, peat, leaf soil and manure, with sand. Provide good drainage, as water must be freely supplied when the growth is well up. When the flowers are beginning to show, weak liquid manure may be given with advantage, as it is not well to starve the plants in this stage or the flowers will be small. In starting the tubers a temperature of about 60° will be suitable. To forward the plants a slightly higher temperature is advisable, such as that of an ordinary stove, but as the flowers show the plants must be carefully hardened as their after success in the cooler houses depends to a considerable extent upon this.—*A Grower.*

DIEFFENBACHIAS.

These rank among the finest of variegated-leaved plants, and are extremely easy to cultivate. There are a great number of kinds and all are natives of South America and the West Indies, where the first known species was called the Dumb Cane. This is derived from the naked stems after the leaves have fallen away, having a cane-like appearance, and also because the sap is so very acrid that (like the Calla Lily) if placed on the tongue it causes that organ to swell very rapidly and renders its victim almost speechless. Plants that have become leggy should have the tops taken off, placed in "thumbs" and plunged in a good bottom heat, where they will very readily strike. When rooted, pot in equal parts of peat, loam and rotten manure, adding also a little sand to make it porous. They like abundance of water both to the roots and foliage, and delight in a hot, moist atmosphere. They are extremely useful for decorative work. Some of the best known varieties are D. Regina, with oblong, acute leaves of greenish-white, marbled with pale green, the narrow margin rich deep green; D. illustris, dark green leaves, mottled and spotted with yellowish-green and white; and D. splendens, whose stem is mottled with various shades of green, blade of leaf deep green mottled with white.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

EVERLASTINGS FOR DECORATION.

In places where the glass houses are on a small scale and flowers wanted all the year round I can thoroughly recommend some of our common "everlastings" to take the place of some of the finer bulbs, etc. A few of the most common are Acroclinium, Helichrysum, Rhodanthe, Waitsia grandiflora, perhaps the finest of yellow everlastings, Lonas inodora, and Antennaria margaritacea with its beautiful white flowers and silvery foliage. All these can be sown in boxes in March, and pricked out into frames, afterwards planted out with the general lot of bedding stuff. In autumn when in full flower cut with good long stems, and tie in bunches, hanging them up in some cool dry room until wanted for use. Now I would like to say something about Asparagus foliage for winter decoration, as I find it mixes and looks well with any kind of everlasting flowers, giving a lightness and harmony of colour not otherwise easily obtained. For a large vase nothing looks better than long sprays of berried Asparagus with the silvery seed pods of Honesty, and they will keep and look well for months in any room. The best time to cut Asparagus is when the grass changes its colour about September, and must be cut in dry weather. Tie in bunches, covering with tiffany to keep clean and free from dust.—*T. S. Dick, Castlemilk, Lockerbie.*

GIANT RHODODENDRONS.

It may be interesting to many readers of The Gardening World to have brought before them a few facts of the large dimensions to which these handsome shrubs attain. The two in particular to which I allude are in Argyleshire, on the beautiful estate of Hafton, and in near proximity to the famed seaside resort of Dunoon. The larger of the two, when I had the opportunity of measuring them in 1899, to determine their exact size, was 288 ft. in circumference; and the other, though smaller, compared with the former, measured 258 ft. in circumference. They grow on the lawn in front of the mansion, and present a pleasing effect when in full bloom. The nature of the soil suits them admir-

ably, it being peaty and wet, which enables them to grow luxuriously throughout the summer after they have done flowering. The mild climate too no doubt is greatly in their favour, as they are growing within thirty or forty yards of the shore of the Holy Loch. As an illustration too of the mildness, there are trees of Eucalyptus Globulus. They are planted out in a straight line along the side of the flower garden, attaining to the height of 20 ft., and well furnished with foliage, down to within 3 ft. of the ground. Any interested in horticulture, if in the neighbourhood with an hour to spare, might do worse than have a walk round the garden and grounds.—*Walter Hogarth, Norton Gardens, Ratho, Midlothian.*

DEUTZIAS.

To have these beautiful flowers in perfection and profusion every season, two batches of plants are required to be grown, namely, one now in flower and the other planted out to supply next year's stock. When in a former situation, we used to grow a quantity for cutting. The method there adopted may be useful to some of the readers of THE GARDENING WORLD. The plants that had been forced were cut hard back after flowering and stood out of doors in a sheltered spot until they could be planted. At any convenient time during April or May they were turned out of the pots and planted out 18 in. apart either way. The largest plants were divided into twos or threes—a small, sharp hatchet was used for this purpose, the roots being too tough for a spade to divide them safely. The following spring they were again cut back to within 3 in. of the ground, when they would throw up a lot of stout healthy shoots, which, with an occasional watering with liquid manure during summer, were 18 in. high by autumn and thoroughly ripened. In October they were lifted, potted into 32 or 24-sized pots, according to size, the straggling shoots pruned into shape and stood in a cold frame until required for forcing. I need hardly say these plants were a mass of bloom, and some of them nearly 2 ft. through.—*G. B., Mona Cottage, Holbeach.*

PRIMULA SINENSIS AND ITS VARIETIES.

THESE are pretty and useful plants for greenhouse decoration during the winter and spring months. To obtain a succession of bloom, seed can be sown now until the month of May. Sow in shallow, well-drained pans, in a light, open compost of loam, leaf mould and sand, covering the seeds lightly. It is also a good plan to cover the pans with a piece of glass to ensure keeping the soil uniformly moist. Place the pans in a warm propagating pit until germination takes place, then place them in a cooler temperature. As soon as the plants are large enough, prick out into boxes, and in a short time they can be potted into 3-in. and 3½-in. pots, using a light compost. After potting, shade for a few days until they start growing, then place them in a cold frame, and in the course of a few days admit air freely. When the small pots are fairly well filled with roots, re-pot into 5-in. and 6-in. pots, using a compost of two parts loam, one leaf mould and one well-decayed stable manure, with enough sand added to keep the soil open. During summer attention should be paid to the ventilation, shading and watering, and when the plants are growing freely, occasional waterings with weak liquid manure are beneficial. During winter, when the plants are in flower, a temperature of 50° is sufficient.—*G. D.*

FOLIAGE EFFECTS

ARE not so much studied as colour blending, yet the former is emblematic of higher art and superior taste. Where both are studied and foliage plants arranged artistically with and over those in bloom, gorgeous pictures may be and often are produced as the natural result, making a breathing picture bathed in a living atmosphere. After all, the deeper study of grace and beauty may best be demonstrated by an arrangement of varied and variegated foliage. Lightness is the charming side on which not many err. Though we seldom see it, lightness can be spoilt by scantiness, and the more easily when using solid foliage than perforated (so to speak). It is in the judicious blending of varied foliage where the master-hand excels, each leaf being a study of the carver's art which enhances the beauty of its distinct neighbour, both serving as a ground-work to show up a semi-veiling of lighter leafage displaying a swaying informal surface under the (walking) line of vision. Tall Palms, rising here and there and showing half their stems, should throw their spreading fronds well above one's "headgear." While lending a furnished appearance they provide shade, so very essential to many of our richest foliage plants. The days of formality and measured lines are gone now the truly beautiful is being appreciated. When understood each natural effect is a luxury to the educated as the gradations of light and shade are studied with intoxicating ardour. To-day the informal sky-line of the rugged mountain commands more admiration than the costly jewels of the world arranged to given shapes.—*H. H. Gibson, The Gardens, Glencairn, Belfast.*

DATURA AND HIBISCUS.

THE remarkable floriferousness of these two genera around Capetown has been a pleasant surprise to me, and as they form such showy features here I venture to send you a few remarks about them in the hope that it may enlighten some of your readers as to the conditions in which they grow in the open as shrubs, and may, perhaps, encourage some to give them a little more attention than hitherto. I am sure if they could be reproduced at home in anything like the condition we find them here, they would be a very welcome addition to any establishment. The climate is not so very different from the south of England. The sun is hotter in summer, with almost continual south-east winds, which make it drier; but it is nearly always cool at night with heavy dews. The winter is milder, though we often register a few degrees of frost. The species of Hibiscus flower best when fully exposed to the sun, but they should have almost similar conditions in an airy greenhouse with clear glass at home; while Daturas seem to do well almost anywhere, though the flowers seem better where they miss the mid-day sun, and they must be left without cutting if flowers are wanted. The soil does not seem to make much difference on either, flowering as they do equally well on our stiff loam here and on light, sandy soil a few miles out of town.—*Jim Good, Mount Nelson, Capetown.*

WORK UNDER GLASS.

FUCHSIAS in pots should at once have their tops shortened a bit and be placed in a recently closed vinery and well syringed twice or so daily. In about ten days they will be ready to shake out of the old soil and probably have their roots trimmed in a little and placed in somewhat smaller sized pots than they have hitherto occupied. No water will be required for another week if the syringe is constantly played amongst them. As a compost use to 3 barrowfuls of turfy loam, 1 of leaf mould and 1 of sifted horse droppings with an 8-in. potful of soot, and enough sand to keep the whole porous. Begonias for the greenhouse and flower garden should be introduced into the same house and lightly syringed, assuming that the bulbs are in boxes of leaf soil now. As soon as growth is well on the move pot up or box off, giving the plants plenty of room to develop. Too much heat is against their well doing. Marguerites that are used for the flower garden can soon be transferred to cool pits, if established singly in pots, which they should be by this date. Eradicate any leaf miners if on the plants, or sad disfigurement will ensue

Sow Lobelia, Verbena, Celosias, Centaureas, (fine foliage), Celsia arcturus, Heliotrope, Gloxinia, Torenia, Streptocarpus, Begonia, &c, in pots or boxes of finely sifted light soil and watered a few hours beforehand. Very little covering will be required for some of these, just a sprinkle of fine sand will suffice. Cover with glass or sheets of paper until germination has taken place. Inure to the light and avoid too much watering, as these small seeds are soon dislodged. Continue to propagate soft-wooded plants for the flower garden until the required number is reached. Alternanthera will quickly root now.

Young Cyclamen that were pricked off in pots or pans in December are fit to pot up into 2½-in. pots, using light, rich soil, and be careful not to bury the bulbs too deeply, about half their depth sufficing. Place near the glass in a temperature of 60° at night, dewing overhead two or three times daily. Prick off later batches, giving them 3 in. apart. The earliest flowered double white Primulas should be moulded up with sphagnum, leaf mould, and sand, and be kept constantly moist and near the glass roof. This class of plant will soon require some kind of shade during the brightest part of the day.—*J. Mayne, Bicton.*

Kitchen Garden Calendar.

PEAS.—Various sowings of Peas may now be made in the open air. Warm quarters should be chosen, and the sowings are best made in trenches. Take out about a foot of soil a spade's breadth, along the length of a line stretched for the purpose. Place 3 or 4 ins. of rotten dung in the trench and over this a couple of inches of soil whence the Peas may be sown. Small pieces of Fir or Spruce branches may be placed in along the lines to protect the young Peas from possible cutting winds. The varieties suitable for the present sowings include Abundance, Laxton's Supreme, McLean's Best of All, Carter's Little Wonder, and Early Favourite.

BROAD BEANS.—The Green Windsor and Improved Windsor Beans are general favourites for early sowing. The old Early Long Pod also maintains a goodly number of patrons. Prepare the ground by hoeing or forking it, and rake up a nice even surface tilth. Draw out lines 3 ins. deep at distances of 2 ft. to 3 ft. apart, and plant the Beans half a foot from each other. Cover them over and rake the surface soil.

POTATOS.—A goodly quantity of early Potatos will have already been planted. Other plantings for successional early crops should be made now; and by the middle of March the main plantings can be done. These early crops should be planted on warm dry borders. The forced tubers in frames will require a daily or almost daily watering with chilled water, and will also require a greater amount of ventilation. The produce is apt to be very sappy and insipid if the foliage is weak and flabby.

CELERY.—The earliest sowing of Standard Bearer, Sandringham Dwarf White, or Major Clarke's Red, may be made indoors in boxes.

CAULIFLOWERS, CABBAGES, &c.—An early spring planting of Cabbages and Cauliflowers should be made at any time from the present, and in anticipation of such early planting the ground can be got ready for them. Where wire worms infest the soil it is advisable to dip the roots of the plants (prior to planting) in a sooty liquid. Soot, lime and cow dung in the form of a liquid paste does the roots no harm, and though the preventive or antidote is a crude and old fashioned one, I have reason to think that it acts well. When once the young plants have firmly established themselves little anxiety need then be feared from insect or fungus attacks. To encourage growth slight dustings of nitrate of soda (2 ozs. per sq. yd.), may be given during showery weather. All kinds of the Brassica tribe should now be sown in the open air. Make up beds of 3 ft. or 4 ft. width with firm edges and narrow alleys between. Rake the surface as finely as possible and sow thinly so as to ensure sturdy plants. Cover the seeds very lightly with finely sifted soil. Further maincrop sowing of Beet, Carrots, Parsnips, Leeks, and Onions will now be necessary. Lettuces, Radishes, Parsley, and Turnips are always in demand and these two may be sown according to needs. The small crops can be sown and gleaned before the larger and more permanent vegetables have developed. For instance Radishes and Lettuces can always be sown as a catch crop between Cauliflowers or Brussels Sprouts. Spinach will be largely in demand and an additional sowing will still supply leaves for use before the Peas come in. Cucumbers and Tomatos for succession must not be forgotten. Tomatos for outdoor planting should now be raised.

ASPARAGUS.—With the advent of April the new beds for Asparagus should be made. One chief point to attend to in this connection is to avoid exposing or in any way drying them. Beds of 4 ft. in width are usually made; and three lines can be planted in these beds. The roots are planted 1½ ft. apart and alternate with one another, so as to give the plants the greatest amount of room.

GLOBE ARTICHOKES.—Young suckers of this vegetable may be planted now, in deep and somewhat heavy soil. When they have become established a mulching of dung should be given.—*D. K.*

HINTS FOR AMATEURS.

GREENHOUSE AND STOVE PLANTS.

Cestrum aurantiacum.—Though but a few of the numerous worthy stove and greenhouse plants can be selected for a short notice this week, I have thought fit to include the above named greenhouse species in the list. One does not find it so frequently cultivated as the allied species Cestrum elegans, and C. Newelli (Habrothamnus). C. aurantiacum produces beautiful yellow flowers, having a tinge of orange or gold in them. The plant is exceedingly easy to manage, and indeed the only difficulty with any of the Cestrums is in keeping them clean. They flower freely when the roots are restricted and are nourished by liquid manure. After flowering, the ripened shoots should be cut back, and any weakly, crowded shoots may be removed.

Centropogon lucyanus.—Those who have a warm house at their command might very well substitute this plant for some that are less charming. It comes quickly to a flowering state from cuttings, inserted at the present time into small pots. When somewhat developed the plants should be neatly staked. The plant grows quickly and flowers freely on the current season's shoots, the flowers being tubular and bright crimson. The ordinary conditions of a plant stove suit its needs.

Cyperus elegans furnishes a very desirable plant for the amateurs' intermediate house or even cool greenhouse. Of course when these graceful sedges are grown under cool treatment the growth is much slower, and also less elegant. The species named at the beginning of this note is the finest for general pot culture. Division is resorted to, or short cuttings of the flower heads are made, when an increased stock is desired. The species of Cyperus delight in a plentiful supply of water.

Coronilla glauca.—The Coronillas are well known leguminous plants, and strike readily from cuttings of the young wood. As a rule they are simply pinched enough to keep them bushy and shapely. In the southern counties all of them would no doubt stand out all winter the same as Coronilla Emerus, but it is generally necessary to make pot plants of them.

Daphne indica should be included in all collections of hard-wooded greenhouse plants. Its fragrant trusses of rosy-purple flowers are graceful in the early part of the year. When planted out in indoor borders among peaty soil the plants do well; though it is a slow grower. It must be confessed, however, that it is difficult to maintain this Daphne in good growing condition at all times. The state of the soil has a great deal to do with the healthiness and general progress of the plants. After having made their growth the amount of water supplied to the roots should be strictly limited. Indeed, at all times the soil or peaty compost should be carefully kept sweet and aerated. I would not advise any but experienced gardeners to attempt striking Daphne cuttings. The process takes so long, and the growth, as already stated, is so slow that it would be cheaper and better to secure plants from the nursery to begin with.

One of the most important items in the successful treatment of Daphne indica lies in providing a friable compost. Four parts of good fibrous peat to one of thoroughly rotten dung with a liberal addition of coarse sand and some well pounded charcoal will be found about as suitable to the plant as any compost that could be tried. Thorough drainage is essential. When planted out in good soil, other conditions being favourable, the plants gradually establish themselves and demand no great amount of attention. In pots the same rule applies. Small shifts only need be given to them, and a cool temperature certainly suits Daphne indica prior to, and during the period of its flowering. When growth is being made an intermediate house temperature is usually accorded, but I think the cool greenhouse might still be used. Pinching is resorted to when the plants are small and young, but they usually grow radiatingly without further manipulation when they have become somewhat developed.

Dipladenias.—Perhaps I should have left Dipladenias out of an amateurs' selection of stove plants, for the principal reason that they require a brisk temperature at all times. The winter temperature for them should range between 65° and 70°; and a moist atmosphere is necessary. Pieces of the young shoots, consisting of a couple of joints, should be inserted in a light quality of soil; and suitable wood for the purpose can usually be obtained after the beginning of August. A little well-teased peat may be added to the soil in which the cuttings are placed. Throughout the winter the young rooted plants should be encouraged to make head growth, and by April they will be ready for a shift into 6-in. pots. Here the compost should be a mixture of about equal parts of peat, loam, and leaf mould, with some sand added. It is advisable to plant out Dipladenias wherever possible, and to train them up as climbing plants upon the beams of a glass house. As pot plants they can be balloon-trained or in a variety of other forms, and will require to be potted-on successively, to maintain healthy growth. The leaves must be kept clean, for which purpose a judicious use of the syringe is commended. The best species for ordinary culture are D. boliviensis, D. amabilis, and D. crassinode.

Fuchsias.—These splendid plants can be grown by all classes of the community and in all kinds of places. Considering the great variety of Fuchsias that exist I am somewhat surprised to think that there are so few complete collections to be found in our gardens. These and a full representation of the scented Pelargoniums, form two classes of plants in which I take a special delight. There are primarily two sections of Fuchsias, the hardy and the half hardy. F. macrostema and its varieties, F. Riccartoni, F. globosa, and F. gracilis, represent the hardy Fuchsias; and nearly all the others require the shelter of a glasshouse during winter. F. fulgens with its scarlet flowers is very graceful and quite distinct. F. serratifolia is a species with prettily serrated foliage, only to be found in such collections as at Kew. F. corymbiflora is good in its way; but the ordinary grower is content with a selected list of nurserymen's varieties. F. splendens, F. procumbens, and F. microphylla, are, however, more or less well known. The culture of these plants is very facile indeed. The cuttings root readily in small pots filled with light soil. The plants do well even when given large shifts as, for instance, from a 3-in. into a 6-in. pot. They should not be terminally pinched; that is, the leading shoots should be maintained, and only the most straggling laterals need be nipped. During the heat of summer a top-dressing of rotten dung is used with good results upon the surface soil of the pots. Watering can easily be done even with this top dressing. It is furthermore beneficial to afford a slight shading to them.

Present Work.—Roses for forcing must be brought into warmth from the cold frames; they having been previously top dressed and put in order. Schizanthus and other annuals, as well as Irises and hardy perennials of suitable sorts, should be likewise brought forward. The bedding stuff demands attention; especially will propagation require to be carried on with dwarf edging plants, &c. Sowings of vegetable crops in the open and also in warm frames, as advised in the "Kitchen Garden Calendar," should be got in now.—*Beacon.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

A sunk fence.—*R. S.*: A deep wide *fosse* or ditch will require to be taken out along the line of boundary which at present seems to be unfenced. The excavated material may be taken away, though some of it may be used to raise portions of the ground. The object of sunk fences (also called ha-ha) is to allow a level and unbroken view in places where neighbouring properties merge. A straight or almost straight retaining wall would have to be built on one side of the ditch. By effective planting on the ground on either side of such a divisional fence, the deceptiveness (which is the sole end in view) can be carried to completeness.

Begonia President Carnot.—*R. F. S.*: The leaf you send is evidently from the shrubby, climbing Begonia known as President Carnot. It makes a fine specimen plant, and if you just allow your plant to grow on it will certainly flower eventually. We imagine the roots have too much space and good soil to roam about in at present; and thus your plants are making wood and leaf growth at the expense of flowers. When the wood becomes firmer the trusses will appear. A temperature from 55° to 60° should be maintained. B. Caledonia is an ivory-white sport from B. Gloire de Lorraine, and at present is being offered at 7s. 6d. and 10s. 6d. per plant.

"Greening" Potatos.—*F. T.*: Potatos can only be "greened" as you call it, by being exposed to the open air and light, after being lifted in summer.

Planting Wistaria sinensis.—*Andrew Robinson*: A good garden soil should be chosen, and after digging it well, a healthy Wistaria, or a number of Wistarias, according to the position and space, may be carefully planted. A sunny wall should be accorded in all northern districts. Planting may take place any time until about the first week in April, after which it is not advisable to plant.

Spring flowering hardy plants.—*R. S. T.*: Amongst the hardy Irises that can be had in flower at this time, there are I. persica, I. p. Heldreichii I. orchioides, I. reticulata, I. r. major, I. Danfordiae, I. stylosa, and others. There are also Hyacinthus azureus, Scilla bifolia, S. nutans rosea, Cyclamen Coum, C. repandum, C. Aitkinsii alba, Anemone fulgens, Anemome Hepatica rubra plena, A. H. alba, A. H. caerulea, Saxifraga apiculata, Morisia hypogaea, Lithospermum prostratum, many species of Crocuses and Galanthus. Primulas also come into flower now, including P. Forbesii and P. verticillata. The foregoing selection, to which may be added a few hardy foliage plants such as Galax aphylla, Saxifraga longifolia, Adonis vernalis, and A. amurensis, which is ornamental in leaf and flower, and a few other early species, would prove interesting in any cool greenhouse, or you might make a fairly bright and early show in the rock garden out of doors by employing hand lights, sheets of glass, or even sashes to protect the plants when permanently planted.

Violet leaves becoming brown.—*Anderson*: It is difficult to say definitely what has caused the leaves to become brown and mouldy without knowing more fully the conditions of their growth. It would appear, however, that the plants have been subjected to drip, and some of the younger ones may have been caught by the frost. There is no reason for anxiety, for the better spring weather which we may soon expect will encourage the new leaves and the flower buds which we find clustering on the crowns. If they are in frames give them all the air possible in mild weather, and if watering is necessary, avoid wetting the foliage if you can. Carefully remove the worst of the leaves, which will allow more air and light to reach the others. In April select the strongest runners, sever them from the parent plants, and plant them half a foot apart in a well prepared bed or border where they may remain till lifted and finally planted in frames or borders in September.

Rose Pruning.—*Anderson*: You do not give us any information as to what kind of Roses you mean; and to help our correspondents we require to know facts, otherwise we are left to theorise. As a general rule, Roses are pruned whenever it is deemed safe enough to do so, which is after the likelihood of severe frosts has gone. Hybrid perpetuals for exhibition blooms are pruned back from the middle of March to April. The stronger shoots should have 6 in. or 8 in. of the base left, the weak ones being cut much closer down. If a profusion of bloom is desired in place of larger ones, the pruning need not be nearly so hard. The great thing is always to leave thoroughly well ripened wood. Teas may also be pruned in April; although in sheltered positions and well drained soils, both hybrid perpetuals and Teas are frequently pruned at the present time Climbing Roses need only be slightly shortened back, or spurred in if on a wall. China Roses and Briers really do not call for pruning; though a gentle thinning is commendable. Rose experts know from the varying characteristics of each variety, what amount of pruning to give them. Pot Roses are pruned at various seasons, but generally some time before the forcing of them is begun.

LYCASTE SKINNERI ALBA.

NOTWITHSTANDING the many importations of Lycaste Skinneri from Guatemala, the white variety above named continues to be the best of its class. The flowers are fully the average size of the species, and pure white with the exception of the yellow colouring of the tongue or crest upon the lip, and even this is usually very pale, the whole of the rest of the flower being pure white, very chaste, and, for an albino, of excellent substance. Growers continue to cherish it, and specimens continue to make their appearance at meetings of the Royal Horticultural Society. Another point of merit it possesses is that it blooms in winter or very early in spring, say from the dull days of February onward. It seems to put up with quite as much bad usage as the ordinary forms receive from time to time. A large number of the more distinct varieties have received special or varietal names. That which comes nearest to the plant under notice is L. S. vestalis, which has a faint tint of pale rose on the inner face of the petals, with faint rosy markings on the lip, but is otherwise pure white.

LYCASTE SKINNERI ALBA.

Supporting Carnations.—Many men have each turned their mind to invent a support for Carnations that is valuable and useful in all respects. The newest idea seems to be that of Messrs. R. Jeffrey & Son, of Bellmore, Long Island, America, who spread a 6-in. meshed wire-netting over the bed of Carnations. The tips of the stems grow through this and are thus supported.

POPULAR FORGET-ME-NOTS.

THE true Forget-me-not, or that to which the name is most properly applied, is Myosotis palustris, which often finds a place in private gardens, but as far as we have observed does not reach the public flower markets or the florists' windows to any great extent. Equally curious to relate, it is more often found in the hawkers' baskets, being gathered by them on the banks of streams and rivers within easy reach of London or other flower-buying centres.

Till comparatively recent years the Forget-me-not, or Myosotis, most extensively cultivated in gardens, was M. sylvatica, and its white variety, M. s. alba. The reason for this is not far to seek, seeing that it was so largely used for spring bedding purposes. We have several times bought it in Covent Garden, and have reason to believe it is the plant that passes current amongst growers and retailers as M. dissitiflora, and reckoned one of the best. Its large flowers, easy culture and propagation by seeds, and the fact that it can be grown in any ordinary garden soil, would readily account for its popularity with the market growers and retailers. After flowering no further trouble is taken with the plant, which is thus treated as a biennial.

Another garden and market Forget-me-not is Victoria, of comparatively recent origin, being a dwarf and large flowered variety of M. alpestris. The latter is perennial, and may be propagated from cuttings, but is so given to flowering that the plants are liable to run to seed and perish in the absence of young shoots from the base. Many fine varieties of it have recently been raised on the Continent, and that named Victoria is of neat, dwarf habit, with large flowers of a much brighter blue than those of M. sylvatica. It is propagated in the same way and with the same facility as M. sylvatica. Both, indeed, sow and perpetuate themselves if left alone shrubbery and garden borders to ripen and scatter their seeds.

Of course it pays the market growers to prepare a piece of ground for these two popular Forget-me-nots, and otherwise tend them so as to secure the richest harvest off a given piece of ground. In any case we commend the matter to the attention of those who have shrubbery borders, wild gardens, or other suitable places, to sow seeds of these two, and allow them to become naturalised. Both are perfectly hardy, even in the far north where I have noted M. sylvatica that had perpetuated itself for many years without further attention than letting it alone. This species will grow in the shade of trees; but M. alpestris and its varieties should be accorded a more open position.

M. sylvatica and M. alpestris Victoria are grown to some extent in pots, and sold as pot plants in the market; but to a much greater extent are they cut, tied in bunches, having a girth of 7 in. to 8 in., and sold chiefly for buttonhole work. For this purpose they are largely grown in the open air; but a greatly enhanced price is obtained for the flowers offered between Christmas and March, when the supply can be obtained from the open ground. The method of preparing them for market is to raise plants in the ordinary way in the open air, and to lift them in October for pot work. Loam, leaf mould and sand

constitute all the compost they need; and 4-in. to 6-in. pots suit their requirements in that respect. Successional supplies are kept up by introducing batches, of a size proportionate to requirements, into a temperature of 50°. This affords flowers from Christmas to March, or longer if the lateness of the season necessitates. The flowers are cut with as long stalks as possible, tied in bunches and packed in ordinary market flower boxes.

Besides Victoria there are erect habited varieties with blue and white flowers; but they are of taller growth, and whether they will ever become really popular remains to be seen. Several of them have already been tried on this side of the silver streak, and time will settle the claims they are likely to make on the public.

I have witnessed M. arvensis palmed off on the amateur gardener as a substitute for M. sylvatica so much used in spring bedding; but its small flowers are against its ever becoming popular. It makes the finest display when grown in slight shade in open woods and copses, or in gardens when similarly shaded, but even under such conditions it has no claim to garden value compared with any of the above mentioned.

The question might well be put. Why is not M. palustris (the true Forget-me-not) not more generally popular, considering the size and rich blue colour of its flowers? The answer is that it is not so amenable to culture for market purposes, and flowers late, so that it is useless for spring bedding, and comes at a time when hardy flowers are plentiful, thus reducing its market value. It is perennial, and, although useful in private gardens, does not commend itself to so extensive culture as biennials. A moister soil is also necessary for its perfect success, to yield flowers of equal quality to those that grow naturally on the margins of streams and rivers. Not every garden possesses a piece of ground that will meet its requirements in this respect. More than likely it would prove a miserable failure if planted in open ground or market gardens in droughty seasons such as those experienced in recent years. This statement applies more particularly to the drier and more southern districts of England, as in the average of seasons it may be grown with tolerable success in the open border in Scotland, the north of England, and probably other cool and moist localites.—*J. MacI.*

"UNION IS STRENGTH."

THE letter signed "*Je vis en espoir*" is one which should command and interest your readers, and not only so but arouse the gardeners to action, for the question of wages and *locus standi* of gardeners generally at the present time is anything but what it should be considering the knowledge he has or should possess to attain a position, unless he is particularly fortunate or has influential friends; and I have in my mind instances where good positions are held by men through the latter, a most unfair method being used in their favour by those who have the power to enhance the position of a favourite having in reality no genuine merit, but who having obtained the appointment has solely to rely on subordinates for the successful result and account of his stewardship. Of course, this sort of thing cannot be eradicated, however well fought against; yet it may be obviated largely by legitimate combination having right principles and by those solely possessing the right to call themselves gardeners, and not merely by those with a diploma, the casual result of having been given work (perhaps out of charity) in some garden, and who, having picked up the most elementary routine of the duties, sallies forth (may be backed by a reference from the head gardener or his employer) a full fledged gardener (?).

This undesirable state of things is well known by most people in the profession, yet instead of battling against it, talk about it, &c., and we quietly submit. This is one cause of insufficient wages, others are almost too ignominous to recount and of which I shall neither enter into nor correspond concerning. Sufficient it is to say that it is high time that *professional gardeners* banded together and made themselves felt as a power by those who are in the happy position of affording the luxury of a well-kept garden, and to demand from all employers of gardeners a sufficient and fair salary (and one not dependent on commission as a supplement) and occupation in accordance with ability and acquirements.

I had the pleasure of joining in a conversation quite recently with several known men of good standing in the horticultural world on exactly this subject. The line of debate and principles mentioned, seemed to my mind in the aggregate, such as should meet the case if faithfully carried out, and if "*Je vis en espoir*" and others interested, whether old or young gardeners, would care to communicate with me through you, sir, I should interview one gentleman of the party mentioned above and, if possible, get him to express his views publicly; and I am sure that when his name is known (if ever it is in such a cause) and his ideas expounded, he would be voted one of the best of organisers (and of this I speak provisionally) known to the profession.

Whenever the matter is tackled, and it will be sooner or later, it will take time, energy, and some small outlay. Yet are there not sufficient gardeners and horticulturists generally who will combine to inaugurate a system of a better state of things than at present?

I may add (one reason) that employees generally would welcome the introduction of a reliable source where they could obtain the services of practical men, which would do away with to a great extent the continual changing through incompetency of the so-called gardener, who can write a very fluent application and talk glibly of what the gardener should be able as a gardener to do, but in reality cannot grow a Cabbage successfully. In conclusion, I add *Haud ignora mali, miseris succurrere disco.—Facta non verba.*

UNDER the above title in the last issue of THE GARDENING WORLD, I see a correspondent asks for opinions as to the forming of a "Gardeners' Union." In theory I am entirely in sympathy with such a union, but through the scattered condition of the profession am rather sceptical of our being able to start a really practical society. If your correspondent (I wish he had chosen a shorter "handle") or any other will produce a workable scheme I will be very glad to support it. I think the great difficulty would be with the employers. If they could not get a union man for the wage they usually pay, they would quickly serve themselves with a neighbouring labourer or "cowman," as unfortunately they too often do at present, and thus "dish" the union. If a union can be started and gets anything like fair support, one of the benefits would be the taking of the registries out of the hands of the nurserymen. This, I think, would be a good thing of itself, for it can hardly be denied that some of the "trade" use their power in a very arbitrary manner. I know, of course, that many of the more respectable firms would be glad to have done with it for good. In conclusion, I would like a little more light on the subject, and even if no union can be started I hope the discussion on "Gardeners' Grievances" may still be carried on, and see if we cannot do some little to better our condition.—*Black Watch.*

PLANTING NARCISSUS IN JANUARY.

AT this, the very fag end of the season for selling bulbs, there are yet some thousands to be obtained at a very cheap rate indeed, for immediate planting in grass lands. Of course a great many of the villa gardeners wait till everybody else has been served, then when the "great clearing sale for cash," comes to be announced, this is their time, and they take their opportunity. Where these clearing sales are established the business houses do a brisk trade even at this late period. The tunic of the Narcissus or of any other bulb has become hard and dry by now, so that the bulbs will be slow to start after they are planted. Perhaps a good soaking in tepid water might effect a favourable change. I have tried this with very dry Crocuses but I could not swear that very much good came of it. One thing I have found out, that to peel off the scaly tunic from Crocuses, even when it has become dry and brittle, results in harm to the corm as evidenced in degenerate growth. It is better to leave all the bulbs or corms just as they are and to plant rather deep. Four inches deep in well worked, good soil, ought to be accorded to these late-bought bulbs. Such samples are indeed commendable where sylvan scenes have to be adorned with these golden flowers of the early year. The bulbs are usually good enough, better indeed, at the price than others that are offered for woodland planting earlier in the selling season. The better varieties can also be obtained in place of so many of such as N. Princeps, or the common double and the wild Narcissus. Some pains should be taken to give the bulbs a favourable area in which to make their first start. In the bulbs that one gets to buy at the present time there is usually a fairly good central bulb, with two smaller offsets at either side. These should be planted as they are, in one hole. By planting the bulbs in two's and three's in this manner and by allowing a space of 1 ft. or more between each little grouplet, you will succeed in forming an effective plantation. Daffodil study is a very pleasant phase of gardening, and the further one goes into it—as with everything else—the more one likes it. The raising of seedlings is perhaps more than everybody need try to do, but this sort of work contains pleasant rewards. Amongst the lesser grown varieties that are not usually grown in grass lands, but whose excellence is everywhere admitted, may be included W. Goldring, Mr. C. W. Cowan, F. W. Burbidge, Horsfieldii, cernuus in several varieties, albicans and tortuosus.—*H.*

DO SOILS AFFECT THE FLAVOUR IN FRUIT, &c.?

THIS is a subject on which there are diverse opinions. According to my own observations it deserves more attention than it often receives at the hands of cultivators.

No doubt most people who use artificial manure have noticed on many of the circulars sent with them, wherein is set forth how it should be applied, that frequently the statement is made that the flavour is improved by its use. If this is so, then arises the question how this takes place. It must be to a large degree by the food the plant takes up.

If this is so, the same holds good by using other solid materials containing plant food. Undoubtedly growth is promoted to a large degree by the soil in which the plant is growing; and when it contains an abundance of the right kind of food, according to the requirements of each kind of plant, then growth is more rapid and the quality higher.

Hence a practical knowledge of chemistry, sufficient to enable cultivators to know the properties of the various soils, manures, &c., is more helpful, and I would advise all young men not to lose the opportunity of obtaining information on this important subject in their youth.

For years I have been observing fruit grown on different soils, and I have cause to believe that when grown on the Red Sandstone the colour is high as compared against that grown on a heavy clay. In such soil I have seen growing some of the finest Apples and Pears I ever saw.

Recently, I noticed, in a contemporary, an able correspondent (when writing about a fine crop of fruit he had seen) stated that the grower's custom was to dress his trees on the surface with a coating of wood ashes, &c., from a smother-fire every year, and to this he attributed a good portion of his success. At the time, I thought, had the nature of the natural soil been given, much more light would have been afforded.

Nevertheless, I am convinced that there is much virtue in wood ashes, charcoal, and burnt earth, &c., for fruit trees of any description, and this the more so if the cultivator is situated in a low damp position where the soil is of an alluvial nature. This is my position, and I am conversant with many disadvantages arising therefrom. During the twelve years I have had to deal with such soil and situation, I have found much benefit from a liberal use of these.

Having large pleasure grounds, in which are growing enormous quantities of common Laurels, &c., necessitating much cutting back, these prunings are all consumed by a big fire, which is kept going for weeks, and to assist we dispose of many cartloads of sawdust, &c., from the saw mill. In this way we obtain many cartloads with the burnt earth.

Every season a good portion is used with other things, such as poultry dung, a little fresh loam, and sometimes old mortar rubbish to surface dress our Peach house borders, Vine borders, Apricots, and, in fact, any kind of fruit trees, as far as it will go. By so doing we have improved our crops, and I consider the flavour as well.

When making Peach borders or renewing old ones this material is most helpful (when the dusty portion is removed by a sieve) for mixing with the soil, as a liberal use of charcoal is most beneficial,

keeping the soil sweet, open, and affording an excellent food to the trees. Few things there are that object to it. It has been said that it is a universal favourite food.

Another crop we have found it most helpful for, namely, Melons. Our soil being close and adhesive, the charcoal mixed with it keeps it open and sweet. Some two years ago we grew many Melons in pots, using this freely, and the fine dusty portion with it, Never have I seen better Melons, both in size, colour, and flavour. But to convince myself on the point of flavour I had two plants grown in pots in the pure loam. Although these were treated alike there was a vast difference in colour and flavour.

In the vegetable garden it is to be strongly recommended, and the more so where the soil is sick of leaf mould or stable dung. This burnt material acts wonderfully on these soils, purifying and stimulating the soil.

In gardens where close cropping has to be adopted and a lot of material taken from the soil, then a corresponding amount of food must be returned to the soil, and this cannot be accomplished better than by various kinds of food, of which this is an important part. Plants, like animals, enjoy a change of food. The practical lesson I learn out of this is give your crops all the food they are able to take up. The results will be good in size, fine flavour, and good constitution.—*J. C., F., Chard.*

BERKSHIRE, READING & DISTRICT AUXILIARY OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The first annual meeting in connection with the above Auxiliary, which was held on Friday evening last, in the Gardeners' Club Room, Old Abbey Restaurant, Reading, proved a very successful one. The President, Mr. C. E. Keyser, occupied the chair, and was supported by the treasurer, Mr. Arthur W. Sutton, Mr. Martin H. F. Sutton, and by Mr. Harry Veitch (treasurer of the parent society), Mr. Owen Thomas, of the Royal Gardens, Frogmore, and Mr. G. J. Ingram (sec.), as a deputation from the London Committee. There were also present many of the leading gardeners in the neighbourhood, including Messrs. Stanton (Henley), Neve (Sindlesham), Woolford (Wokefield), C. Ross (Welford, Newbury), Galt (Aldermaston), Pope (Wargrave), Kitt (Wasing), Wright (Bucklebury), Thatcher (Mortimer), Gosling (Goring), Barnes, Tegg (Bearwood), Townsend (Wellington), Fulford (Cookham), Lees (Earley), Osborn (Three Mile Cross), Wise (Blackwater), Tubb, Profit (Minley, Farnborough), Fry, Exler, Wilson, G. Smith, Bennett, Lever, Pigg, Hinton, Moody, Hawkins, the hon. secretary (H. G. Cox), &c., &c.

After the annual report and balance sheet had been read and adopted, Mr. Veitch congratulated the members on the great success that had attended their efforts during the past sixteen months, enabling them to raise since the formation of the Auxiliary, over £135, and in hopeful terms spoke of the bright future there appeared to be in store for the Reading branch. The election of officers was proceeded with, and Mr. C. E. Keyser was unanimously re-elected president for the second year, with Mr. A. W. Sutton as hon. treasurer, and Mr. H. G. Cox, hon. secretary. With the exception of three or four members who had left the district the Committee were re-elected with the addition of Messrs. Barnes, Macdonald, Nichols, E. S. Pigg, Harris, Tubb, Hatton, and Gibson.

A very warm discussion ensued during the meeting as to the privileges granted by the institution to life members and "fifteen years' subscribers," and to the necessity there was of supporting the parent institution by annual subscriptions; one speaker pointing out that there was in the future, say fifteen or twenty years time, a probability that if life members were made at the present rate for another few years, the institution would not be able to meet its liabilities. Messrs. Veitch, Thomas and Ingram made some very interesting remarks on the subject, directing particular attention to the fact that the institution was a benevolent and not a benefit society, and each thanked the members for bringing such an important matter before them. A vote of thanks to the deputation and to the chair, brought to a close a meeting described by the deputation as one of the best representative meetings ever held in connection with the institution.

In presenting their first report, the committee of the Berkshire, Reading and District Auxiliary of the Gardeners' Royal Benevolent Institution have much satisfaction in being able to congratulate the members and subscribers on the success that has attended the work of the auxiliary during the first sixteen months of its existence.

The inauguration meeting was held in the Abbey Hall, Reading, by kind permission of Messrs. Sutton & Sons, on May 16th, 1899, and was largely attended; Mr. Arthur W. Sutton, V.M.H., occupied the chair. The meeting was addressed by Messrs. H. J. Veitch, Owen Thomas, V.M.H., and G. J. Ingram, the deputation from the general committee of the parent institution, and also by Messrs. C. E. Keyser, C. B. Stevens, L. G. Sutton, &c.

As the balance sheet will show, the Auxiliary has raised during the period it has been in existence £135 16s. 6½d. Of this sum, £103 19s. has been remitted to the parent society, leaving a balance, after allowing for working expenses, of £23 11s. 1d. Of this balance, £21 will be devoted during the current year to assisting four more members of the Auxiliary to become life members of the parent institution. It is most gratifying for the committee to be able to report that of the total amount raised by the Auxiliary (£135 16s. 6½d.) so large a proportion as £113 14s. 6½d. may be considered as entirely additional support to the institution, consisting of donations and subscriptions which would not have reached the parent association had it not been for the formation of our local Auxiliary.

The committee beg to tender their sincere thanks to the deputation which attended the inauguration meeting, and to all friends who have helped to make the Auxiliary a success.

Signed on behalf of the committee,

Arthur W. Sutton, hon. treas.
H. G. Cox, hon. sec.

BALANCE SHEET.

GARDENERS' ROYAL BENEVOLENT INSTITUTION (LOCAL AUXILIARY).

September 1st, 1899—December 31st, 1900.

RECEIPTS.

	£	s.	d.
To Donations and subscriptions to Auxiliary	47	12	6½
,, Life members' contributions ..	47	5	0
,, Subscriptions to parent society ..	40	19	0
	£135	16	6½

EXPENDITURE.

	£	s.	d.
By Remittance to parent society ..	103	19	0
,, Printing and stationery	5	3	9
,, Postages (per secretary)	2	11	3½
,, Postages (per W. Pope)	0	9	5
,, Cheque books..	0	2	0
,, Balance at bank, December 31st, 1900	23	11	1
	£135	16	6½

Sale of a large Highland Estate.—Sir Kenneth Mathieson has sold his extensive estate of Inverinate, in Ross-shire, to Sir Keith Fraser, Norwich. The sale includes the crofting townships of Inverinate, Dornie, Bundaloch and Camaslunie.

Litchi on Costers' Barrows.—The Litchi or Lychi fruits are being sold on costers' barrows in Fleet Street, London, at eight a penny. The fruits are about the size of a Chestnut, having a bright cocoa coloured, tuberculate, brittle shell, the outerside being covered all over with pointed little prominences. Within the shell there is a large and very hard seed surrounded by a gelatinous aril, which is sweet, and this is what is eaten. Nicholson's "Dictionary" gives a very good description of this fruit. The plant (Nephelium Litchi) grows wild in Hong Kong, and the neighbouring mainland, and has been largely cultivated in China and India. It was introduced from South China, probably by Warren Hastings, to Kew, in 1786. It is scarcely a suitable fruit for every day use, and the pulp that is eaten is liable to become mouldy by the time it reaches our shores. In the meantime, however, the "sample bags" are selling fast, and "the common crowd" daily takes its fill in staring and utters exclamations of surprise at the strange "things" being offered.

YOUNG GARDENERS.

The many interesting articles that have appeared lately in these pages on the above subject seem to me to be well timed and quite in keeping with the object of this magazine, the readers of which, especially the young ones, should be grateful to the editor for so graciously opening its columns for the free discussion of the so-called "Gardeners' Grievances." The discussion, however, has been somewhat one-sided, and I think many of your older readers will bear me out in saying that employer and head gardeners have a grievance too. Where the young gardener plays an important part in the management of gardens, large or moderate sized, there must of necessity be much left to their care. No matter how well appointed a garden may be, it is impossible to supervise every detail of work, consequently the success of a good deal of garden management depends on the care and intelligence of the young men.

That they always do this in a careful manner is, in many instances, to say the least, doubtful. How often is work done in a careless, slovenly manner without any seeming interest beyond the getting in of time. Now this has a most depressing influence on the gardeners and their employer, too. Work done in a half-hearted, unintelligent way is enough to make any gentleman disgusted with his garden, or at any rate lose interest in it, whereas work done, and plants cultivated in a creditable manner will add to your employer's pleasure and enjoyment, and thus further your own interests and the interests of gardening generally. The young men of to-day are too much taken up with *side shows*, dances, concerts, football, and I fear, in same cases, the dram-shop has an attraction that it should not have. Healthy amusement and recreation are necessary and right, but do not let them interfere with your duties, or take up time that should be devoted to self improvement.

I do not by any means intend a wholesale attack on modern young gardeners. That many of them are equal to, and in advance of their brethren of the past, I well know, but that there is room for improvement few can deny. I only wish to sound a note of warning which, if paid attention to, will do more to better their condition than any system of trades union ever invented. That there is ample room for improvement in the gardener's condition I well know, but are the right steps being taken to help that end? I fear not. With your kind permission, Mr. Editor, I will follow this up some other time by a few words of advice to young men, and will close this by quoting a couple of lines from the late C. H. Spurgeon's John Ploughman's talk, "If the cap fit, pray wear it a bit, if not, just pass it along."
—*Brightspade.*

The above subject, which everyone will admit, is one of considerable interest and importance, and not just "useless writings," as has been said. Of course, if we are just arguing for its sake we may stop at once, but we all want to help one another to get as many comforts as possible. I have read with keen interest the opinions of various writers on the above in The Gardening World, but I think some more of the "bothyites" might come forward yet. Those journeymen that have already given their opinions and signed their names and addresses deserve credit. "Wullie" must make his work a pleasure when he writes his diary before taking supper. When I spoke about a chap learning more in a big place than a small one in six months that was said only to emphasise my statement.

James Nicol deserves all praise for his sensible and well written letter on "Journeymen." I hope the good advice he has given will be of great help to us young chaps. Where there are evening schools, too, I think every young man should attend them, and the long weary hours at night could be taken up learning, at least, the first stages of botany, drawing, land measurement, &c., as we cannot be too clever nowadays.

Mr. "Carcluie" (as he signs himself) thinks my proposal is not fair—paying John more than Peter. "Carcluie," were you ever inside or outside foreman in a place and wanted a change, the places going not just what you had been used to, and was forced to take an outside journeyman's place alongside Peter Green, whose time is newly out? I am afraid he would be like a great many more; "go to the boss and ask a rise, as I have been twelve years at the job,

and am just getting the same as that young chap you have along there wheeling soil." It is experience that gets a head place with big wages, and not because he can wheel twice as much soil as Peter Green.

I say the planning of work is of as great importance as the actual meaning of the word. "A.V.M." must surely have an excellent memory to mind how many sowings of Peas, Beans, Turnips, &c., and how much seed he used for each time last year. In some places the boss sees to the sowing, &c., but where charge is given to one chap in either department, and is expected to have everything and in succession, a reminder out of our "friend" the "diary" sometimes comes in very handy.

Mr. Macquarie (although a long way off) has given some examples for the "young," but might have put it a little plainer for "their" sakes. Another proposal I would like to make is that every gardener should have Saturday afternoon to himself. As he has a Sunday on duty every now and then and gets no pay for it in the majority of establishments the half holiday for gardeners is practical, and proves beneficial, this being sufficient reason for its more general adoption. No doubt the "unions" will be a great help to get many a privilege. Meetings could be held at each county town to discuss everything in connection with the "poor gardener." Thanking you, Mr. Editor, if space is granted for this.—*T. S. Dick, Castlemilk, Lockerbie.*

THE APIARY.

ANYONE starting bee-keeping must not be led away with the idea that a golden fortune is to be made out of them, and that they have only to procure a stock of bees, stick them in a corner and give no more attention except placing on empty sections and removing them full. The most of us can keep bees, but it is not everyone that can become a bee-keeper in the true sense of the word. Energy, patience, determination to overcome, combined with a fair amount of courage, or rather nerve, is all required in a more or less degree to become a proficient bee-keeper. With the above qualifications and a fair talent for business, bee-keeping will pay for all trouble taken, let alone taking into account the benefit to health derived in working amongst the busy bee. As a hobby it is unsurpassed by any, and unlike a great many it can always be depended upon to pay its way, besides the pleasure derived in viewing some of the wondrous works of Nature.

Those wishing to start should always remember to make a very small beginning, one or two stocks are sufficient for a beginning; take in a good bee paper, it will keep you posted in all the doings of the bee-keeping world. Procure the bee-keeper's guide book, indispensable to the practical bee man, once it is thoroughly mastered. Others could follow, as the interest and love of the hobby increases. Pay an occasional visit to the apiary of a successful bee-keeper, he will be sure to welcome you, which is one of the many pleasures derived from the keeping of bees, viz., the interest and assistance so freely given by the old hand to the young beginner, who should never be too proud to show up his ignorance. In buying a stock of bees the best time to do so is in the month of April, for then the bees are in a proper condition for one to read their value at a glance, and they withstand a shift better than they would earlier or a month or two later. In late districts this could be left for a month. Where stocks are purchased from a dealer at a distance a written guarantee should be received along with them regarding health, age of queen, and strength of stock.

When bought from a private source, the advice of a good bee-keeper should be obtained if possible. Where this cannot be got, and the bees are in a straw hive, give them a puff of smoke at the entrance, and turn the hive upside down. If the combs are nice, clean, and straight, and on looking down the centre ones you can see patches of brood, it is suitable. If it is a second swarm of the year before, or an old stock which had swarmed the previous year, so much the better, because then the queen is young, and will be in her prime for the coming season. An occasional puff of smoke will keep the bees quiet. In the case of a frame hive matters are greatly simplified. Be sure that the frames are the standard size with the bees covering from six to ten frames, the combs, principally all worker combs, not clogged with pollen, but nice clean and sweet, with brood in two less than the bees cover, and beware, oh! beware of foul brood, which I will describe in another article.—*Doonfoot.*

[Our correspondent will be pleased to answer any questions which readers would like to ask concerning their bees.—ED.]

SPRING FLOWER GARDENING.

THERE are three or four genera of very early flowering plants represented by just about as many species, whose appearance we look for and and are generally gladdened with,soon after the entry of each new year. These three or four early bloomers are Primrose, Snowdrop, Crocus, and Christmas Rose. In open, favourable seasons these are generally to be found in the more sheltered corners of gardens and estates during January and February.

Perhaps the Christmas Rose is the most valuable from the point of view of decorativeness and general utility, yet it is a matter of constant wonder to observe the scarcity of Christmas Roses in the shops of florists. In their case they are truly conspicuous by their absence. The reason probably is that the flowers cannot be got in sufficient quantities or at a cheap enough rate.

Yet when Eucharis blooms fetch 4s. to 6s. per dozen, there is surely an opening for the beautiful pure white Helleborus niger. The most useful sorts of the Christmas Roses for really early flowering include the specific type and its varieties. H. n, angustifolius and H. n. altifollus or maximus. Along with these are some of the "orientalis" section. The latter group of Helleborus should not be divided till the month of April, whereas the earlier flowering sections of the genus may be increased by division during the present month (March).

They seem to succeed well on a variety of soils and in various aspects. Much or all, depends on the general care with which the plants are treated. A dry soil, that is one in which rain is not retentively held, but which contains a suitable amount of moisture and is well drained, should be chosen for the planting of these plants. Make the site as deep (deeply dug) as you please, and incorporate a moderate dressing of rotten dung, say a barrow load to 4 sq. yds.

Snowdrops form a genus whose interest is very great and which seems to be perennial. The value of the genus is furthermore always gaining by the new additions made to it. Snowdrops should be even more largely planted in grass-lands than they are; and in wood-land borders and spaces their beauty is fittingly set off. Crocuses (or Croci) do not flower quite so early as the Primrose (P. vulgaris) or Snowdrops, yet the well-known C. Imperati with purplish-flaked flowers, and C. sativus and C. aureus generally begin to appear in February. On no less an authority than that of the monographer of this genus—Mr. George Maw—it is stated that species are to be found in flower in every month of the year. The autumn Colchicums and the spring Crocuses are, however, the most generally known. Yellow and blue Crocuses on soft green grass or in borders furnish a splendidly beautiful effect.

Then the early flowering Anemones delight us in an equal measure to the foregoing when they begin to develop. Anemone blanda is a charming plant and one of the most easily cultivated of the whole selection of spring flowering plants. As it seeds and germinates freely from self sowings, it appears to be adapted for naturalising along with the wild white Wood Anemone nemerosa, and indeed, this hint was thrown out by the late Mr. W. Ingram in a paper read before the Fellows of the Royal Horticultural Society in 1890. A gravelly, leafy, or humic soil suits it well. A. apennina is another of the early species not to be overlooked. Though the larger encrusted Saxifragas bloom in the greatest profusion during May and June, there are yet many of the mossy, the spreading, and tufted sorts, such as S. oppositifolia major, S. buseriana major, S. luteo-purpurea that find appreciation for spring gardening, even though they only afford something fresh and green to look upon. One of the best of the mossy Saxifragas is S. muscoides coccinea which affords a fine fresh covering through the spring.

S. ligulata and S. Stracheyi are handsome so far as foliage goes; and for spring effect we require foliar plants quite as much as in summer. S. ligulata is perfectly hardy even in the north, although it has succumbed to frost so far south as Florence in Italy. This fact demonstrates the susceptibility of plants when nurtured under such highly congenial temperatures, and points out a lesson to be practised in the case of many other plants—to grow them as hardy as possible. S. Stracheyi is even more handsome and beautiful than S. ligulata but it is not so hardy. It should be planted in the most sheltered positions.

Pansies, Primroses, Erica carnea, and other Heaths, Narcissus minimus, Chionodoxa Luciliae, Hyacinthus azureus, Scilla bifolia, Cyclamen repandum, C. Coum, Iris reticulata, I. stylosa, I. persica, I. p. Heldreichii, and Russian Violets, are additional plants whose likeness is becoming better known every year. These can all be had in bloom before the end of March.

Coming now to the more advanced period at the beginning of April, the great array of Daffodils and Narcissus are then in bloom, and many other species and varieties of all the foregoing, that is, Primroses, Hellebores, &c., are then adorning our beds, borders, and grounds. Anemone fulgens, A. robinsoniana, A. Hepatica, and A. angulosa are then coming into evidence, and the various dwarf Phloxes as for example, amœna, subulata, Nelsoni, and frondosa make pleasant swatches in the rock garden. The Spring Snowflake (Leucojum vernum), Triteleia uniflora, Aubrietias, Alyssum saxatile, Trillium, grandiflorum, Orobus vernus, Dog's-tooth Violets, Doronicum excelsum, Wallflowers, and the perennial shrubby species Cheiranthus Marshalli, Dielytra (Dicentra) spectabilis, Pulmonaria azurea, Grape Hyacinths, Ornithogalum nutans, and Uvularia grandiflora are amongst a goodly list of other things that one can depend on for an outdoor spring display. Besides these the beds of spring flowering bulbous plants are then beginning to yield their display. Violets and many of the dwarf plants aforementioned grow and blossom agreeably when they are properly and carefully planted around the outer fringes of such evergreen trees as Cedars, Hemlock Spruce, Biotas, Cryptomerias and others. They should not be planted exactly *under* the trees, but close in so as to have shelter from winds and rain. Forget-me-nots, Oxalis Acetosella, Thymus, Tiarella cordifolia, and many dwarf plants are more particularly useful for the rockery.

The following list of shrubs is recommended by Mr. Ingram, for spring flower gardens:—Daphne Mezereum, Chimonanthus fragrans, and C. grandiflorus, Lonicera fragrantissima, Rhododendron dahuricum, R. nobleanum, R. praecox superbum, Andromeda floribunda, A. japonica, Berberis Aquifolium, Forsythia suspensa, Magnolia conspicua, Genista praecox, Pyrus japonica, Berberis Darwinii, B. stenophylla, Azara microphylla (very handsome); Prunus Amygdalus nanus, Ribes, and Kerria japonica.—*S.*

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned below were made by the Royal Horticultural Society on the 26th ult.:—

Orchid Committee.

LAELIOCATTLEYA WARNHAMENSIS.—This is one of those bigeneric hybrids in which Laelia cinnabarina has exercised such strong prepotency. The sepals are deep orange, and the petals overlaid with purple on an orange ground. The tube of the lip is red externally, and orange internally; while the lamina is deep crimson-purple, or maroon-purple, and handsome. (First-class Certificate) C. J. Lucas, Esq. (gardener, Mr. Duncan), Warnham Court, Horsham, Sussex.

SOPHRONITIS ROSSITERIANA.—The flowers of this form are similar in shape to those of S. grandiflora, but the sepals, petals, and lip are of a soft orange, very handsome, with occasionally a trace of red along the edges of the segments. For the sake of contrast with the better known scarlet one this rare Orchid will be most appreciated. (First-class Certificate.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking.

DENDROBIUM EURYALE.—In this we have a handsome hybrid in the now complicated group of hybrids between D. nobile and D. aureum. The flowers in this instance recall those of D. splendidissimum grandiflorum. (Award of Merit.) Sir Trevor Lawrence, Bart.

ODONTOGLOSSUM CORADINEI MRS. DE B. CRAW-

SHAY.—Here we have one of the more choice varieties of O. Coradinei, the well defined blotches being of a dark, rich chocolate on a yellow ground. (Award of Merit.) De B. Crawshay, Esq., Rosefield, Sevenoaks.

PHAIOCALANTHE SCHRODERIANA.—In this we have one of the finest and most richly coloured of the bigeneric hybrids. The sepals and petals are pale but the lip is of a dark claret colour. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

ODONTOGLOSSUM ADRIANAE MRS. ROBERT BENSON.—The sepals and petals of this variety are soft yellow and furnished all over with large, clear chestnut blotches, the latter being much larger than in the earlier varieties of this group which made their appearance in public. (Award of Merit.) Captain Holford (gardener, Mr. A. Chapman), Westonbirt, Tetbury, Gloucester.

COELOGYNE SULPHUREA.—The flowers of this species are small but interesting; and the sepals and petals are amber rather than sulphur coloured, with an orange blotch on the disc of the lip. (Botanical Certificate.) F. W. Moore, Esq., Curator Royal Botanic Gardens, Glasnevin.

Floral Committee.

ADONIS AMURENSIS.—The stems of this plant are about 6in. high, more or less branched, and bear finely divided leaves not unlike those of a Davallia. The flowers consist of many bright yellow sepals, of a distinct bronzy hue on the back. (Award of Merit.) Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester.

IRIS TUBERGENIANA.—The habit of this bulbous Iris is dwarf, like most of the early flowering forms of the group. The flowers are greenish-yellow, and the leaves are narrowly margined with yellow. (Award of Merit.) Miss Willmott, Warley Place, Brentwood.

Fruit and Vegetable Committee.

APPLE DIAMOND JUBILEE.—The fruit of this variety is of large size, ovate, smooth, shining, greenish-yellow at this date, with green specks and a bright red cheek on the exposed side. The eye is set in a deep smooth cavity. The flesh is white, firm but crisp and juicy, so that the variety can evidently be kept in good condition for sometime yet. (Award of Merit.) A. J. Thomas, Esq., Rodmersham, Sittingbourne.

APPLE SCARLET NONPAREIL.—The fruit of this fine old dessert variety is of medium size, greenish-yellow, flushed scarlet on the exposed side, and more or less overlaid with russet and bronze. The flesh is firm, sweet and keeps till a very late period of the year for Apples. (Award of Merit.) Earl Beauchamp (gardener, Mr. W. Crump), Madresfield Court, Great Malvern.

ALPINES UNDER GLASS.

WHAT can be done with glass protection without any artificial fire heat is splendidly demonstrated by the lately completed Himalayan house at Kew, and also on a smaller scale by the span-roofed house for Alpines. I feel sure that if the worth of such cool houses was fully comprehended we would soon see many more of them included in the glass ranges throughout the country. They are on the same lines as are cool greenhouses, but greenhouses are frequently warmed to intermediate temperatures. In the case of an alpine house there is scarcely ever any call for fire heat. The value of the alpine house is principally for the protection it affords from snow, wet, and the dry cutting winds of spring, which retard the plants, damp and cripple them far more than frost does. Under glass they escape the inclement elements and continue to flower and afford their delightful blossoms without intermittance from the earliest possible period which is natural to them till their usual season for going to rest. Where houses cannot be specially erected for the protection of choicer species of alpines much good can be done by using hand-lights. If these are securely fixed and left somewhat tilted over the plant it will be found to have a splendid effect. Again, to save certain plants from rain and snow a single pane of glass placed slopingly and firmly on stout wire standards is frequently tried. A garden-light or sash has on occasions been fixed so as to cover a few square feet of rockery, and such protection as this is generally sufficient for a considerable number of plants.

But when one comes to consider the greatest merit of an alpine house, that of providing a perpetually beautiful display throughout the year, not even excepting December and January, the force of the argument in favour of such a house is very strong, indeed.

If the house is not wanted for anything else than growing alpines in pots during the winter it can be turned to good account for the ripening of seeds during autumn. A sufficient number of hardy foliage plants, such as Saxifragas, Epimediums, Shortias, and (if the house is 20 or 30 ft. long by 10 ft. wide) some handsome dwarf evergreens may also be included as part of the winter furnishing. All alpines and hardy plants grown in pots for such a purpose should be plunged in the open air, generally amongst ashes, during summer.

As regards the house itself its construction is so simple that any handy man could piece together a very serviceable one. A fully exposed span-roofed house is preferable to the lean-to, and the roof should not be high. Wooden or slate stages at the usual height of 3 ft. should be erected on either side of a central pathway. From the middle of April (or even before) till the end of October it will be necessary to shade the house on all occasions of bright sunshine. If instead of growing the plants in pots an indoor rockery is determined upon it will be necessary, seeing the plants will be permanently planted, to have a roof which can be removed during summer. This can be arranged by having sliding sashes. The system of growing alpines in pots under glass will, however, be found to have advantages over the planting out method. For one thing the proper and special quality of soil can be given to every separate plant, and each plant is under control to be shifted about as the needs or whims of the grower control him or her.

The plants to which the protection of the alpine house is beneficial include most of the Androsaces, Anthemis Aizoon, Arenaria caespitosa, Anemone palmata and A. p. alba, Astragalus hypoglottis albus, Campanula garganica in variety, C. waldsteiniana, C. Allioni, and others; Cyananthus lobatus, Cyclamen Coum, C. repandum, Dianthus alpinus, D. neglectus. Edraianthus dalmaticus, Epilobium obcordatum, Erinus alpinus, Eritrichium nanum, Gentiana brachyphylla, G. pyrenaica, Geum reptans, Gnaphalium Leontopodium, Hypericum reptans, Iberis stylosa, Linaria alpina nana rosea, L. pallida, L. pilosa, Lychnis alpina, Myosotis rupicola, Onosma taurica, Phyteuma comosum, Pinguicula alpina, P. grandiflora, Primulas in great variety, Ranunculus anemonoides, R. pyrenaeus, many species of mossy and some encrusted Saxifragas, Selaginella helvetica, Sempervivum arachnoides, Sibthorpia europaea, Silene Pumilio, Soldanella alpina, S. pusilla, Thymus azoricus, Viola alpina, and Wulfenia Amberstii. The above are all recommended by Mr. H. Selfe Leonard.—*A. L.*

ANCIENT GARDENS AND GARDENERS OF LONDON.

A WRITER in the *City Press* of January 16th opens his remarks under the above heading by saying, "What a beautiful place the city of London must have been in the old Plantagenet days, when great green gardens and pleasure grounds spread themselves in all directions, and the houses of the rich and powerful rose proudly from amid a rich profusion of trees and graceful shrubberies." The writer then proceeds to add, "How completely everything has changed. A few time-stained buildings remain to remind us of a glorious past, but what has become of the beautiful gardens for which the city was at one time famous? The exigencies of modern civilisation and the growth of population have transformed those splendid domains of sport and pleasure into a wilderness of drab bricks and mortar."

In the beginning of the Plantagenet period, that is, about the year 1154, the state of London and our country in general was about as pitiful as the mind of man can conceive. The arrogant nobles held the sway of power and the poor people were their serfs. We need only mention King John and the Magna Charta, to bring home to us the wretched state of the prevailing affairs in "the old Plantagenet days." London may have been beautiful from one point of view, but for gardens to be enjoyed one must have the joyousness of pure freedom and security. So that though we bear much that is eulogistic of the "good old days," let us analyse it before we believe: Then again in reference to "the wilderness of drab bricks and mortar," we may add that it is one of the greatest surprises that provincial people receive when visiting London for the first time, to find so many parks, and to see the thousands of trees, and general attractiveness of the numerously dotted "open spaces."

In the early times, even before the advent of Bruce and Wallace, and Edward "Longshanks," the Strand, now forming one of London's busiest thoroughfares, was celebrated for its beautiful (so-called) gardens, with their bowling greens. In Mr. Charles Welch's book entitled "The History of the Worshipful Company of Gardeners," the opening pages refer to Fitzstephen, a writer in Henry the Second's reign (1154-1189), who said that the London citizens of his day had large and beautiful gardens surrounding their houses. From the same book we learn that "In 1276 an inquest was held upon one named Adam Schot, who met his death by falling from a Pear tree in the garden of a citizen named Lawrence, who lived in the parish of St. Michael, 'Paternoster Churche.'"

The grim Tower of London possessed a garden, which, in 1276, was stocked with Pear trees, by order of King Edward ("Longshanks"). The Royal Garden at Westminster was also planted, the same year, with Pear trees. "The garden was noted for its profusion of Roses and Lilies, upon the cultivation of which great care was bestowed." Parenthetically we may say that only native species of Roses, or as we now call them "Briers," were in the gardens of this period. The first exotic species—Rose damascena—was not introduced till 1573. "Lily" in those days was a name given to other plants than Liliums, of which there were few or no exotic species in England.

The Earl of Lincoln's garden at Lincoln's Inn was remarkable for its produce. The bailiff's accounts in 1296 show that it produced Apples, Pears, Nuts and Cherries sufficient for the earl's tables, while it also yielded produce yearly to the value of £135 in modern currency. The vegetables grown were Onions, Garlic, Leeks and Beans. Hemp (for the fibre to make ropes to hang people!) was also grown. Roses seem to have been the only plants cultivated in the flower garden.

The luxuriant areas which surrounded the great religious houses a century or two ago were models of the old-world garden. The halls of all the merchant guilds and companies (the latter having sprung up in Roman times for trade protection) were likewise surrounded by gardens, such as they were; and even until recently traces of them were to be seen. The Pewterers' Company must have possessed a large garden, for in 1486-7 (House of Tudor; Henry the Seventh's time) the sum of nearly £2 was spent in building a frame (not a vinery) for a highly-prized Vine growing in it.

"It was not until 1606 that the gardeners, who remained for centuries a fellowship and nothing more, were incorporated by charter, the preamble setting forth the operations of the guild as 'the trade crafte misterie of gardening, planting, grafting, setting, sowing, cutting, arboring, rocking, mounting, covering, fencing and removing of plantes, herbes, seedes, fruites, trees, stocks, setts, and of contryving the conveyances to the same belonging.' Thus the gardeners of James VI. of Scotland and First of England founded their guild, and gardeners living within six miles of the city were included.

"The revival of the company ten years ago is a matter of recent history. The company now grants scholarships for the training of gardeners at Chiswick or elsewhere; prizes have been offered for fruit-growing, and seats have, by the company's aid, been provided in open spaces in the city."

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communi-

cations for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. Adam V. Main, Coltness Gardens, Wishaw, for his article on "Physalis," p. 421.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Artificial Manures for Violets and Lily of the Valley.—*Omega*: From the questions you ask concerning these plants, we should imagine that you refer to Violets and Lily of the Valley grown in the open ground or in frames. It would have helped us to give the proper answers if you had stated whether your plants were in pots or planted out. If in frames or in the open ground you should mix two parts superphosphate with one part of kainit and one part of nitrate of soda. All these are in the dry state and may be scattered equally over the ground at the rate of 1 oz. to the square yard. You can then water it in with clean water by means of a can with a rose. A better plan, however, would have been to have commenced in the autumn when planting the Violets in the frames. The superphosphate and the kainit should have been applied then, and half the nitrogen applied about the beginning of this month, and the remainder of it towards the end of the month. The first two manures take a long time to become soluble, hence the reason for applying them early. Nitrate of soda is very readily soluble, and soon gets lost in the drainage, if the plants are not growing so as to take it up. If the Violets are planted out in frames they will now be growing freely, or soon will be, therefore the nitrate will be in time for them to reap the benefit of it during the period of flowering. If the frame is heated in any way the Violets must have been growing for some time so that you could have applied the nitrate earlier. It all depends upon the time the plants are growing, and the same applies to Lily of the Valley. It is impossible for us to answer such questions exactly without knowing some particulars as to the conditions under which the plants are placed. We should not apply any of the above manures in the liquid state unless you were to water the plants separately from the spout of the can. In any case, do not water the plants overhead as it might injure the flowers or flower buds.

Moss upon a Lawn.—*A. L.*: You are not altogether too late to commence remedying the defect, though you could have started months ago. The first thing you should do is to give the lawn a good raking with an iron rake so as to loosen up the moss, which should be swept up and taken away. The place may be wet or else shaded by trees; if the former then you should drain the ground. Then make up a rich compost of old potting bench soil, leaf mould, old and decayed hotbed manure, or that from the stables, provided it is well decayed and can be broken up fine. Keep out all sticks, stones, broken pots, or other matters of that kind, as it will save a deal of trouble afterwards in raking them off the grass. If the soil is fairly dry it would be worth while putting it through a ½-in. sieve before mixing the material with the leaf mould and chopped manure. Mix the ingredients and spread a good dressing of it over the grass. You could then rake it with a wooden rake so as to distribute it evenly. Leave it for a time and the rains will wash it down amongst the roots of the grass. A small quantity of lime may be mixed with the rest before applying it to the ground. About the beginning of April, when the weather is getting warmer, get some good lawn grass seed from your nurseryman, and sow down all the bare spots, rake it over with a wooden rake and then roll the ground.

Evergreens to Plant Beneath Trees.—*D. W.*: Any of the green Ivies may be used for the purpose. The creeping or climbing forms would be likely to do better than the tree Ivies. You may select the broad-leaved or the small-leaved forms, according to your liking. Ivies under such conditions look best in winter, but in summer when so many brightly coloured flowers, leaves, &c., are about, they give the place a rather sombre appearance. If this is your opinion then you might use green and variegated Periwinkles, both Vinca major and V. minor. Of the latter there are blue and white flowered varieties. To avoid the monotony of a flat surface you may plant bushes of Aucuba japonica or cover the whole ground with them. They succeed well in shade. If the latter is not too dense you could plant Hypericum calycinum (St. John's Wort) as the large flowers give a brightening effect. It is deciduous, but if planted in the better lighted spots patches of it are very handsome in summer. Any of the above could be used in conjunction with Ivies, but the latter would require trimming occasionally to prevent them from over-running and killing the smaller subjects you may plant.

"The Vegetable Garden."—*James Malcolm*: The English edition of "The Vegetable Garden" by MM. Vilmorin Andrieux et Cie., is published by Mr. John Murray, Albemarle Street, London. Price 15s. and by post 15s. 6d.

Feeding Asparagus in the Beds.—*A. J. B.*: This may be done at various times and should be so; but you cannot expect to reap a great deal of advantage in the crop that you are about to commence cutting a month or six weeks hence. The produce then will mostly be the result of last year's growth. The shoots are practically cut before they become green, so that they are actually making their growth from the store of reserve material laid up in the roots. When the stems are cut down in autumn that is a good time to dress or mulch the beds with stable manure. The rougher portions may now be lifted off with a fork, and the remainder pointed in with a fork, taking care not to injure the crowns. Then give the beds a dressing of ordinary table salt well pounded up so that no lumps are left in it. You need not overdo the dressing. If the beds are white as if a shower of fine hail had fallen that will be sufficient. Leave off cutting fairly early, and just before then dress the ground with nitrate of soda at the rate of 5½ oz. to the rod or perch. You can repeat the practice at intervals of three weeks up to the end of August. Dress the ground again when the plants are cut down. In January or early in February mix one part of sulphate of potash and two parts of superphosphate, and dress the beds with it at the rate of two pounds per rod.

Names of Plants.—*A. D. W.*: 1, Violet Marie Louise; 2, Violet Czar (single).—*J. C.*: 1, Eupatorium ianthinum; 2, Euphorbia splendens; 3, Tillandsia Lindeni; 4, Maranta bicolor; 5, Calathea zebrina.—*H. C.*: Mackaya bella, also sometimes called Asystasia bella.—*A. M.*: 1, Cyclamen ibericum; 2, Iberis saxatilis; 3, Saxifraga sancta; 4, Saxifraga ligulata; 5, Crocus susianus; 6, Hellebrus antiquorum.—*W. D.*: 1, Polypodium vulgare cambricum; 2, Polystichum angulare proliferum; 3, Asplenium Hemionitis; 4, Erica carnea; 5, Clematis indivisa; 6, Coleonema album.—*H. W. D*: 1, Pelargonium Radula; 2, Pelargonium denticulatum; 3, Pelargonium fragrans.—*R M.*: 1, Petasites fragrans; 2, Citrus sinensis, usually named the Otaheite Orange.—*Perplexed*:—1, Brunfelsia calycina (also known as Franciscea); 2, Cyperus alternifolius; 3, Kleinia repens; 4, Begonia maculata; 5, Saxifraga sarmentosa; 6, Mesembryanthemum (not recognised).

Communications Received.—H. Cannell & Sons.—Kelway & Son.—Sutton & Sons—Webb & Sons.—J. Carter & Co.—T. & A. Constable.—Veitch & Sons.—T. E. Henwood.—A. Thatcher.—Northern.—E. O. Greening.—J. C. Dick.

TRADE CATALOGUES RECEIVED.

DICKSONS, Royal Seed Warehouses, Chester.—Select Farm Seeds.

TOOGOOD & SONS, Royal Seed Establishment, Southampton.—Toogood's Farm Seeds.

THEODORE TURNER, Begonia Nurseries, Great Sutton, Chester.—Catalogue of Seeds.

RICHARD DEAN, Ranelagh Road, Ealing, W.—A Handbook of Delightful Specialities in Plants and Choice Vegetable and Flower Seeds.

E. H. KRELAGE & SON, Royal Bloemhof Nurseries, Haarlem, Holland.—Krelage's Catalogue of Novelties, Begonias, Cannas, Dahlias, Gladiolus, Gloxinias, Lilies, Herbaceous Perennials, &c.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

MARCH.

11.—United Horticultural Benevolent and Providential Society's Annual Meeting at Caledonian Hotel.
12.—R.H.S. Committees.
20.—Torquay District Gardeners' Association, Spring Show.
21.—Linnean Society Committees' Meeting; Royal Botanical Society Meeting.
26.—R.H.S. Committees; Brighton and Sussex Horticultural Society Show (2 days).
27.—Liverpool Horticultural Show.
29.—Blackheath Horticultural Society Meeting.

APRIL.

3.—Royal Caledonian Horticultural Society Show, Edinburgh (2 days).
4.—Linnean Society Meeting.
6.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
9.—R.H.S. Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society Spring Show (2 days).
10.—Shropshire Horticultural Society Show at Shrewsbury.
22.—Chesterfield Spring Show.
23.—R.H.S. Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

MAY.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting
7.—R.H.S. Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show.
4.—Norwich Rose Show.

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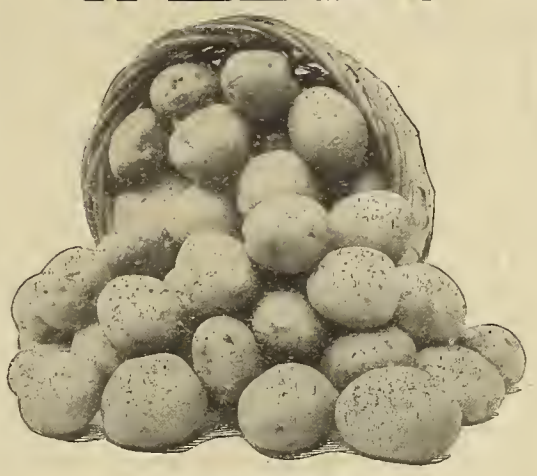

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The Gardening World

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, MARCH 16th, 1901.

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Editorial matters are to be addressed to **the Editor.**

All other communications and Remittances must be addressed direct to the Proprietors—

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NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, March 20th.—Torquay District Gardeners' Association's Spring Show.
THURSDAY, March 21st.—Linnean Society Committees' Meeting; Royal Botanical Society's Meeting.

POPULAR FLOWERS, ANCIENT AND MODERN.—Many of the flowers which delight us to-day, delighted our ancestors more than three centuries ago according to written or printed testimony. The story to which we allude was first set forth in the German tongue "by that learned D. Rembert Dodoens, physician to the Emperor, and was first translated out of French into English by Henry Lyte Esquyer," and printed "at London by my Gerard Dewes, dwelling in Pawles Churchyarde, at the sign of the Swanne," 1578. He gives a chapter on Gillofers (Gillyflowers), enumerating a number of species then classed under this category and illustrating five of them, all of which we can readily recognise in spite of the curious names given to them, and the strange or ancient English in which they are described. The first figure is a double Carnation which might pass muster for the Old Clove; the second is the single Gillofer or Pink (Dianthus plumarius); the third is Armerius flos primus or Sweet Williams (D. Armerius); the fourth is Amerius flos tertius (Silene Armeria); and the fourth is Vetonica sylvestris, Wilde Williams, or Cockow Gillofers (Lychnis Flos-cuculi). The modern botanical names are added by us. The first two are clearly the Carnation and Pink respectively. The third then enjoyed the name of Sweet Williams, and in those days was classed amongst garden flowers. It must have been common about Cambridge in those days, and we know that it existed there till quite recently at least, for we have specimens gathered there in 1886. As a garden flower it is now neglected, and remains in its primitive unimproved form. The fourth (Silene Armeria) is still cherished in gardens, but is no more improved than it was in 1578. The Wilde Williams or Cuckoo Flower still grows in our marshes and wet meadows, where children (old and young) still gather them in their season. A double form of it has recently been raised to the dignity of a garden border flower, but its so-called botanical name is too lengthy for quotation here. The plant we know as the Sweet William to-day is evidently recorded by Dodoens as another kind of Armeriorum, the flowers of which he describes as small, in a cluster on the top of the stalk, in colour, "redde and white, and speckled or sprinckled with small spots." The Carnations, Pinks, and Sweet Williams he described as being "set and planted in the gardens of this countrie." The Wild Williams grew in meadows and moist grassy places. "The other kind of Armerius groweth in Germanie, in certain rough, hillie places that stand open against the Sunne." The Sweet William (Dianthus barbatus) of to-day did come to us originally from Germany. Of the five members of the Pink family figured in 1578, four of them take rank as garden flowers yet, several of them being of course greatly improved since those far off times.

In those days the poets could not sing of the iron-brown Wallflowers for they were yellow, and so described in several European languages, with an abundance of synomyms so that the ancients were no better than the moderns in this respect. The two most popular species of Stock in modern gardens were by no means new to cultivation then. The East Lothian Stock was then known as the Great Castell, or Stock Gillofer; and the Ten-week Stock as the Small Castell or Stock Gillofer. Both were also known as Garnesie Violets or White Violets in several languages, the latter name being given on account of the white and soft woolly leaves. Both species are accurately described, and were then famed for their fragrant or pleasant smell like Hartes-ease (Pansy) or Wallflowers, and their diversity of colours—white, ayshe, carnation, stamell or scarlet, redde, and violet. According to the figures, the flowers of Wallflower and Stocks were small, but by all accounts lacking neither in colour nor smell. In those days they had the "great wild Daysie" (Chrysanthemum Leucanthemum) and the "small garden Daysie" (Bellis minor hortensis, or as we should say Bellis perennis flore pleno). Even then the flowers varied greatly in colour and were so double that one could see little or none at all of the yellow centre. Evidently they possessed the Hen-and-Chicken Daisy judging from this record: "There growe also sometimes about the compasse of the sayde littell floures, many more as it were small floures

growing upon small stemmes, out of the knops or cuppes of the sayde floures." Three hundred years do not seem to have given us anything strikingly fresh in the way of colour, but size has been greatly improved. The Foxe Glove (Foxglove) grew wild, but was also sometimes planted in gardens as it is to-day. The Calfes snowte or Snap Dragon (both the species of Antirrhinum recorded in British floras) were known, A. majus being sown in gardens, and the lesser one occurring wild in certain situations. The Columbine (Aquilegia) must have been an old garden flower, for the colours were already very varied over three hundred years ago, and both single and double varieties were grown in gardens.

It must not be supposed that Marguerite is a recent French innovation in the way of names, for the wild Daisy in those days was known as Herba margarita and as Marguerites by the French, the name being given on account of the resemblance of the Daisy to a pearl. Pances or Hartes ease (Pansy or Heart's-ease) had many pet names showing how popular it was with the people of this country between three and four hundred years ago. The name then was Viola tricolor, and the plants grew wild in the cornfields as well as being cultivated in gardens. During these many years of cultivation, crossing and selection the flowers have been immensely increased in size; they have, in fact, been improved almost beyond recognition alongside of the wild original. Poppies were plentiful, including the Opium Poppy (Papaver somniferum), then yclept the Garden White Poppie, and the Red Poppies or Corneroses, one of which was P. Rhoeas the parent of the Shirley Poppies, and the other would appear to be P. Argemone. The Sunflower (Helianthus annuus) had reached Spain and Germany, but not our shores apparently. It was called the Indian Sunne or Golden Floure of Perrowe (Peru), and the translator said "this plant groweth in the Weste India, the which is called America, and in the countrey of Perrowe; and being sowen in Spayne, it groweth the length of foure and twentie foote." The woodcut shows it to be Helianthus annuus clearly enough. At least two species of Forget-me-not were known and figured and known as male and female Bastard Scorpioides. The former is evidently the true Forget-me-not (Myosotis palustris) and the other is evidently M. arvensis. The Hollyhock, the smaller and larger of the wild Mallows, the Marsh Mallow, and Malva Alcea as well as a yellow flowered Abutilon were grown, but the Tree Mallow, apparently, was unknown. The Hollyhock was also known as the garden Mallow, and like the rest of the exotics was cultivated or "founde amongst certaine diligent herboristes."

Most of the other flowers mentioned in our pages belong more practicularly to our own times, having been introduced during the nineteenth century or a few of them earlier; but their improvement for garden purposes has been effected by the florists and cultivators generally, during comparatively recent times. They are the "herboristes" of our day, but a much more numerous body than in the ancient times of which we speak. The flowers of 300 years ago are mostly cultivated at the present day, and those that have responded to the art of the gardening craft, have not only survived, but are more popular than ever with the people at large. The sentiment of old time association clings to them, in addition to their beauty and utility; hence their popularity. Even when the eye gets satiated with them for a time, they soon fade, and come up as fresh again next year.

Wood yields one-fourth the heat of coal; charcoal about the same as coal.

Fumigation of Fruit Trees.—It is said that 1,500,000 trees were fumigated in California last year, more than double the number fumigated the previous season. The cost of fumigation is said to be about 40 cents per tree.

The Westonbirt Hippeastrums.—We learn that Captain Holford, Westonbirt, Tethury, Gloucester, is going to exhibit his splendid collection of Hippeastrums at the next Drill Hall meeting of the Royal Horticultural Society, namely on Tuesday, March 26th. As far as we are aware no other private collection of this fine plant, popularly known as Amaryllis, can rival it, so that all those interested should make a point of seeing the group.

Leicester Flower Show and Gala.—This show ought to act as a stimulus to horticulture in this district, as the schedule of prizes shows that every facility is offered for the man with a small garden. Cut flowers seem to be a special feature. The class for wild flowers open to children deserves every encouragement, as nothing tends more to sharpen the observing faculties of a child than the study of Nature. The date has been fixed for August 6th and 7th.

The "Hurst & Son" Musical Society.—The Ladies Evening Concert in connection with the above society will take place at the Holborn Restaurant (entrance Newton Street, High Holborn), in the Council Chamber, on March 21st. An excellent programme has been provided, the vocalists being Madame Barter, soprano; Madame Marie Royce, contralto; Mr. T. P. Frame, tenor; and Mr. C. Harmer, bass. Conductor, Edward Sherwood. Doors open 7.45 p.m.; reserved seats, 1s.; unreserved, 6d.

The National Auricula and Primula Society (Southern Section).—The twenty-fourth annual report of this society shows that it is still in a flourishing position, having a very substantial balance in hand. In recognition of the generous treatment so long received from the Council of the Royal Horticultural Society, the committee have deemed it expedient to become affiliated to that society. There is no doubt that by this action they are serving the best interest of the National Auricula and Primula Society. The Auricula is not so extensively cultivated now as it was some years ago, when it was a very fashionable flower, but it still has many enthusiastic admirers, whose perseverance in crossing and selection has resulted in the magnificent collection of varieties which adorn the show boards at the society's shows. The date fixed for this year's exhibition is Tuesday, April 23rd, at the Drill Hall, Westminster. It is to be held in conjunction with the Royal Horticultural Society's show.

Glasgow International Exhibition, 1901.—Gardeners visiting the coming exhibition will find plenty to interest them in the horticultural section, as the grand autumn flower, fruit, and vegetable show is to be held by special arrangement in association with the Glasgow and West of Scotland Horticultural Society within the exhibition. The plant and cut flower show is to be held on Wednesday and Thursday, August 28th and 29th, and the fruit and vegetable show the following week, Wednesday and Thursday, September 4th and 5th. There is a schedule of prizes and trophies to the extent of £1,000, which will ensure keen competition in all classes of exhibits. Every effort is being made to make the shows interesting and attractive. The executive of the exhibition have invited foreign nations, states, and dependencies of Great Britain, and all whom it may concern to furnish fruit products at the fruit and vegetable show. The importance of such a show cannot be overestimated, as in addition to interesting the general public, the fruit will be brought directly under the notice of very large buyers, with every prospect of finding a profitable place in a permanent market. Suitable trophies and certificates will be awarded to all exhibitors of meritorious displays. Arrangements have been made with the Scottish Cold Storage and Ice Company Ltd., for the reception of exhibits that may require storage of this kind.

"Fun" has been poking fun at the lady gardeners at Kew, and refers to the matter as London's Kewriosity.

American Fruits.—According to the *American Agriculturist* the United States Apple crop approximates 48,000,000 barrels, against 37,500,000 barrels in 1899 and 69,000,000 in the bumper year of 1896.

Presentations at Nunhead and Dulwich.—After 12 years and 14 days' service as superintendent of the Nunhead Cemetery, Mr. J. H. Witty has gone back to Highgate Cemetery, where he had previously served as gardener and deputy superintendent for 11½ years. Judging by the testimonials he has received, he has left Nunhead and Dulwich with the good will of everybody. At a special meeting of the Dulwich Chrysanthemum Society (of which Mr. Witty was chairman), called for the purpose on the night before he left the neighbourhood, that body presented him with a beautifully illuminated address and a gold watch. On the same occasion Mr. Witty was presented with a very beautiful silver cruet, with suitable engraving for his wife and himself from the staff. From the undertakers with whom he had come in contact in the course of his duties within the cemetery, he received a substantial purse of money. We learn, also, that he is to be the recipient of another present from another body with which he was connected while at Nunhead. From all this we have ample evidence of faithful attention to duty, and the goodwill of his fellow men.

National Sweet Pea Society.—A meeting was held at Winchester House, Old Broad Street, London, on Tuesday, March 12th, at 5.30 p.m., to discuss the desirability of forming a Sweet Pea Society. The chair was taken by Mr. C. E. Wilkins. After numerous letters had been read promising support, Mr. Scrutton proposed that a society should be formed; this was seconded by Mr. Sankey. Mr. Wright moved the following amendment: "That the meeting be adjourned until March 26th, and that the promoters of the society should meet the committee of the Bicentenary Celebration, and endeavour to come to a working agreement." He pointed out that the general committee of the Bicentenary Celebration had not determined whether the committee should continue in some permanent form, or whether it should dissolve. Until this is settled it is premature to promote another society; for if two are formed they will clash and one must go to the wall. This was seconded by Mr. Robert Sydenham, of Birmingham, put to the meeting and carried. Mr. Wilkins said he was sorry the proposal had been misunderstood. They had no idea of a fight, and what they proposed to do was entirely to promote the interests of the Sweet Pea. If the Bicentenary Committee decides to form a permanent society, they will withdraw their proposals and support it.

The National Carnation and Picotee Society (Southern Section).—The 24th annual report, submitted by the committee of this society, cannot fail to give satisfaction to the members. The society is indebted in a very great measure to its president, Martin B. Smith, Esq., for the success attained. He has shown an untiring interest, devotion, and liberality to the society, and has exerted every power within his means to induce others to cultivate a flower of such beauty and infinite variety. The society is not only supported by members from the United Kingdom, but from the Continent, Australia, South Africa, and Egypt. The exhibition last year, at the Crystal Palace, was held under very unfavourable circumstances, as the heat was so intense that many of the flowers "wilted," and the exceptionally hot weather experienced for some days prior to the exhibition had a very detrimental effect, as many who had entered for competition were unable to stage their blooms. Nevertheless, the entry itself was a record one, and considering the drawbacks of the season the exhibition was a decided success. There were no less than sixty-three successful exhibitors. The Silver Cup, given for the highest number of aggregate points made in the first division, was won by Mr. C. Blick, the president's gardener, whose blooms were the feature of the show. The exhibition is to be held this year at the Crystal Palace, on Friday, July 19th, when £300 and four Silver Cups will be given in prizes.

England grows 27,000 tons of Hops, but uses 33,000.

Richmond Horticultural Society.—The date fixed for the 27th annual exhibition of this society is June 26th. It is always a very popular meeting, and owing to its Royal and distinguished patrons, can always boast of many noted visitors. The show bids fair to become more popular than ever this year, as arrangements have been made with the National Rose Society to hold its Southern Counties show in conjunction with it.

The Garden Boy.—A nobleman once insisted on his head gardener taking as an apprentice a young lad in whom he was interested. The lad was very lazy, and the gardener was not at all pleased at having such a youth thrust upon him. Some time after his lordship, walking the garden, came upon his gardener, and said: "Well, John, how is my young friend getting on with you?" "Oh, he's doin' fine!" replied the gardener, with a smile, "He's workin' away there at the very job that suits him. 'Ees a-chasin' of the snails off'n the walks!"—*Answers.*

The Netherlands Horticultural and Botanical Society.—In a pamphlet issued by the permanent committee of the Netherlands Horticultural and Botanical Society, we note that many plants of English raising have gained distinction, especially Dahlias. The following have gained First-class Certificates:—Augustus C. Hare, Cannell's Crest, Mrs. Carter Page, Mrs. J. J. Crowe, Elsie, Emperor, Green's White, Innovation, Lodestone, Major Tuppenny, Weston, Olive, Progenitor, Red Rover, Uncle Tom, and William Joweth. Bougainvillea sanderiana also received a First-class Certificate.

Woolton Gardeners' Society.—The concluding meeting of the present session was held at the Mechanics' Institute on the 7th inst., Mr. R. Todd presiding. The subject for consideration was "Manures," and was introduced by Mr. R. Orrett, of West Derby, who, in addition to his lecture, exhibited numerous examples of various kinds of manure. The specimens added considerably to the information imparted, giving a truer knowledge than could be done by oral descriptions. At the outset the lecturer invited questions (as he proceeded) if anything was not made sufficiently clear. This offer was taken advantage of most freely, which added greatly to the interest and information. At the conclusion a hearty vote of thanks was tendered to Mr. Orrett for his instructive lecture. The secretary announced that arrangements would be made for holding an examination in April, under the auspices of the Royal Horticultural Society.

A National Sweet Pea Society.—With reference to a communication made by Mr. Richard Dean, and which appeared in your issue for March 9th, concerning an invitation to him to attend a meeting in the City on the 12th inst., with a view to forming a National Sweet Pea Society, I beg to submit correspondence I had with that gentleman on the subject. Before any steps were taken to convene the meeting, this correspondence was considered by the gentlemen with, and for whom I am acting in this matter, and in view of Mr. Dean's reply of February 20th, comment by me on his published remarks is needless.—*Charles E. Wilkins.*

19, Lyndhurst Road,
London, S.E.
February 19th, 1901.

R. Dean, Esq., Ealing.

Dear Sir,—I have been approached with the view of assisting in the formation of a Sweet Pea Society; but before doing anything either one way or the other, shall be glad to know if it is your intention to form a society, or run a show on similar lines to the one held last year, as I am of the opinion that there is not room for two societies, and do not wish to interfere with any project you may have in hand.

Yours faithfully,
(Signed) *Charles E. Wilkins.*

Ealing, *February 20th*, 1901.

I have no knowledge of any Sweet Pea society to be formed in London, or of any Sweet Pea show to be held in the metropolitan district. There is to be a large show in Boston during July, which I am to judge.

(Signed) *R. Dean.*

Lamium Galeobdolon, the yellow flowering, wild Dead Nettle, is a subject worthy of cultivation in all gardens. It is remarkably showy, but requires a chalky soil. It is also known as Galeobdolon, luteum.

Saved by a Portable Engine.—On Sunday morning, December 16th, the sixty horse-power boiler burst in the establishment of Ant. C. Zvolanek, Grand View, N.J., which comprises some 10,000 square feet of glass. By the prompt and willing assistance of his many friends, an engine such as is used by farmers for threshing grain, was procured, and by 4 o'clock of the same day steam was being supplied through a 1-in. pipe running from the dome of the engine, and connecting with the large main of the greenhouses which furnishes the entire place. The main return was disconnected rom the damaged boiler to allow the exhaust steam to pass out. By running in this way frost was kept out of the houses. The following day the second engine was obtained, and by means of the two 55° to 70° was kept up. The engines were in use for five nights, or until the damaged boiler had been repaired. —*C. W. C., in The Florists' Exchange.*

Horticultural.—We have received from Messrs. Toogood & Sons, the Royal Seedsmen, of Southampton, a copy of their 86th Annual Farm Seed Book, which contains full particulars, cultural directions, &c., of all kinds of farm crops. In a prefatory note the Messrs. Toogood & Sons claim that for nearly 100 years they have grown their own strains with the object of supplying their customers with absolutely the best of new, pure and unadulterated seeds procurable, and all of the highest germinating power of each season. Thus the world-wide and enormously increasing business of this house has been built up on the sterling merit of its produce and the kindly recommendation of its customers. It is interesting to note that, despite the much discussed scarcity of good seed, the Messrs. Toogood never had better stocks than this year. The first part of the list is devoted to the firm's pasture seeds, which have been sown in almost every parish in the United Kingdom for nearly 100 years, and so are too well known to farmers to need recommendation. The process of selection of agricultural roots, such as Mangels, Turnips, &c., followed by the Messrs. Toogood for the last 50 years, should ensure the very best strains it is possible to produce. For the period of time mentioned the seed-roots have been personally selected by a member of the firm, and afterwards carefully examined and approved by each of the partners for their great size and weight, hardiness, trueness of shape and colour, small top, absence of side roots, and, above all, for the nutritive quality of the flesh as shown by analysis.

Paraguayan Fruits.—Guava is one of the most abundant of Paraguayan fruits. There are immense numbers of trees throughout the country and women bring the fruit in bushel baskets to Asuncion. It is a yellow-skinned fruit about as large round as a five shilling piece and contains many small seeds. The tree looks like a Plum tree and yields about one bushel and a half. The Guava season is from January to April, and commences again in August. This fruit, says the United States Consul at Asuncion, makes a delicious jelly, clear and light red in colour. The fruit is also used to make paste. Naranjitas, or small bitter Oranges, produce excellent preserves. They are about the size of a Lemon. The bitter taste is removed by immersion in running water, and the Orange entire—skin and pulp—is preserved. This Orange is said to hold the flavour much better than the sweet variety. Three years after planting the tree is ready to bear and it sometimes bears twice a year. The Lemon, or Limon as it is called in Paraguay, is not found in as great abundance as the Naranjita, but is also of extensive growth. It is not quite as large as our Lemon and is preserved entire like the Naranjita. The Lemon tree produces from two to three bushels. Aguai is a most delicious fruit, the size of a Plum, with two or three shiny seeds. The tree is the size of a large Apple tree and yields about four bushels. Many are found in the vicinity of Asuncion, especially in the town of Lambare, also in Campo Grande. Abacaxis is a kind of Brazilian Pineapple that has been introduced into Paraguay and grows abundantly. It is very juicy and exceedingly sweet. It is stated by experienced persons in Paraguay that the Abacaxis when preserved will retain its flavour and remain fresh for years.—*Journal of the Society of Arts.*

Willow Shoots, or **Osiers**, if this name is preferred, are very serviceable to many tying purposes, where a strong binding is necessary.

Italian Orange Trees rarely yield more than 2,000 fruits each. Florida and Californian trees, of 40 years of age, produce 20,000 each.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

The annual meeting was held at the Caledonian Hotel on Monday, the 11th inst., when the report and balance sheet for the past year was presented. The accounts show that the society still continues in a sound and flourishing condition. During the past year eighty-three members joined, nineteen lapsed, and four died, making a membership of 851. The amount of subscriptions paid by members of the Benefit Fund, including arrears, was £1,346 14s. 8d. The Sick Pay Account was £301 3s., there being a great amount of sickness during the early part of the year. But still the balance in hand in this fund is very satisfactory, it being £13,371 0s. 8d. against £12,190 9s. 2d. the previous year. The balance in hand of the Voluntary Convalescent Fund is £428 12s. 11d. against £400 3s. 1d. last year.

The Management Fund expenditure was somewhat heavier than usual. It was also the quinquennial year for valuation, the actuary's fee being £12 12s. The secretary has also been paid up to date this year; other years he has been a year behind; this made another large draw on the account, bringing two years' salaries into one year's expenses, but the fund has still a substantial balance of £65 4s. 3d. The society's accounts were audited by Messrs. G. Dixon, W. Gunner, and T. H. Puzey and found correct. Addressing the meeting, the chairman, W. Roupell, Esq., spoke in glowing terms of the society's secretary. He said he had often visited him, and generally found him in deep study surrounded by a whole host of musty looking books, working hard at the accounts. He said, "The society is blessed with some sound business men, men with a masterful way of doing business, who see that each matter is done thoroughly. For some years the society did not seem to make much headway until Mr. Wright gave it impetus by publishing the reports of the work in the *Journal of Horticulture.* It is not really a society but a bundle of societies, and is indeed a very complicated affair. Mr. Collins has grown to the work and the work to Mr. Collins, and should anything happen that the society should lose his services, I'm sure the loss would be greatly felt by it. Unless a man has grown up in the work as Mr. Collins has it would take an accountant and two clerks to manage the affair properly. The work actually shown in the books represents a vast amount of labour, but this is nothing to the amount of scrap paper work. He is blessed with a very good assistant in his wife who willingly assists in the arduous work, and the society ought to be grateful for her services, for by her inconspicuous labours the expense of keeping a clerk is spared. We have reason to be proud of the fact that the society was founded, officered, and brought to this pitch of gilt-edged securities by working gardeners. The society still goes on prospering, and as thrift increases so do the funds." He then proposed that the report be adopted.

Mr. Hudson in seconding looked back to the time when things looked the reverse to what they do now. He appealed to members to make known the advantages to be obtained, and persuade others to join.

It was proposed and seconded "That only 3,000 reports be printed this year instead of 5,000." Mr. A. S. Galt brought the following amendment to this. "That 5,000 should be printed again this year as the cost would not be as five to three, and 5,000 ought not to be too many to distribute amongst 20,000." He proposed some better method of distribution. He asked, "Why not send copies to all secretaries of Horticultural and Mutual Improvement Societies? If the returns from this method of advertisement are not satisfactory then move into other fields; if a crop does not do well on certain land it is shifted to where it will do well, and why not apply the remedy in this case? 'Do not hide your light under a bushel,' and 'Do not spoil your ship for a ha'p'orth of tar.' Do not advertise recklessly as that leads a man to the workhouse, but advertise judiciously and that leads to success. The way to get a thing done well is to do it yourself. It is not a practice to be recom-

mended to put your parcels on the line and not know the secretary to whom they are dispatched, as I believe only too often they are not distributed." The amendment was seconded by Mr. Curtis, and carried.

Mr. Hudson proposed that the committee should be elected *en bloc*. This was carried unanimously.

A vote of thanks was given to the treasurer for his services.

In replying, Mr. Hudson said it gave him ample satisfaction to mark the success of the society.

Mr. Collins was unanimously re-elected as secretary. Replying, he spoke of the help he had received from Mr. Hudson and the committee, and hoped still to receive their assistance.

A hearty vote of thanks was accorded to Mr. Collins for his valuable work.

Mr. Roupell, replying to a vote of thanks, said he hoped all would press the advantages of the society, that it might become better known and appreciated.

PRUNUS PERSICA AS A DECORATIVE PLANT.

I WISH to refer strictly to various double-flowering varieties introduced from China and Japan. They are of easy culture as pot plants, and have only to be seen to be admired. With a very little forcing they can be had in bloom from Christmas onwards, and are invaluable for conservatory and house decoration. Very few plants look so charming in a vase, standing as they do for nearly five weeks in bloom. Shorten back the shoots after flowering, examine the drainage to see that it is in good order. Should they need potting, now is the proper time to do it. They succeed well when potted in three parts good loam, one part leaf mould, a little bone meal, and as much sand as will keep the whole porous. Pot firmly, and give them a night temperature from 50° to 55°, rising accordingly through the day. Keep them well syringed to promote growth and keep down insects. In summer, plunge the pots in ashes out of doors in the full sun, so that their growth may get thoroughly ripened, as therein lies the secret of success. At no time should they suffer for want of water at the roots. They should be brought in again in the autumn as required, and brought slowly on, a cool greenhouse, or a newly started Peach house, suiting them best.—*James Mills, Shavington Gardens, Market Drayton, Shropshire.*

TREE OR PERPETUAL FLOWERING CARNATIONS.

THESE are distinguished from the border and show varieties of Carnations by their habit and growth, which causes them to flower at various times of the year. Side growths are produced from the stem and if allowed would grow and flower. The tree Carnations have improved both in habit and quality of the blooms of late years. Specimens of dwarf habit were unknown a few years ago; now we have them of low growth and superior quality. This class of Carnation is invaluable for producing blooms when the ordinary type will not, especially during winter months. They are propagated from slips or "pipings" from the side growths in January, February and March, as they strike very readily in a little bottom heat, and to make sure of them they should be covered with a handglass to prevent flagging. Some varieties take longer to root, and until roots are formed little air should be admitted. As soon as they are fairly rooted pot them in thumb pots, let them stay in the house till May and then arrange outside. Those rooted in January may be grown on, until they are large enough to flower in 7 or 8-in. pots. They should bloom in September and all through the winter and spring months. The blooms open best in a temperature of 55°, a dry atmosphere is best. A little fibrous peat with the heavier loam should be used, and lighter sandy soil for cuttings and small plants.—*A M.*

RELAYING BOX EDGINGS.

THE back end or early spring is the best time for this being done, but on the other hand, those not having had time or favourable weather, may do so now before the Box starts away into growth. When Box edgings are properly put down they will not require lifting for many years. The hedge shears will answer to keep them trig afterwards. If there be a low side in the walk it should be lifted first. Clean back the gravel with a draw hoe, and raise the Box with a digging fork. Shake well and dig the ground over. Apply the rake to gather out the stones and tread firm. Take up the levels from the hard centre of the walk, about 5 yards apart, beating them hard with a spade. Then stretch the line, the width taken from the opposite side, and add more soil if required. Beat the whole, stretch hard, making it level 6 in. on each side of the line. Then chip out a piece 2 in. from the line. Then with a straight spade cut a straight trench. Select nice twigs with a root attached. Lay in neatly, keeping the Box 1½ in. above the level. Put back all the soil and again tread hard. Suffruticosa is the best variety for edgings. The leaves are small, obovate, and the plant is easily kept dwarf.—*Willie, Leckmiln, Ross-shire, N B.*

THE OLD DOUBLE WHITE PRIMULA

CAN claim without a doubt to be the most useful winter flowering plant to those who have to keep up a constant supply of cut flowers through the dull winter months. They can be had in flower from the middle of October to the beginning of April. They are also very showy in decorating the greenhouse where a temperature can be had from 45° to 50°. Now is the time to start propagating as the early batches go out of flower (here is where the chief difficulty lies in getting young plants to root and grow away freely). The safest way is to earth them up. Remove a few old leaves with a knife; place the pot with the plant into a pot 1 in. larger and earth up the plant to the leaves with chopped sphagnum moss and sand. Keep a little warmer, well moistened and shaded from the bright sun to encourage new roots. In six or eight weeks they should be ready to pot off into small pots using a mixture of peat, loam, leaf soil, and sand. Be always careful not to over water. In May place in a cold frame and pot on the plants as they need into 4, 5, and 5½-in. pots for flowering, using heavier soil than before; air and shade according to weather; feed when the roots fill the pot; house towards the end of September on a shelf and good results will follow.—*Gardener.*

STARTING BEGONIAS.

HAVING read carefully Mr. C. Blair's article on the above subject, in your issue of the 9th March, I quite agree with his method of removing all the old soil from the tubers before starting them into growth. Rather than suggest potting into small sized pots, I would consider cutting boxes should have the preference, simply because less labour is expended by so doing, with equally good results. Place a coating of rough leaves in the bottom of the box, and fill up with sifted leaf mould, and sharp sand only. When potting is necessary, the tubers will be found to lift splendidly, with mould adhering to the tubers, which, when potted, start freely into growth with little or no serious check. They may receive their final potting by this method, except in some instances when very large specimens are required. If introduced into the vinery it will be found a suitable place for starting them, receiving a spraying overhead along with the Vines. By observation I venture to say that they thrive and flower best if the soil is kept rather in a dry, than a wet state. For compost use fibrous loam and leaf mould in equal parts, dried cow manure broken down, some wood ashes, or charcoal, with some silver sand added. As regards manures, nothing is more beneficial than waterings of sheep droppings, diluted to a weak state twice a week. Guard against artificial manures for Begonias, as it acts injuriously during their resting period.—*Walter Hogarth, Norton Gardens, Ratho, Midlothian.*

CINERARIAS.

IF it is desired to have these most useful plants to bloom in the autumn and early part of winter, seeds should now be sown. For a later display, commencing in February, and onward, sow the seeds about the third week in April. Sow the seeds thinly in pots or pans of light sandy soil and place on a shelf on the shady side of the greenhouse. They will quickly germinate, and as soon as they show their second leaf, pot off singly into thumbs (smallest size), using rather coarse soil, and taking care not to cover the hearts of the plants. Place the young plants in a close frame, shade them and sprinkle overhead with soft water morning and night, till the plants are well established. After being kept close for a fortnight or so, the heat should be diminished, and air given, as the main factor in the successful growing of these plants is to have them as robust as possible. As soon as the pots are filled with roots, shift into 4½-in. pots, finally potting into 10-in. pots. This operation should not be delayed as the plants soon starve, the leaves turning a pale sickly green. The compost should be coarse, consisting of good loam, leaf mould and some well decayed cow dung. The quality of the flowers will be greatly improved if the plants are fed twice or thrice a week with a little manure water. Keep as cool as possible.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

PENTSTEMON BARBATUS TORREYI.

ONE of our most beautiful summer perennials, and one of the most telling and effective on the exhibition table or in the hardy flower border, is Pentstemon barbatus Torreyi, the Beard Tongue. The culture is so very simple for such a beautiful plant that all can grow it to perfection in any ordinary garden soil. The flower spikes, when fully developed, reach a height of between 3 ft. and 4 ft., and the drooping, tubular, bright scarlet flowers, arranged in a slightly pyramidal form, give the whole plant a very graceful appearance. If planted in good sized batches, about 15 in. apart each way, instead of dotting them about singly, as is far too often practised, a very much finer effect is produced. The flowering period is a long one, commencing early in June and continuing well into September, providing that plenty of water is applied during the hot weather. Propagation is easily effected by division of the roots in autumn or spring, or by cuttings taken from the base in autumn. Insert about four cuttings in a 60-sized pot, in a compost consisting of loam, leaf, soil and sand. Place in a cold frame during the winter, and plant out early in April. Another name for this Pentstemon is Chelone barbatus Torreyi, and the variety purpurea is a pleasing companion.—*A. Thatcher, Elstree, Herts.*

SALVIA HEERII

IS a charming winter-flowering plant which, I'm sorry to say, is not grown as much as it ought. It possesses a few good merits which should bring its culture more before the notice of those who have conservatory splendour to keep up, as we find this species of the Salvia family very useful to supply gorgeous red spikes of blooms long after Salvia splendens and all our up-to-date winter-flowering plants have left the scene. When grouped with Richardia africana its stately spikes add a supreme lightness and warmth of colour to the white; edging the whole with Primula stellata, or "The Lady." The effect is very pleasing, and it answers well as dot plants for side stagings, if grown judiciously and pinched to keep it from becoming too tall, as it would do. Its culture is much the same as Salvia splendens. After flowering, which it will have done in about a month if kept cool, cut them down to within 1 ft. or so of the pot and keep dry. Shoots will soon make their appearance which, when taken off with a small heel of old wood, will root freely in sandy compost. Keep them in a close atmosphere, and after rooting pot as they require it, always using good yellow fibrous loam with a slight addition of leaf soil and sand. One thing in their culture is not to coddle them. After frost has disappeared pinch them twice or three times in a season, making the last one about the last in August, and you will have beautiful plants in 7-in. pots to take the place of Salvia splendens grandiflora.—*Northern.*

SWEET PEAS

ARE admittedly fashion's fragrant favourite flowers. When we look back and think of Sweet Peas a quarter of a century ago, we can realise to some extent the glorious results of our American and British hybridists. No flower or class of flowering plants yields such an abundant supply of bloom for cutting, and no annual rewards the gardener better for the comparatively small amount of attention required. To let them alone or let them produce seed pods means ruin and disappointment; but give them rich soil, plenty of room, and keep cutting the flowers daily, and Sweet Peas more than anything I know, will produce a continuous supply from four to six months, and sometimes longer. Their flowers

are of almost every colour with an endless variety of charming shades. They are also specially adapted to every class of decoration, and always produce a delightful effect when arranged by tasty fingers. Much as I have said for fashion's flower, words completely fail me in attempting the description of their usefulness and beauty, which, though not half understood as we inhale their delicious perfume, we are compelled to crown the n "t e brightest and best of the gems of the garden."—*H. H. Gibson, The Gardens, Glencairn, Belfast.*

KELWAY'S LARGE-FLOWERING GLADIOLI.

Those who have been in the habit of visiting the London and other flower shows for many years past cannot have failed to notice the exquisite exhibits of Gladioli, chiefly of the hybrid Gandavensis type, which have been put up by Messrs. Kelway & Son, Langport. It is entirely beyond our scope at present to name even a tithe of the many grand varieties we have noted on different occasions during the flowering season these many years past, but confine our attention to three named varieties as samples of the thousands which are grown to such perfection at Langport.

The great length of the spikes, no less than the number and size of the flowers, strikes the beholder as a feature of these Gladioli, which are generally shown with eight to twelve expanded blooms, and as many more in the bud state. The accompanying illustration placed at our disposal by Messrs. Kelway & Son, will show the condition of the spikes to which we refer. The variety Lady Wimborne on the left side of the figure has very large flowers that are white, with the exception of rosy midribs to the segment. The central spike in the jug represents Baron Schroder, a crimson flower with a maroon-purple band along the centre of the lower petal or segment. The value of this variety was recognised as long ago as August 26th, 1890, when the Royal Horticultural Society accorded it an Award of Merit, the highest honour given to a purely florists' flower. The variety on the right is Frank Miles, a blush flower, flaked with carmine. The three sorts just mentioned typify the pale, the dark, and the striped flowers, which are abundantly represented by many other varieties. They represent the work of fifty years' labour amongst this noble and stately class of plants. Planting may be accomplished at any time from the end of February to the third week in May. This month ought to see the main crops planted in most parts of Britain

Photo., F. Mason Good.

Kelway's Gladioli, Lady Wimborne, Baron Schroder, and Frank Miles.

STREPTOCARPUS VEITCH'S NEW HYBRIDS.

SOME of the earlier hybrids effected in gardens were between S. Rexii and S. parviflorus, but the impulse to their increase and extended cultivation came when S. Rexii and S. Dunnii were crossed together. This then is the origin of Veitch's new hybrid, Streptocarpus, so well represented by the accompanying illustration, put at our service by Messrs. J. Veitch & Sons, Ltd., King's Road, Chelsea. The varieties now in cultivation, and at the cultivator's disposal, range from the purest white to lilac, rose, purple, and many shades of blue to intense violet. In addition there are blue or violet lines or bands in the throat of the flower as shown in the figure. Seeds may practically be sown at any time of the year according to the time the plants are wanted to be in bloom, so that by a few successional sowings they may be had in bloom all the year round. The same plants continue throwing up fresh flowers for many weeks, whether grown in pots or planted out in borders along side of the paths in greenhouses and conservatories. The latter method is an admirable one, for besides the longer flowering season secured from the plants, they make really a distinct and highly effective feature in such houses. The flower stalks vary in the number of flowers they produce, owing to hybrid parentage; but they are now all uniformly dwarf (9 in.) owing to the selection of the best forms for seed production to which they have been subjcted for some years past—since, in fact, they took up their quarters at Chelsea.

STREPTOCARPUS, VEITCH'S NEW HYBRIDS.

SHOW PELARGONIUMS.

To get excellent strong plants of these, you should take a stock of cuttings, as many as required, from your present stock or any other source. You then should procure as many thumb pots as you require, filled with sifted soil, with plenty of sand. Place one cutting in each. You should then place them in a bottom heat, a temperature of 55° or 60°, and in the course of a fortnight they will be rooted, after which you may place them in a cold frame. At the same time pinch out the extreme top, and let them remain till the time comes for planting out of doors. Then procure a light, sunny piece of ground and plant them out 18 in. apart, which should be done the third week in May. Then you should keep them pinched to every second leaf, right up until the end of August. About the middle of September they should be lifted and placed into as small pots as you can get them, with a compost of two parts loam, one leaf soil, sprinkling of wood ashes and sand. You should place them into a cold close frame and keep shaded until established. A slight sprinkle from a syringe occasionally would be very beneficial to them. After these pots get full of roots you can place them in blooming pots, a suitable size according to your plants. And then you can treat them in the ordinary way, with stimulants as they require it.—*G. Stamp, Barnsley Gardens, East Teignmouth.*

SCHIZANTHUS RETUSUS ALBUS.

THE species and varieties of Schizanthus are remarkable for the strange structure of their flowers and the profusion with which they are produced. For these reasons as well as for the large, bright and attractive colours of the flowers, they command a great number of admirers. All may be grown in the open border but, under those conditions, they seldom reach that perfection which they do when grown in pots and sheltered by frames, greenhouses, or the conservatory. There is some confusion in the matter of names, owing to the fact that S. retusus and S. Grahami were introduced as distinct species from Chili. Now in books we find such arrangements as S. retusus Grahami and S. Grahami retusus.

If one specific name must serve for the two then the proper name of the above would be S. Grahami retusus albus, which has white flowers, and a large orange blotch on the upper lip, and is exceedingly handsome. The accompanying illustration put at our disposal by Messrs. J. Veitch & Sons, Ltd., Chelsea, shows the general character of the cut flowers. S. Grahami and all its varieties are peculiarly adapted for cultivation in small or 48 size pots, by reason of their dwarf habit, which can to a great extent be controlled by the cultivator by means of proper exposure to light and ventilation. In summer this can be more effectually carried out by standing the pots out of doors in a semi-shaded position by the side of some of the glasshouses until wanted indoors. Those who care to look into the structure of the flowers will find that they are upside down, so that the orange blotch is really upon the lip proper of the flower. The whole design of the flower is really very marvellous, and no casual observer would think it belonged to the Scrophularia family.

SCHIZANTHUS RETUSUS ALBUS.

CELERY MOULDS.

CUT the heart of a stick of Celery small, and boil till tender in a pint of milk. Season. Add half-pound of bread crumbs and four eggs, previously well beaten. Fill buttered cups, cover with buttered paper, and steam till set.

STAR CINERARIA (CINERARIA STELLATA).

BETWEEN the Cineraria cruenta of gardens and the wild type of the Canary Islands is a wide gap, both in the stature of the plant and the size of the flower heads. The florists during many years past have busied themselves dwarfing the plant by selection of those seedlings which came nearest their ideas of perfection, and no one will deny that they have succeeded beyond expectation in securing what they were aiming at; but the public has not been slow to recognise that these highly-developed garden forms, while possessed of a particular beauty and value of their own, have lost immensely, in decorative and artistic value. They are too dwarf and densely habited to produce that light and airy gracefulness so much desired in flowers for decorative purposes at the present day.

The accompanying illustration of Cinerarla stellata, placed at our service by Messrs. Sutton & Sons, Reading, will serve at a glance to show what we mean by the light and airy gracefulness of this decorative strain of Cinerarias, at which the Messrs. Sutton have been working for some years past. The open and starry nature of the rays of these composite flowers explains the meaning and origin of the name. The strain may be regarded as intermediate between the wild type (3 ft. to 5 ft. high) and the garden race (1 ft.). Our readers cannot fail to note that some of them have short and narrow, others short and broad, while others still have long and narrow rays to the flowers, which are variously arranged as to density and profusely produced. In colour they are llkewlse equally variable. The wild type has very small, starry, lilac or pale purple flowers; but here we have lilac, rose, purple, magenta, blue, and other selfs with flowers of two colours as well. The leaves are thinly disposed along the stems as well as at the base. All these facts go to show how well the plants are adapted for conservatory and greenhouse decoration, table decoration, and for brightening up groups of almost any description of plants. Single plants for small tables, and as many as may be required for standing along the centre of dining-room tables are wonderfully effective, and acceptable on account of their lightness. They do not hide nor obscure anything, while their colours are well shown up by artificial light. In a cut state they stand well in water for a long time, and when cut with long stems they may be arranged with other subjects in vases. The whole range of variation may be had from a packet of seed.

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CINERARIA STELLATA (STAR CINERARIA).

SCHIZOSTYLIS COCCINEA.

MANY plants of the Iris family are useful for wlnter-flowering, and among these none is more graceful and free flowering than this bright and showy African plant, often called Crimson Flag. In its habit of growth lt resembles many kinds of Iris, the leaves being long, narrow, and sword-shaped. The time of flowering is from October till January, the flowers remaining in perfect condition for a considerable time. It does well out of doors planted ln beds across a border, but it comes in more useful for pot-work, and should be grown chiefly for cut flower when other flowers are scarce. If planted in beds they require a loose rich soil, and late in spring the plants should be divlded, from three to five buds being left on each root, planting them about nine inches apart. During the strong heat in summer the beds should be soaked with water once a week, so as to ensure a firm growth. In September they should be lifted, cleaned, and potted for winter use. They should be kept in a sunny position ln any cool greenhouse, where they will flower without forcing, some coming early, others later, thus giving a fine succession of flowers for months. After flowering, the plants may be left in the pots and stowed away in a frame until the time comes for dividing and planting out of doors again.—*T. S. Dick. Castlemilk, Lockerbie.*

CHORIZEMA VARIUM

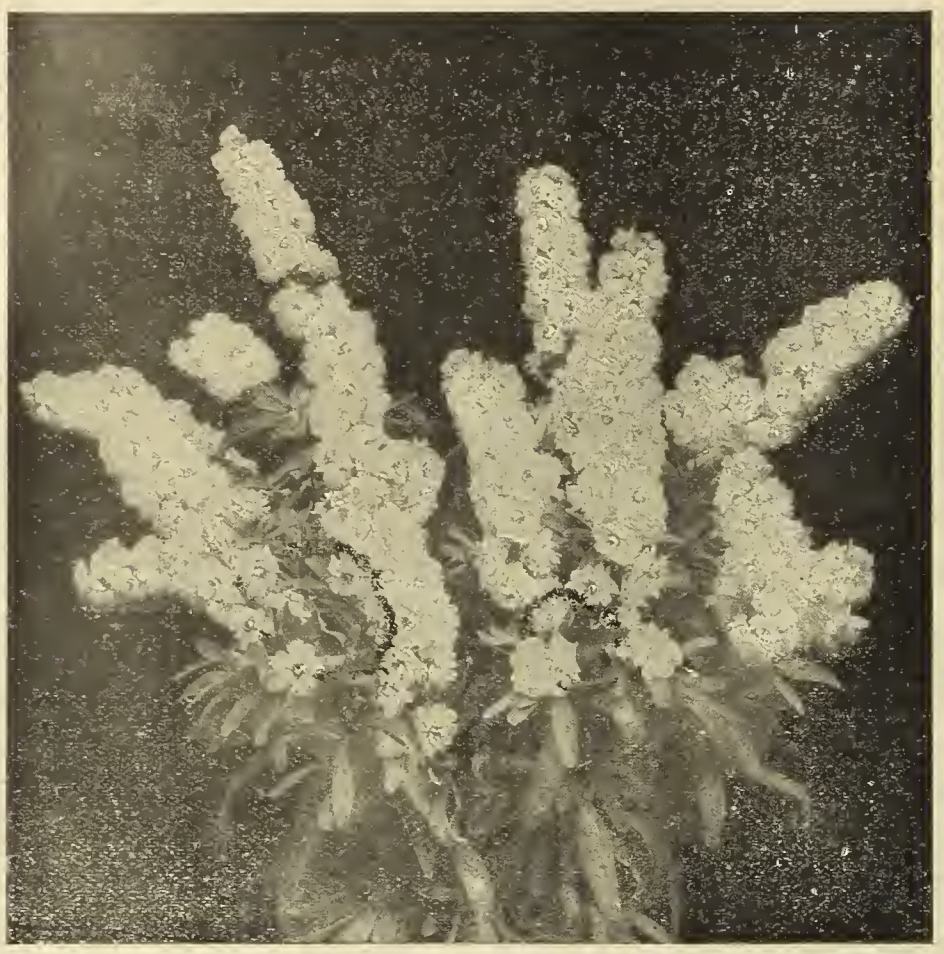
Is one of the beautiful hard-wooded plants which has fallen into neglect; the reason certainly cannot be assigned to its qualities, for it has a distinct character, is very floriferous, and has a variety of uses. Above its Holly-like foliage rise brilliant racemes of Pea-shaped flowers of an unusual colour, the standard being tawny orange with a yellow eye, and the keel a brlght carmine. In a temperature of 40° to 45° the flowers open continuously from February to May, small plants 12 in. high being as free flowering as those 3 ft. in height. As it is of a sub-climbing habit, the best effects may be obtained by training on a small pillar, trellis, or in a basket, but it ought not to be formally tied in as it thereby loses the gracefulness imparted by the pendulous shoots. It also forms free growing bushes, which should be

pruned after flowering, and when starting into growth, repotted, giving ample drainage, and using a fibrous compost of equal parts peat and loam, with plenty of sand intermixed. They should be potted very firmly, for loose potting is a frequent mistake in the culture of hard-wooded plants. After completing their growth, towards the end of the summer plunge the plants outside in a sheltered position to get the growth thoroughly ripened. Propagation may be effected by cuttings taken from the new growths produced after pruning and inserted in sandy peat under a bell glass with a good bottom heat.—*C. F. B.*

The World's Coffee Crop is 800,000 tons. America takes a third of it.

EAST LOTHIAN STOCK SNOWDRIFT.

The showy character, continuous flowering habit, and the delicious fragrance of the flowers of East Lothian Stocks, make them favourites with a large section of the community. The wild type from which they are descended is a native of chalk cliffs on the sea coast, so that in gardens the improved varieties prove well adapted for dry soils and dry seasons, such as we often experience in the southern counties of England. We have seen them flourishing splendidly under such conditions when many other subjects were running to seed. Snowdrift is a new variety now being sent out as a novelty by Messrs. Barr & Sons, Covent Garden, to whom we are indebted for the opportunity of illustrating it. The variety is characterised by dwarf, bushy habit, being only 1 ft. high, branching freely, and producing large quantities of snowy white flowers, suitable alike for garden decoration, for cut flowers, or for pot culture, few things being more acceptable in conservatories and greenhouses than a few pots of these deliciously scented flowers. For autumn and winter flowering the seeds should be sown during the present and next month, and treated like Ten-wee Stocks or other half hardy subjects, but potting them up if wanted for indoor flowering. For next spring and early summer flowering the seeds should be sown in July and August.



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Barr's New East Lothian Stock, Snowdrift.

SPOTTED FOXGLOVES.

Of all the species of Digitalis in cultivation none possess the gorgeous or showy character of our native species of Foxglove (Digitalis purpurea), the wild type of which has purple flowers with crimson spots in the tube. Cultivation has done something to enlarge the flowers and enrich as well as increase the variety of colour; but we think there are yet many possibilities in the species if cultivators would encourage the development of the same by introducing Foxgloves in their establishments to a much greater extent than at present. The Foxglove in a state of nature grows only 2 ft. or 3 ft. in height, but that is often due to the poverty of the soil in which it is growing, and competition with wild vegetation. By sowing seeds thinly in a rich soil and transplanting the seedlings early in summer before they get crowded, they make broad tufts of foliage the first year, and run up to 5 ft. or 6 ft. the following season, flowering splendidly.

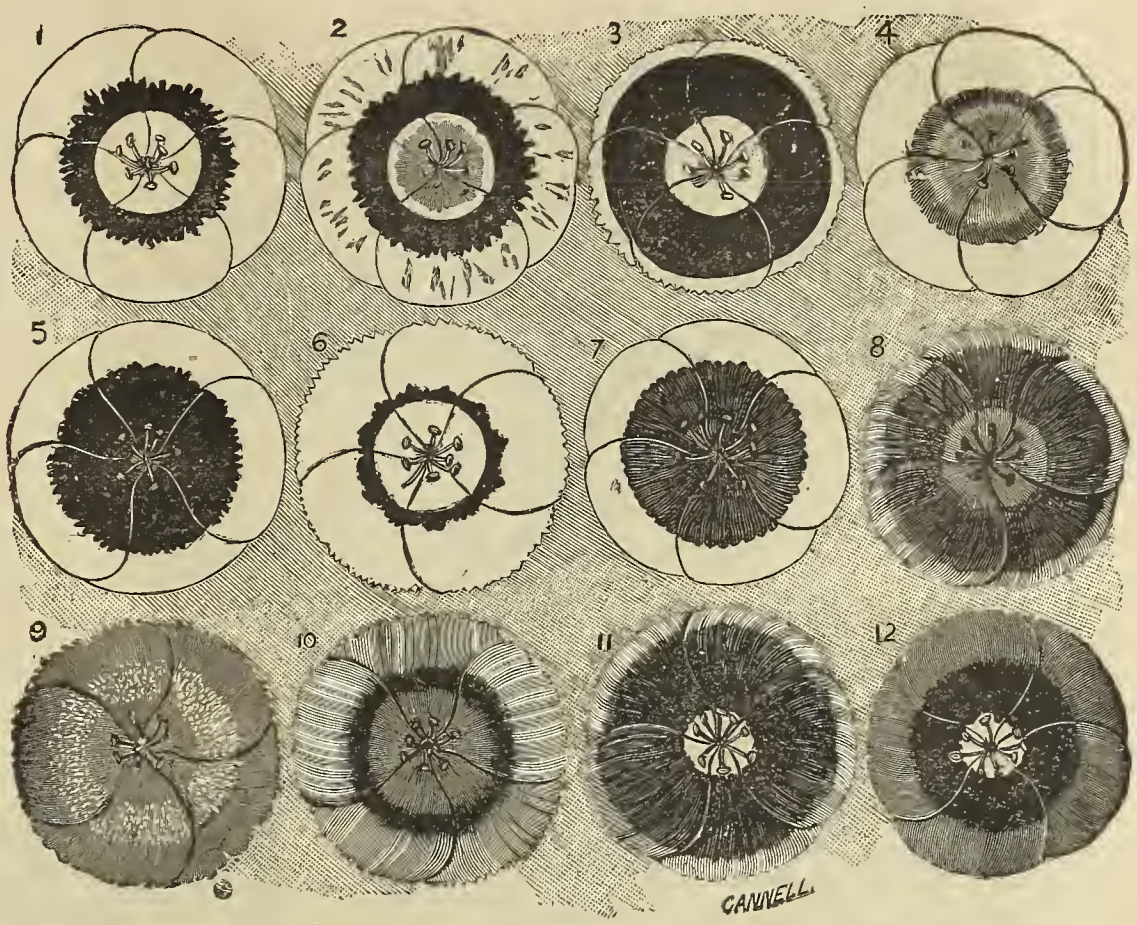
The accompanying illustration represents a field of spotted Foxgloves, and was placed at our services by Messrs. Ed. Webb & Sons, Wordsley, Stourbridge. The white ground colour of this fine strain shows off the spotting to great advantage. The great variety and size of the spots are features of the strain. Gardeners and cultivators generally need not grow a field of them in order to get an effective display; but in many establishments there are shrubberies, banks, and nooks in the pleasure grounds where Foxgloves, but particularly the white and spotted ones, could be introduced with great advantage to the appearance of the place and the enjoyment of the owners. Although they can take care of themselves when once planted in shrubberies, yet liberal cultivation of some hundreds or so for special positions would well repay the trouble by reason of the stateliness of tall plants.

Webb & Sons

Webbs' Spotted Digitalis (Foxglove).

SWEET WILLIAM CANNELL'S PERFECTION.

ONLY those who have grown Sweet Williams for a number of years and closely studied them when in bloom, can form any comprehensive idea of their variability and beauty. Most gardens possess Sweet Williams (Dianthus barbatus) in greater or less numbers, and they are peculiarly a flower of the cottage garden; but notwithstanding this evidence of their all but general cultivation, we know that new and unexpected pleasure awaits those who avail themselves of strains from different sources, as various raisers develop their own strains along particular lines. At our desire Messrs. H. Cannell & Sons, Swanley, Kent, have lent us the accompanying illustration of their strain named Perfection. Twelve flowers, representing as many varieties, have been selected to represent the variability of this strain from seed. No. 1 has a white centre surrounded by a dark zone and a broad white margin. No. 2 is pale in the centre, with a narrow white ring around it, then a dark zone, and a white border, more or less striped or flaked. Very handsome is No. 3, with its well defined zones, which from a florist's point of view is marred by the toothed margin, otherwise it would be perfect. The margin of No. 4 comes up to requirements, as does that of No. 5, but in the latter the margin of the dark central area is defective as a florists' flower, though it would find many admirers for garden decoration. No. 7 is similar to the last except being paler in colour. Both the margin and the zone in No. 6 are toothed. In No. 8 we have a pale centre and a shaded margin as in an alpine Auricula. In No. 9 a middle zone of spots will be observed such as is characteristic of various other species of Dianthus, but particularly D. callizonus. No. 10 is a variation upon No. 8, being paler in colour. Nos. 11 and 12 have each a white eye, dark zone, pale border and entire margin closely resembling alpine Auriculas. All these variations turn up in a packet of seed and furnish no end of interest to the cultivator while watching them expand.



DIANTHUS BARBATUS (SWEET WILLIAM CANNELL'S PERFECTION).

DICKSONS' SUPERB PANSIES.

THE above is a name given to a strain of Pansies selected by Messrs. Dickson, Chester, who lent us the illustration herewith to exemplify our remarks anent the same. Great progress has been made amongst these popular flowers within the last decade, and many cultivators and raisers have been endeavouring to improve them by working upon special strains. To maintain the identity of particular varieties it is necessary to take cuttings; but this means of propagation is limited in scope. To raise good Pansies from seed it is necessary to develop a good strain by continual selection of the best from which to save seed. Bad ones must not be tolerated amongst them otherwise insects by inter-crossing them tend to degenerate the whole stock. As a result of the work of cultivators the strains of Pansies that can be raised from seeds have been greatly improved, and will continue to be so, provided the raisers consistently follow the course they have been pursuing in the past. Dicksons' Superb Pansies have been selected for size, quality and variety of colour. Some of them are selfs; others have a distinct edging of some paler hue than the ground. In others again the feature consists in the large, richly coloured blotches on the three lower petals, and which serve to glorify the paler ground colour of the rest of the flower. Striped ones are now of common occurrence and come more or less true to type from seed. None of them come within the category of florists' flowers, nor are they intended for such, but merely as beautiful flowers for garden decoration, and which may be raised in quantity, with a minimum of trouble, by means of seeds. Now is the time to sow seeds in frames, to be planted out later on for summer and autumn blooming. For spring planting the seeds should be sown in August and protected in winter by pricking out the seedlings in cold frames, in specially prepared soil

DICKSONS' SUPERB PANSIES.

COCKADE ASTER REINE DES ROSES.

THE groups, sections or strains of the China Aster (Callistephus hortensis) are now almost, if not altogether, more numerous than the colour varieties, as the latter really run through all the sections to a greater or less extent. The section known as the Cockade or Crown Aster is not far distant from the strain called Victoria Asters, but it differs markedly from a a horticultural point of view in having a broad white centre to all the varieties, surrounded by a broad band of some other colour such as rose, purple, red, crimson, light or dark blue,

The variety Reine des Roses is characterised by having a broad bright Rose border to the flower heads, and is really handsome. The accompanying illustration of it lent us by Messrs. Barr & Sons, King Street, Covent Garden, will show at a glance its leading features. The plants grow from 1 ft. to 2 ft. in height, according to the fertility or otherwise of the soil in which they are planted, and the character of the season. They branch reely, producing a great quantity of bloom, and are very handsome either for garden decoration in beds or borders, or for cut flowers, the long stalks rendering them very suitable for vases. If desired for conservatory work lift and pot them when coming into bloom.

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Cockade Aster Reine des Roses.

LAYIA ELEGANS.

Although not a large genus of Composites, the members of this genus have been, at one time or another, placed under nine generic names by different botanists. Most of them are natives of California, the rest belonging to other parts of North America. One set of them is characterised by flower heads built on the same type as that of the accompanying illustration placed at our disposal by Messrs. Daniels Brothers, Norwich. The broad, overlapping rays are golden-yellow, tipped with white, the combination being pretty and highly effective. In our opinion the flowers are really more handsome than the illustration would lead one to suspect, if the plants are properly grown with just sufficient room for the plants to develop their natural habit, which is bushy, branching and 9 in. to 12 in. high. They should at least be planted 6 in. apart either way, or thinned out to that distance if sown directly where they are to bloom. The flowering period is July and August. Layia elegans is best described as half hardy, so that they should be treated in the same way as China Asters to secure the finest results. The two colours of the rays remind us of Limnanthes Douglasii, another North American annual, but of creeping habit.

Layia elegans.

CLARKIA MORNING GLORY.

A large number of the Clarkias in general cultivation are improved varieties of C. elegans and C. pulchella. The fine variety under notice is a highly improved and double form of C. pulchella, as may be recognised by its deeply divided petals and large flowers. It is also of dwarfer habit than C. elegans, and altogether a useful and ornamental subject for garden decoration, either in beds or borders. The accompanying illustration, lent us by Messrs. J. Carter & Co., High Holborn, London, shows the size and general character of the flowers, which are double, rosy-purple, and fading away to silvery-white at the ends of the deeply divided petals. That double flowers may be perpetuated from seeds is one of those amenities of gardening for which we have to thank the raisers, who, by their insidious and painstaking persistency through a number of years, in the matter of selection, have been able to fix those things which prove worthy of perpetuation. The variety was raised by the Messrs. Carter. The Clarkias are amongst the easiest of all annuals to cultivate with success. By sowing seeds in March or April in the open border, the seedlings only require thinning so as to give them sufficient room to develop, and to be kept free from weeds during

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Clarkia Morning Glory.

the season. Crowding limits the size of the plants and shortens the period of flowering. Fairly rich and friable soil suits best, though they will grow in any fairly good garden soil.

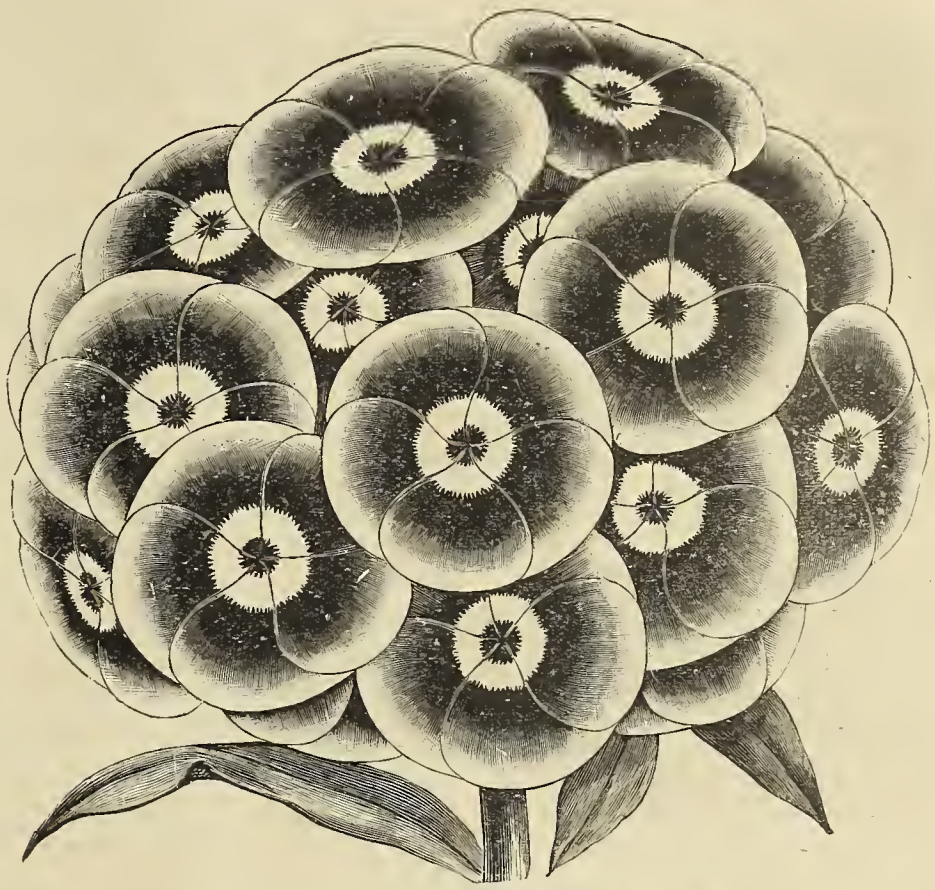
PETUNIA LORD COURTENAY.

While Petunias, but particularly double ones, are largely grown for greenhouse and conservatory decoration, they are also well adapted for open air culture in beds and borders. Some varieties are more suitable for this purpose than are others; while all of them should be planted in well drained soil that is not over rich, nor retentative of moisture, if the best results are expected. Petunias are plants that give unbounded satisfaction in dry seasons when many other bedding plants are failing on account of the drought. Single Petunias, and those with a profusion of medium sized flowers are much more effective and satisfactory for outdoor culture than those whose chief recommendations are their great size. The accompanying illustration put at our disposal by Messrs. Robert Veitch & Son, 54, High Street, Exeter, shows the type of Petunia to which we refer for outdoor culture. The flowers of Petunia Lord Courtenay are of medium size, bright rosy pink, and very profusely produced. When used for bedding purposes, it may be kept dwarf by pegging down the long stems. Needless to say, Petunias are sun loving plants so that shady places for them should be avoided. The variety under notice is not only a profuse bloomer, but keeps on all the summer till the approach of winter and the consequent low temperature and super-abundance of rain causes the gradual destruction of the flowers. Plants may readily be raised from seed and, if desired, they are equally amenable for pot culture as for outdoor work.

SWEET WILLIAM CARTERS' HOLBORN GLORY.

The Sweet William (Dianthus barbatus) is a native of Germany and other parts of Europe, and is so thoroughly at home in British gardens that we are surprised it has not established itself in a state of nature. More than 300 years ago it found a home in British gardens, and during that time many splendid types have been raised and put at the disposal of cultivators. On more than one occasion it has come within an ace of being seized upon by the florist proper and tied down to rule and canon, beyond which if it dared to stray it would have been dubbed degenerate. Moreover, in the broadest sense of its variation and beautiful colours it still lives, and is cherished by the people throughout the land.

The accompanying illustration, lent us by Messrs. J. Carter & Co., High Holborn, London, represents "Holborn Glory," a variety or strain that comes within the category of a florist's flower, but being annually raised from seeds it shows a considerable amount of variation in small particulars, though the general features of the flower are well retained. For this reason it is well adapted for exhibition purposes on all occasions in which Sweet Williams are required. The leading points about this type are the size of the flowers, the evenly defined white zone occupying the centre of the flower, the larger dark zone occupying the disc of the flower and merging into the white margin. In these respects it recalls to some extent the features of an alpine Auricula. That these flowers, with regularly arranged colours, are beautiful no one will deny who has looked at hem in the growing state; but there are others of surpassing beauty, both those having parti-coloured flowers and those that are classed as selfs from the uniformity of the prevailing colour. The Sweet William is a perennial, but more satisfaction is derived from it by growing the plant as a biennial, as it flowers best the second year from seed.



Sweet William Carters' Holborn Glory.

GARDENERS' DON'TS.

Don't miss a dry chance now for sowing Onions, Leeks, and Parsnips. Don't forget to mix red lead with all small seeds; it is the only genuine cure to keep off birds Don't forget to keep a mousetrap set near to where the Peas and Beans have been sown. Don't neglect giving a mixture of one part gas lime, one soot, one Methven's Eldin Manure, one stick ashes, and a little coarse salt, on the Carrot and Onion ground for maggots. Don't sow small seeds too deep; healthy germination can only take place when seeds are within reach of the influence of the air. A little ammonia hastens germination. Don't ride any hobby too much and scamp more necessary work. Don't omit to mulch all stone fruit if a heavy crop is aimed at. Don't forget to take the chill off the water before using on newly potted plants. Don't allow men to work out in very wet weather; results—bad colds, days off, &c. Don't permit work to be done in a slipshod way; it pays to

Petunia Lord Courtenay.

be particular. Don't neglect putting in cuttings of Campanula isophylla now; young plants are best. Don't forget to put a little sulphur in a pan of water and syringe Tea Roses; it keeps down mildew.—*J. C. Dick, Champfleurie, Linlithgow.*

LATE FLOWERING HERBACEOUS PLATNS.

As supplementing the notes on hardy perennials and hardy and half hardy annuals that recently appeared, the following lines are offered. Most of the undermentioned plants can be had quite fresh in October:—Chrysanthemum segetum furnishes one of the brightest yellow Composite flowers contained in the borders late in the season. Then as an ornamental foliage plant we have Artemisia arborescens. In the earlier part of autumn this plant is apt to be overlooked when compared with the many other handsome foliage plants then at their best, but when these have dwindled away, the gray lobed leaves of the above Artemisia again rise in appreciation. It can be propagated from cuttings, and does well on any good garden soil in an open position.

Helenium tenuifolium with its slender wiry stems, close set with erect, grass-like leaves, is terminated with well expanded yellow flowers, and is very attractive. It is one of the most distinct of the Heleniums and is a popular border plant. H. autumnale also flourishes in its strength at this time. To prolong the flowering period the dead and dying flowers should be regularly removed. Amongst the annuals which last longest in good condition the beautiful Cosmos bipinnatus with lilac-mauve or heliotrope tinted, Dahlia-like flowers, stands high in general esteem. Solidago nemoralis is perhaps not so fully known as some of the other species. It is, however, worthy of notice. The height of it is 2 ft., and it bears yellow flowers from the top to the bottom. A plant of it was noticed in the borders at Kew. S. Shortii is a North American species of comparatively recent introduction. It only comes into bloom at the beginning of October. The leaves are dark and shiny, the flowers, as usual, are yellow. S. sempervirens, 4 ft. in height, bears lateral clusters of yellow flowers and has lanceolate leaves. A still taller member of the genus is S. petiolaris. This is an attractive subject, and certainly one of the best of the Solidagos. The stems branch a good deal, bearing long dark foliage and star-like yellow flowers. At this somewhat late period too, one can have the sweet little Swan River Daisy-flowering in perfection. A situation slightly shaded from the noon-day sun tends to preserve the flowers. This plant furnishes one of the finest annuals for pot culture, and when so grown it can be had in flower by April.

Brachyactis angusta though past the flowering period was, however, very conspicuous and ornamental. The floral receptacles have developed rounded heads of seeds, the latter being equipped with a parachute of cilia or downy hairs, forming the objects of attraction. They seem to be persistent and when cut and dried they ought to be useful for vases. Another pretty and useful border plant for October is Boltonia latisquama occidentalis. This grows fully 6 ft. high, is slender, branches a good deal, and bears white composite flowers having a yellow centre. Helianthus orgyalis takes us back among the Sunflower tribe, or near allies to them. This plant is well known and deservedly so. H. doronicoides has broad leaves somewhat resembling those of a Foxglove. The flowers are a brighter yellow than those of H. orgyalis. With the numerous band of yellow flowers in October, the Asters also come to add variety. These may be dealt with separately. A few other plants of interest to all and which continue to bloom late are Oenothera biennis grandiflora, Gaura Lindheimerii and Argemone grandiflora.

OBITUARY.

MR. A. HENDERSON.

IT is with much regret that we have to announce the death of Mr. A. Henderson, late of Thoresby Park Gardens, on March 1st, at the age of 68. He had his early training in some of the best gardens in Scotland. In 1858 he was engaged to go with Mr. D. Thomson as his foreman in Archerfield Gardens. From there he was engaged to be head gardener to Earl Manvers in 1861, at Thoresby, where he laid out and built from their foundations the fine gardens there, as well as the grounds round the new mansion. Up to his retirement, at the late Earl's death, Mr. Henderson managed those fine gardens with unbroken and conspicuous success for forty years. He was of a very modest and retiring disposition, but at the same time of energetic and very methodical habits and manager of men. His unremitting devotion to his duties and his employer's interest, his success as a cultivator, coupled with his sterling uprightness and good conduct, very soon earned for him the highest esteem, and it may be said the friendship of Lord and Lady Manvers, which existed without a break throughout his long service. On his retirement he was treated with very substantial tokens of their appreciation and esteem. To mourn his loss he has left a widow and married daughter, and will be missed and regretted by many friends by whom he was held in high esteem.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. G. D. for his article on "Primula sinensis and its varieties," p. 439.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Remedy for the Asparagus Beetle.—*D. R.*: Clearly your best plan is to begin early and never let the pest get a foothold. The perfect beetles make their first appearance for the season about the middle of June and successive broods keep on till the end of September, the last of them taking up their quarters in the soil where they remain in the form of pupae till the following June. That is your time to commence. They start laying eggs immediately they reach the perfect state so that you should get a boy to hold a wide tray under the Asparagus while you shake the plants over it to cause them to fall into the tray which may be emptied frequently into a pail of hot water. If any eggs hatch giving rise to grubs syringe the plants with water sufficiently warm to make the grubs fall, but not so warm as to injure the plants. The boy in this case might carry a box or basket of dry soot, and following you, shake the the plants to hasten the fall of the grubs and then strew the soot over them while they are still wet and lying upon the ground. This will so cripple them as to prevent their climbing up the stems again. This process should be repeated at intervals, if you find it necessary, and you should be able to extirpate them during the summer, while preserving your plants from injury.

Increasing the white flowered Daphne Mezereum—*T. Hardy*: Your best plan would be to save seeds of the white variety, as a large proportion of them are generally found to come true to the parent. A number of the seedlings may revert to the ordinary red or pink form, but the number that will come true will make it worth your while to sow seeds and wait till they bloom, when you can select those you wish to preserve. Sow the berries as soon as they are ripe, and most of them will come up the following spring. If you allow them to get dry before sowing, the chances are that they will lie dormant in the ground till the spring of the second year.

Hardiness of the Water Chestnut.—*G. B.*: It depends upon which species of Water Chestnut you mean. There are two that occasionally find their way to this country, namely, the European one, Trapa natans, and the Chinese species, T. bicornis. The former is hardy, and may be grown in an open air pond, tank, or tub, as you find convenient. The stems keep lengthening as they float in the water supported by the leaves which act as floats. It is an annual. The Chinese species is perennial, and may be grown in a tank in the stove or a warm greenhouse.

Plants for Beds in a Gravelly Soil.—*C. W.*: Before relying entirely upon plants that will flourish under the conditions you mention, you could greatly improve the light soil in question by digging in a good quantity of well-rotted cow dung, which will make the soil a great deal more retentive of moisture. If such dung is not easily procurable, then you could save all the soil that has been used in pots, that is, what is usually termed potting bench soil. Take out annually a portion of the worst of the soil of the beds and replace it with this old potting soil, leaf mould, &c., mixing it with the top spit and returning the mixture to the bed or beds as the case may be. After planting the bedding subjects for the season, topdress the surface of the beds with cocoanut fibre, well decayed leaf mould, or short dung. Road sweepings, sometimes obtainable, are valuable for the purpose. By adopting this plan you can, with very fair success, even in dry seasons, grow such things as Pelargoniums, Petunias, Salpiglossis, Gaillardias, Zinnias, Marigolds, &c. While waiting their turn to be improved, one or two of the beds might be profitably planted with succulents in various tasteful designs, which you could arrange with a little thinking or planning. Things at your command would include Echeveria secunda glauca, E. gibba metallica, Agave americana and its variegated variety, Opuntias and other Cacti, Sempervivum canariense, S. Haworthii, and various species of the European Houseleeks (Sempervivum), which you can get hold of to give variety of colour.

Recipe for Grafting Fruit Trees.—*W. E. Johnson*: The opinion of an expert fruit grower is that for 3s. you could buy sufficient grafting wax to graft 200 fruit trees. The wax should be kept sufficiently warm, while being used, to make it run freely, as it goes further than if cold.

Names of Plants.—*R. M.*: 1, Acacia riceana; 2, Acacia verticillata; 3, Solanum jasminoides; 4, Davallia fijiensis; 5, Lippia citriodora (best known as Aloysia).—*D. W.*: 1, Crocus aureus var.; 2, Daphne Mezereum; 3, Helleborus foetidus; 4, Anemone Hepatica rubra plena.—*A. C. L.*: 1, Saxifraga burseriana; 2, Saxifraga sancta; 3, Iberis gibraltarica.—*J. R.*: 1, Cattleya Trianaei; 2, Oncidium pulvinatum; 3, Dendrobium findlayanum; 4, Dendrobium Ainsworthii.—*A. L.*: 1, Abies nobilis; 2, Abies Pinsapo; 3, Picea Menziesii; 4, Buxus balearica; 5, Lonicera Cavendishi.

Communications Received.—C. P. C—A. V. M.—W. H.—A. J. B.—W. R. A.—J. D.R.—A.M.—T.B.—A.L.—A.K.—F.M.

TRADE CATALOGUES RECEIVED.

HERD BROTHERS, Agricultural Seed Merchants, Market Square, Penrith.—Agricultural Seeds.

THOMAS S. WARE, LTD., Hale Farm Nurseries, Feltham, Middlesex.—Ware's Catalogue of Hardy Plants, &c.

LOUIS VIEWEG, Quedlinburg, Germany.—Seed and Plant Catalogue.

PINEHURST NURSERIES, Pinehurst, Moore County, North Carolina.—North Carolina Woody and Herbaceous Plants and other Ornamentals.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

MARCH.

20.—Torquay District Gardeners' Association, Spring Show.
21.—Linnean Society Committees' Meeting; Royal Botanical Society Meeting.
26.—R.H.S. Committees; Brighton and Sussex Horticultural Society Show (2 days).
27.—Liverpool Horticultural Show.
29.—Blackheath Horticultural Society Meeting.

APRIL.

3.—Royal Caledonian Horticultural Society Show, Edinburgh (2 days).
4.—Linnean Society Meeting.
6.—Royal Botanical Society Meeting; Societe Francaise d'Horticulture de Londres Meeting.
9.—R.H.S. Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society Spring Show (2 days).
10.—Shropshire Horticultural Society Show at Shrewsbury.
22.—Chesterfield Spring Show.
23.—R.H.S. Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

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Potatos.—One pound each of the following seven exhibition varieties of Potatos, carriage free to nearest railway station, for 2/3. Sharpe's Early Victor (earliest kidney), Duke of York (Early), Green's Favourite (New), The Sirdar (New), General Roberts (New), Up-to-Date (New), Abundance (New). Seven pounds each of the seven sorts carriage free to nearest railway station for 9/6; fourteen pounds of each of the above named seven varieties, carriage free for 17/6.

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The Gardening World

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, MARCH 23rd, 1901.

The Editorial and Publishing Offices are now **removed to 4, Dorset Buildings, Salisbury Square, Fleet St., London.**

Editorial matters are to be addressed to **the Editor.**

All other communications and Remittances must be addressed direct to the Proprietors—

HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, March 26th.—Royal Horticultural Society's Committees meet; Brighton and Sussex Horticultural Society's Show (2 days); Sweet Pea Bi-centenary Committee Meeting, Hotel Windsor, London, at 2 p.m., followed by a Public Meeting at 2,30.

WEDNESDAY, March 27th.—Liverpool Horticultural Show.

FRIDAY, March 29th.—Blackheath Horticultural Society Meeting.

JOHN CLAUDIUS LOUDON.—About two generations ago the name of Mr. John Claudius Loudon was green in the minds of gardeners, landscape gardeners and others connected with the profession. Very few of the rising generation know much of the man of whom they have heard, or some of whose books they may possess. Some of these books are now rarely met with, while others are widely distributed over the land in many libraries, public and private. In our opinion his works on trees and shrubs, and his "Encyclopaedia of Plants" are the most valuable of his writings to those connected with the profession. There is also a vast amount of useful information both historical and practical in his "Encyclopaedia of Gardening" which many gardeners yet possess. A reprint of the abridged edition of his "Trees and Shrubs" appeared in 1875 and of his "Encyclopaedia of Plants" in 1872, and these serve to keep his name green, though they reveal nothing of his personal history. For these reasons we think that many of our readers would feel interested in a brief account of his life, gleaned from that written by Mrs. Loudon, his wife, and forming the preface to the last book written by Mr. Loudon himself, and now very rare.

John Claudius Loudon was born at Cambuslang, Lanarkshire, on April 8th, 1783, just 118 years ago on the 8th of next month. His father was a farmer at Kerse Hall, near Gogar, about five miles out of Edinburgh, and being an enlightened man he desired that his eldest son John should have the advantage of a good education. His family was a large one, but history does not say why he selected the eldest for advancement in this way. If it had been his mother's decision, we should suspect that she intended him for the Church, as mostly every Scotch mother, who had any ambition at all, during many past generations, desired to have a minister in the family. The parents of Linnaeus, the father of botany, had the same ambition. Mr. J. C. Loudon was fond of books, but had a great aversion to the study of languages, such as Latin and French, though his father

engaged a master from Edinburgh to teach him the latter tongue. Even at this age, however, his taste for landscape gardening began to display itself by the pleasure he took in laying out a small garden his father had given him, in the form of walks and beds. About this time a jar of Tamarinds came from an uncle in the West Indies, and John gave his share of the fruit to the other children on condition that he should have all the seeds for his garden. While yet a mere child he was sent to live with an uncle in Edinburgh so that he might attend classes at the public schools. Here he soon took a liking to Latin and made wonderful progress in drawing and arithmetic. Botany and chemistry were also taken up, his copious notes being supplemented by clever pen-and-ink sketches. When he was fourteen his uncle was showing a fine French engraving to a friend and asked his nephew to translate the title. So mortified was young Loudon at his own ignorance that he resolved to master the language. His love of independence prevented him from appealing to his father to finance him for the purpose; yet he actually paid his teacher by the sale of a translation of a French work he made for the editor of a periodical then being published in Edinburgh. A knowledge of Italian was also acquired and paid for in the same manner. At the age of thirteen he commenced keeping a journal or diary, writing it in French so as to get familiar with the same; and for nearly thirty years he continued to make entries in it in one language or another.

Writing and drawing were his most favourite studies while he remained in Edinburgh. His teacher in the former study wrote to Mr. Loudon, sen., prophesying that his son would become one of the best writers of his day, and this has been realised though not exactly in the form implied by his teacher. Such progress did he make in drawing that when his father at last consented to bring up his son as a landscape gardener, the latter was already competent to take the situation of draughtsman and assistant to Mr. John Mawer, at Easter Dalry, near Edinburgh. Mr. Mawer was a nurseryman as well as landscape gardener, so that Mr. Loudon at once came in direct contact with gardening, particularly the management of hothouses. Before he had completed his sixteenth year his master died, and for the next three or four years we find him in the employment of Mr. Dickson in Leith Walk, with whom he boarded, and in course of time acquired an excellent knowledge of plants. Here Mr. Loudon would seem to have commenced the practice of long hours of study, for he sat up two nights a week, drinking strong tea to keep him awake, this being kept up for many years. During his stay with Mr. Dickson he attended botany, chemistry and agriculture classes. Dr. Coventry was the professor of agriculture, and considered Loudon his most promising pupil. Amongst letters probably treasured up by his mother, many were found bearing ample testimony to his proficiency in many branches of learning from his various teachers. Like many of his countrymen, Loudon was a man of few words, and never made a display of his learning, though possessing a vast store of information on every subject which he studied.

(*To be continued.*)

The next Fruit and Flower Show of the Royal Horticultural Society will be held on Tuesday, March 26th, in the Drill Hall, Buckingham Gate, Westminster, 1—5 p.m. A lecture on "Inconspicuous and Rarely Cultivated Orchids" will be given by Mr. W. H. White, A.R.H.S., at 3 o'clock.

Crystal Palace Fruit Show.—The prize schedule for this show will be issued in a week or ten days by the Royal Horticultural Society, and will contain an authoritative list of dessert and cooking Apples, Pears, and Plums, post free, one penny. Donations towards the prize fund will be gratefully received by the society.

Large Gardenias.—Some magnificent blooms of Gardenias, the largest we have seen, accompanied Mr. H. Fleming's article on "Gardenias" in another column. They belonged to the variety Gardenia florida Fortunei, the largest of all the double varieties in cultivation. The blooms were like good sized Tea Roses, pure white at first, fading to creamy yellow with age, and deliciously fragrant. This variety should find its way into every collection where Gardenias find favour.

Royal Horticultural Society.—At the Royal Horticultural Society's meeting to be held on April 9th, in the Drill Hall, Buckingham Gate, special prizes will be offered for Daffodils, open to amateurs and gentlemen's gardeners only. First prize, a £7 7s. Silver Cup, presented to the society by Messrs. Barr & Sons; second prize, R.H.S Silver Flora Medal. GROUP OF DAFFODIL BLOSSOMS (Polyanthus varieties excluded):—Must include some of each section, Magni-, Medii- and Parvi-Coronate; must contain at least fifty varieties distinct, of thirty of which at least three blooms each must be shown. Not more than nine blooms of any one variety may be put up. To be staged in bottles, vases or tubes not exceeding 3 in. in diameter at the top (inside measurement), and all the stems must touch the water. Quality of flower will count more than quantity, and correct naming and tasteful arrangement will be duly considered. Any foliage may be used, Daffodil or otherwise. No prize will be awarded unless there are two competitors at least.

Victoria Medal of Honour in Horticulture.—The Victoria Medal of Honour in Horticulture was established in the year 1897 with the assent of her Most Gracious Majesty the late Queen Victoria, in commemoration of the Diamond Jubilee of her reign, and the limit of 60 Victoria Medalists at any one time was fixed to record that event. It has now seemed good to the president and council to issue a minute and order of council that the number of Victoria Medalists shall be increased to 63, as a record for all years to come of the 63 years of her late Majesty's glorious reign, and that such number should never hereafter be added to or increased. There having been one vacancy in the original number at the time of her Majesty's death, the president and council, acting on the above minute and order, have made the following appointments to the list of Victoria Medalists, viz: Miss Eleanor A. Ormerod, LL.D., &c., Sir George King, K.C.E.I., M.B., F.R.H.S., F.L.S., &c, Mr. George Norman, F.R.H.S., and Mr. Jas. Sweet, F.R.H.S.

Messrs. Laing & Sons' Primulas. — Chinese Primulas are amongst the flowers now in season. A boxful of the different types grown by Messrs. J. Laing & Sons, Forest Hill, London, S.E., has reached us, and shows blooms of large size and many rich shades of colouring. In their ordinary strain we note white, white lightly flaked purple, pink, carmine, vermillon, and purple varieties of different shades of colouring. The flaked variety was notable for size, measuring 2½ in. across the pip. There is a considerable amount of variation in the eye of these flowers. Another strain, named Laing's Gigantic, was represented by red, white, and rose varieties, all of large size and good substance. The white one was very fine and characterised by a large, circular deep yellow eye. The red was really of a carmine-red of rich hue, and the rose variety had a good deal of salmon in it. Double varieties that can be raised from seeds were represented by white, deep salmon-rose, and carmine flowers. These last longer in good condition than the single varieties. The Messrs. Laing are evidently striving to be up-to-date in the matter of Chinese Primulas, and now grow what they term "stellata hybrids," represented by starry white, mauve, and salmon-rose flowers. The coloured ones are all notable for having a pale crimson zone round the eye. This latter strain is of taller and more elegant growth than the modern highly developed or pedigreed Primulas, and finds favour with many cultivators.

Linen, to the extent of 140,000,000 yards, is produced in Ireland annually; only 45,000,000 yards in England.

Sweet Pea Society.—I shall be obliged if you will announce in your columns that the adjourned meeting to be held next Tuesday at Winchester House, E.C., has been abandoned, as the Bicentenary Committee are calling a meeting for 2.30 p.m. on the same day at the Hotel Windsor, Victoria Street, S.W., to form a National Sweet Pea Society.—*Charles E. Wilkins.*

Hamilton and District Gardeners.—Concerning a "dance," said to have been held by the young gardeners of the Hamilton and District Association, p.421, we are instructed by the secretary, Mr. David M. Burns, to state that the "Hamilton and District Gardeners' Association" had no connection whatever with the dance; and secondly that the name of Innes should be inserted in place of Jones as one of the M.C.'s.

Royal Horticultural Society.—At a general meeting of the Royal Horticultural Society held on Tuesday, March 12th, thirty-two new Fellows were elected, making a total of two hundred since the beginning of the present year; amongst them being the Duchess of Somerset, Viscountess Baring, Sir William Preece, K.C.B., F.R.S., Lady Hylton, Hon. H. A. Lawrence, and Surgeon-Major Caldwell, M.D.

Proposed National Sweet Pea Society.—Important Notice.—Under the chairmanship of Mr. G. Gordon, V.M.H., the executive committee of the Sweet Pea Bicentenary Celebration held a meeting at the Hotel Windsor, on Tuesday afternoon. The publication of the complete report was first dealt with, and tenders having been received and discussed that of Mr. W. Etherington, Central Printing Works, Wandsworth, was accepted. The work will be put in hand at once. The question as to the desirability of forming a National Sweet Pea Society was unanimously decided in the affirmative. A deputation from the meeting, held at Winchester House last week, was received with a view to collaboration, and the promoters were invited to attend a public meeting on Tuesday, March 26th, at 2.30 p.m., at the Hotel Windsor, Victoria Street, when the matter will be fully discussed, and a society be duly constituted. The promoters of the city meeting decided to abandon their scheme in favour of that of the committee. The committee trust that the meeting will be a thoroughly representative one.

Ealing and District Gardeners' Society.—A very successful meeting of this society was held on the 12th inst., Mr. H. Burgess in the chair. Mr. A. Wait, Superintendent of Kensington Cemetery, Hanwell, discoursed on "Bedding Plants." In addition to some of the common subjects usually found in such a position, he gave particulars of some others generally known as sub-tropical plants, with which such fine effects are produced in public parks and gardens. Mr. Wait also gave some hints on propagation and culture, with a view to elicit discussion, in which he succeeded, for the resultant arguments went to show that success might be attained in different ways. After an excellent discussion in which Messrs. Edwards, Wood, Long, Chaffer, Holloway, Anton, Freebrey, Newell, Green, Roberts and the Chairman took part, Mr. Wait received a cordial vote of thanks. An exhibition of twelve pots of spring-flowering plants produced a fine display, for which the society are indebted to R. Callard, Esq. The first prize was well earned by Mr. Holloway, gardener to E. Hyde, Esq., of Castlebar, who had some large examples of Indian and Ghent Azaleas, Star Primulas, Clivias, Narcissus and Coelogyne cristata; while Mr. Long, gardener to E. P. Oakshott, Esq., of Montpelier Road, was second with a smaller but compact group of mostly bulbous plants. In Mr. Long's collection, however, was a fine variety of Richardia aethiopica, which he had obtained direct from India. The habit is so good and the spathes so large and free that Mr. Long has decided to grow this to the exclusion of the common form. A Cultural Certificate was recommended. Mr. Woods was third. Mr. Hogg, gardener to A. Dixon, Esq., Madeley Road, received a vote of thanks and Cultural Certificate for a fine piece of Laella anceps alba with three spikes and ten flowers.

Lifting Potatos.—Farmers about Edinburgh are now lifting their Potatos with excellent and satisfactory results. Last autumn the ground was so wet through incessant rains, and labour so scarce, that Potato lifting was impracticable. The winter has been fairly mild (only 20° of frost), and the soil is now fairly dry. Diseased tubers have thoroughly rotted away, so that only the sound ones now remain. This plan, I think, ought to be more largely adopted.—*G.*

Bristol and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of the society was held on Thursday, 14th inst., at St. John's Parish Room, Redland, Mr. G. Brook presiding. The lecture for the evening was on the "Fuchsia," being given by Mr. J. Julian of Cardiff, and hon. sec. of the Cardiff Gardeners' Association. Claiming for Fuchsias at the outset an elegance that marked them out for decoration, he gave a short history of their introduction into this country about 1788. He gave details of the cultivation from the time of putting in cuttings until the specimens reached a height of 6 ft., and a diameter in proportion. The best time for propagating he gave as February, the cuttings when rooted to be continually repotted until pots 16 in. in diameter were reached. The compost he recommended was loam, leaf mould, and manure, with an addition of silver sand. He also gave instructions as to pinching, training, feeding, the kind of structure best suited to the culture of Fuchsias, and methods of dealing with insect pests. Mr. Julian's lecture was much appreciated, and he was heartily thanked on the motion of the chairman. Prizes for three Hyacinths were awarded Messrs. Price and Lewis. For three Tea Roses, first, the Lord Mayor, C. Colthurst Godwin, Esq. (gardener Mr. McCulloch); second, Mr. Barrow. Certificates of Merit went to W. A. F. Powell, Esq. (gardener, Mr. Raikes), and Mr. T. Clark, each for a Cyclamen; Lady Cave (gardener, Mr. E. Poole), for Begonia; W. M. Wills, Esq. (gardener, Mr. Frampton), for Cineraria stellata, and Mr. Price, Lycaste Skinneri.

Reading and District Gardeners' Mutual Improvement Association.—The last meeting of the above association was attended by a very large number of members, when Mr. T. Neve, chairman, presided. The subject for the evening was "Peach and Nectarine Culture; New and Old Methods Contrasted." This was introduced in a very practical and racy manner by Mr. W. Iggulden, of Frome, the following being a few of the points raised:—Styles of houses: lean-to, three-quarter span and span-roofed; advantages and disadvantages in each, preference given to rather high span-roofed houses with either single or double cross trellises, planting trees back to back in the latter instance. Borders: where natural conditions are unfavourable, excavations and completely drained and remade borders are necessary, but market growers have the advantage in this respect, in that they select positions that only require trenching and slight additions made to the ordinary soil. Trees: maidens *v.* trained trees, the advantage being all in favour of the former; maidens are the quickest to attain to a heavily productive state, and develop into the finest as well as most lasting trees. The lecturer mentioned having planted a number of maidens under glass in March, 1899; fifteen months later each was being cleared of from two dozen to four dozen first-sized fruit, fetching the highest market prices. An interesting discussion followed upon the points already named, also upon pruning, clearing trees of insects, varieties, bud dropping, &c., the members pointing out that there was a great difference in the position of the market gardener and private grower, and, therefore, the culture to a great extent must be different. Those taking part were Messrs. Neve, Lees, Bright, Powell, Barnes, Baskett, Fry, Stanton, Townsend, Wilson, Cretchley, Exler, Moody and Lever. The exhibits were not so numerous, but of excellent quality. Mr. W. G. Pigg, of Trevereli, Maidenhead, entered two beautiful Orchids for the association's Certificate and both gained the judge's favour. They were Cymbidium lowianum and Lycaste Skinneri. Mr. Stanton, of Park Place Gardens, staged some lovely sprays of Asparagus Sprengeri, and Mr. J. Pound, of the Gardens, The Warren, Caversham, some splendid specimens of the Blue Pearmain Apple. A hearty vote of thanks to Mr. Iggulden brought the meeting to a close. Six new members were elected.

Potatos for 11½ months of British consumption are grown in Britain and the colonies.

Australian Agriculture—*The Journal of the Department of Agriculture of Western Australia* for November, 1900, is replete with useful information. Articles that will be appreciated by gardeners appear on the subjects of Strawberry growing, the year's fruit returns, the exporting of Oranges, the Orris-root, a scale of points for judging orchards, and other useful notes. A long list of agricultural societies is given, together with market reports, the month's rainfall, calendars for routine work, and so on, all of which supply the kind of information most wanted by the agricultural colonists.

The Wearing o' the Green.—St. Patrick's Day happened to fall on Sunday this year, so that it was celebrated by many on Saturday, though "the wearing o' the green" was continued next day. Upon the same occasion last year the wearing of the Shamrock received a great impetus owing to the edict of the late Queen Victoria. In every busy street and thoroughfare on Saturday the green emblem of the Emerald Isle was to be seen in abundance so that in all probability tons of it were being carried about by vendors and wearers. Some used the Trefoil as a setting for the Rose in their buttonholes. The porters at Marlborough House were kept busy receiving elaborate devices of Shamrock on Saturday from all parts of the British Isles, and the tables of the King and Queen were decorated with the emblem on Sunday. The Countess of Limerick, the president of the Shamrock League, distributed large quantities of the now popular Trefoil, for sale in the interests of the Soldiers' and Sailors' Families Association. Some hundreds of carefully packed boxes of Shamrock were landed in South Africa for distribution amongst the Irish soldiers at the front. We have specimens of the green emblem from Ballinamallard, Fermanagh, consisting of Trifolium minus and T. repens. On former occasions we have also had Medicago lupulina as the real article from Ireland. The bulk of what we saw on the streets consisted of T. repens, which for many years has annually made its appearance at Covent Garden, cultivated no doubt. The neat and healthy tufts, so largely used on Saturday last, was evidently the product of seeds sown some time last year. The industry has now reached remarkable proportions, and bids fair to out-rival the Primrose which is averred to be gathered in the wild state. The cultivation of Primroses for wearing on Primrose day would be a more tedious and troublesome operation than the artificial cultivation of the Shamrock, as the former prefers a cool and moist situation or even a little shade, whereas the latter may be grown most successfully in the open fields, not necessarily moist. Seeds may also be procured in any quantity practically, because already an important commercial article. The wild plants are not likely to suffer any material diminution owing to the annual celebration on the 17th March, even though the plants are pulled up by the roots. The flowers only of the Primrose are gathered, but that must be the means of preventing, to a great extent, its perpetuation by seed.

GRAFTED CHRYSANTHEMUMS

Are very interesting, and find many admirers. The following is a simple method, and gives good results: About the end of May select a strong plant of Chrysanthemum frutescens (Marguerite). Shorten the young growths to half their length; split the ends 1 in., take scions, 3 in. long, from the variety of Chrysanthemum you wish to graft, cutting the ends in the form of wedges, and insert them in the prepared stems, securing them with bast and grafting wax. Keep the plants in a cool house, shade and syringe them, till the union is effected; when they should be removed to the open air. If only one flower to each graft is required, keep all side growth disbudded, and take the second crown bud, which will, under favourable conditions, show itself about the end of August. Useful bush plants can be obtained in this way, using varieties generally grown for that purpose, but of course not disbudded. It is important that the grafting be done quickly yet carefully. Care should be taken to graft varieties that flower as nearly as possible at the same time. And if required each stem may be grafted with a different variety. Top dress the plants in August with some good rich soil, and give manure water twice a week when the buds are up. Their charming appearance in October and November will well repay the trouble bestowed on them.—*Walter Hopkins, Leighton Gardens, Westbury, Wilts.*

GARDENIAS.

These useful, sweet-scented plants are now coming out into bloom, the fragrance emitted from a single bloom being sufficient to fill a stove-house with a delightful perfume. One drawback to Gardenias is that the buds open very irregularly, this keeping the plants from being very useful for decoration, but for cut bloom and buttonholes they rank first among the plants that are in bloom at the present time. One of the best varieties is G. florida Fortunei, the flowers of which are the largest and are quite as freely produced as any of the other varieties. Plants grown in 32-sized pots will be found to carry from eight to ten blooms apiece. The compost most suitable for Gardenias is composed of two parts peat, one part loam, one part leaf soil and sand, with a little artificial manure added, the plants being firmly potted, keeping them well syringed overhead, this helping to keep off mealy bug, which is rather troublesome to Gardenias. When the buds begin to appear, apply liquid manure freely to the roots until they open out. Cuttings should now be taken if good plants are desired for next season, putting them singly into 60's, and, if possible, give bottom heat, this helping the roots immensely. I am sending you a few blooms cut from plants in 32's and 24's, none of which carry less than eight blooms per plant.—*H. Fleming, Wexham Park, Slough.*

REINWARDTIA TRIGYNA,

Although so seldom met with, is one of our prettiest winter and spring flowering plants. The exact time of flowering would rely upon the conditions under which the plant had been treated. Merits that render this plant more than usually attractive for greenhouse and conservatory decoration are the richness of its bright yellow blooms, the length of time in flower, and the great profusion that makes the plant still more welcome. If a stock is required they might be raised from seed or cuttings, although the latter never seem to grow away and make such nice plants as those raised from seed; but once a stock is secured many young plants are not necessary, as the old plants flower quite as freely. Repotting or shifting into larger pots if required should be done during spring when root action commences, though they should be disturbed as little as possible, and a little liquid manure during growth will be found beneficial. Undoubtedly, the greatest enemy to this plant is red spider when grown under too dry an atmosphere during summer, for which a sharp look-out must be kept, or the result will be loss of foliage. But if grown in cold frames, stood upon a bed of ashes, and syringed occasionally with a little Gishurst Compound there is every hope that the pest might be kept in check.—*W. Waite, Southfields.*

SALVIA AZUREA GRANDIFLORA,

Usually met with under the name of S. Pitcheri, when well grown is a most lovely bit of colouring for the decoration of the greenhouse from early October to the end of November. The plant is very similar to the Dahlia in forming tubers—though, of course, smaller in size—and can be wintered with these for convenience. Those brought to the light and placed in a cool house, or vinery just started a few weeks ago, will soon have young shoots springing from the base, which make capital cuttings. Prepare in the usual way, putting half-a-dozen round the edge of 3-in. pots, filled with light sandy soil, watered in and placed in a temperature of about 60° at night, under a bell glass, and if a gentle bottom heat can be given so much the better. Pot off into 3-in. pots when fit, keeping them in the same house for another week, when a cold pit or frame will be the best home for them, until placed outside towards the end of May. Pinch out the point of all shoots twice during the growing season, once before shifting into 6-in. or 7-in. pots and again as soon as established. Feed when the pots are full of roots, and do not neglect staking and supporting the shoots in good time. If too much pinching is practised the racemes of sky-blue flowers are very meagre. It is quite hardy in the west of England.—*Grower.*

GARDENERS' WAGES.

I HAVE been much interested in the discussion going on for several weeks on gardeners' wages. Gardeners as a rule are the worst paid in most establishments. I suppose that the reference made referred to the late Mr. John Downie, who was a good friend of the gardeners, and had filled a good number of places all over the three kingdoms. I may give you another reference of the pay offered to gardeners. When living at Crowe Hall, Bath, several years ago, I happened to call on the late Mr. Scammell, of the Kensington Nursery. A gentleman from Trowbridge called on him and asked if he could recommend him a gardener for a single handed place. I asked him what his terms were. He replied it was 15s. pay, free house, but no coals or vegetables. I looked him straight in the face, and said do you mean to make your gardener a thief, as he might be inclined to steal your coals and vegetables. Give the man 22s. per week and make him honest. He replied, "I never thought of that; I will give him the amount you have named, 22s."—*William Carmichael, 14 Pitt Street, Edinburgh.*

PLANTING AN ORCHARD.

As to the site of an orchard, land sloping to the east or south is better than a level; a sheltered hollow, not liable to floods, is better than an upland with the same aspect; and yet a gentle rising, backed by sufficient shelter answers well. A good loam suits most fruit trees, the subsoil should be dry, and the depth of mould 2½ ft. or 3 ft. Before planting, drain if necessary, trench to the depth of 2 ft.; and manure according to the defects of the soil. Cultivate the site for a year or two as a kitchen garden, so that it may be deeply dug, and receive a good annual dressing of rough bones and lime rubble. If the site is exposed plant shrubs, or wild fruits as screens. Forest trees may be planted as an outer screen, but at a distance, whence their roots will not enter and impoverish the soil to be occupied with fruit trees. If expense is grudged and materials for dressing not allowed, then any soil will do for an orchard which produces good crops of corn, grass or garden vegetables; but of course fruit trees will not have such a long life time in such soils. As long as it is not wet, heavy, or very clayey, it will grow fruit. They succeed well on a chalk bottom. Fruit trees will not thrive long, even in good soil, if water rests in the subsoil.—*T. S. Dick, Castlemilk, Lockerbie.*

CULTURE OF HYDRANGEAS.

THERE are two systems of treating these beautiful plants. If bushy specimens are required they should be cut back every year after they have flowered, and afterwards given a shift into larger pots. In this manner large plants can soon be obtained. The second and more usual plan is to grow them from cuttings and confine them to a single stem. Cuttings should now be inserted and placed in a little heat, using as a compost equal parts of loam, peat, and sand. As soon as rooted pot off singly into small pots, and when they have become well established give them a pot two sizes larger, using the same compost, but giving a little manure water once a week. Keep in the warmest part of the greenhouse until the terminal growth forms a crown. Then remove them to the open air where the sun will get at them, and at the same time will ripen the wood and set the flower buds. Remove indoors before the frost touches them. Keep on the dry side till about February, when they should be started into growth and repotted. Soon heads of blooms will show, and then liquid manure must be given regularly every week. If required earlier they can be placed in heat about November. Sometimes the flowers turn blue; this is owing to the presence of oxide of iron in the soil; though a continuous use of alum in the water will bring about the same result.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

PRUNUS SINENSIS FL. PL.

IN last week's paper Prunus persica was described as a decorative pot plant. I made reference to P. sinensis flore pleno, in this paper last spring, which excels all the other varieties of wild Plum for pot culture, shoots of last year's growth, over 18 in. long, being laden with double snow white flowers. Treat the plants similarly to Deutzias. After the flowering period prune hard back, leaving a dozen shoots, which arise from the base, the object being to keep the plants dwarf and open. The shoots left will bear the flowers for the succeeding year. Plunge outside in June and keep well supplied with water till the month of September, when cold weather will necessitate their removal into a frame or a like receptacle. Remove to the forcing house or greenhouse when wanted in flower. Propagate from young shoots under a bell glass. Eight-inch and 9-in. pots are most suitable sizes for old plants. The growths that are left for flowering need not be shortened, as flower buds will appear right out to the tips. P. spinosa, the double-flowered Sloe, is a handsome shrub. But none is so well adapted for pot use as the one mentioned.—*A. V. M.*

STARTING BEGONIAS.

I AM very glad to see that Mr. W. Hogarth has given his opinion on this subject. I cannot, however, agree with him, especially as to the use of manures. I have taken a special interest in Begonia culture for the last fifteen years, and have never found the use of chemical manures, to have any but a most beneficial result during the growing season. As to its being detrimental to the resting tubers, I have never found it so. I have only lately potted up my stock, and I think I am safe in saying that I have not lost five per cent. of the older tubers, even although last autumn was one of the worst in my experience for ripening them off. I do not think any one could expect much better results. Here is what Mr. Molyneux says about the use of cow manure:—"Well decomposed cow manure is often recommended. . . . This is wrong, because what beneficent properties can there possibly be in manure when decomposition has entirely taken place? Simply the shell is left that held the goodness. . . . I do not approve of cow manure in any form." I am at one with Mr. Molyneux there. No doubt fresh cow manure made into weak liquid, and given occasionally after the flowering pots are well filled with roots is beneficial, as is also sheep droppings, but if applied regularly they soon clog the soil. I have therefore much more faith in a judicious use of "Ichthemic" and an occasional dose of weak sulphate of ammonia, say from ¼ oz. to ½ oz. in a gallon of water.—*C. Blair, Binny, Uphall, N.B.*

SOWING ANNUALS.

THE time has now arrived when many of our beautiful summer flowering annuals will have to be sown in the open borders. Easy and simple as this may appear to be, some care and forethought is necessary to obtain the best results. Far too often the inexperienced are under the impression that nothing is required except sowing the seed and merely burying it, but this is not so. Like everything else, if worth doing at all it is worth doing well. The ground should first of all be deeply dug, especially does this apply to shrubbery borders. When grown in patches the soil should be broken up finely and the seed in all cases only just buried. On stiff, heavy ground it is necessary to import a little fresh finely sifted sandy material for this purpose. After the seed is sown it should be patted down firmly. Immediately the young seedlings are large enough to handle they should receive a severe thinning. A fatal mistake is generally made by overcrowding, consequently owing to this the plants become ruined long before they come into flower, and in many cases prove to be a complete failure. Space at my command will permit me to deal with only a few of the most beautiful for sowing at this season. These will include Love Lies Bleeding, Prince's Feather, both of which should be sown in large batches, Mignonette, dwarf Nasturtiums, Convolvulus minor, Godetias, Clarkias, Candytuft, Sweet Sultan and Larkspurs.—*A. Thatcher, Elstree, Herts.*

ROSE-FLOWERED BALSAMS.

IT is necessary, in order to obtain satisfactory results, to secure a good strain of these much-appreciated flowers. They do well in pots, if properly handled; also for bedding out purposes, if planted in suitable soil. It is not necessary to sow the seed in heat—seeds sown thinly in pans in March or early in April and placed in a greenhouse temperature make by far the sturdiest plants. When grown in heat they become soft and weak in growth. As soon as the seedlings are large enough, they should be potted singly into small pots, and placed in gentle heat until growth has resumed. At all stages of their growth rich soil should be employed, consisting of good yellow loam, leaf mould, rotten manure and some silver sand well mixed together. A dwarf, stout, vigorous growth is the habit aimed at. Frequent potting in the early stages cannot be over-estimated. Never allow the plants to become pot-bound or dry at the roots, if success is your motive. Pinching out the leader, to promote the growth of side shoots, and disbudding are vicious observances, the natural growth being more effective and the largest flowers obtained on the main stem. For bedding purposes the ground must be deeply dug and richly manured. If grown in pots and planted out early in June they make plants of large proportions and flower well, if carefully watered in dry weather.—*Walter Hogarth, Norton Gardens, Ratho, Midlothian.*

FRUIT UNDER GLASS.

THE ORCHARD HOUSE.

WHEN the trees in the orchard house come into bloom it will be necessary to see that the house is properly ventilated so as to secure a dry atmosphere, and favour the dispersal of the pollen. If the trees have been brought along slowly without fire heat it will not be necessary to heat the pipes now unless to guard against a frosty night when the trees happen to be in bloom. Provided there is a little sunshine during the day the careful cultivator can so manage the ventilation as to insure a good set without the use of fire heat. There is no particular necessity to guard against the east winds, provided the temperature is fairly high, owing to the presence of sunshine. Close the house early in the afternoon so as to conserve a little heat. Should the sunless cold weather of the last week prevail during the time the trees are in bloom it may be necessary to warm the pipes during the early part of the day so as to make the atmosphere buoyant during the middle of the day to favour the setting of the blooms.

PEACHES.—In the case of those trees that have set their fruits the cultivator must be on his guard against the inroads of the Peach aphides, particularly the brown species which increases very rapidly and curls the young foliage, doing irreparable damage in a short time if allowed to work away unchecked. Fumigation may be resorted to, in which case the foliage must be kept dry over night when the house is filled with smoke. Very often they may be detected in the early stages when only a few shoots are infested by them, a good plan is to syringe the trees and dust the infested parts with tobacco powder. The process is not a speedy one, but it is effective, as the powder can be dusted into the centre of any curled leaves.

When the trees in the early house have reached the stoning period the temperature must be kept as evenly as possible, about 58° at night, with a rise of 10° to 15° during the day under the influence of sunshine. High night temperatures are not recommendable during cold and relatively sunless weather. Syringe the trees twice a day, and ventilate early, giving a little at first and increasing it as the sun increases in power till mid-day. Front air must be admitted with caution if cold east winds are blowing, in the case of houses now kept at a relatively high temperature, and where the trees are in full growth.

The trees in succession houses must be disbudded as they require it. Tie the leading shoots into their proper position, also those that are intended to bear fruit next year. Crowding must not be tolerated under any circumstances; but there should be no occasion for it when the trees are in leaf and show what space is available. The fruits may be thinned gradually, removing those that are badly placed first, and others as it becomes evident which are making the most vigorous and healthy headway.

VINES.—Where late Vines have started into growth it may be necessary to use a gentle heat in order to bring them along steadily without check. If any difficulty is experienced in getting the rods to break evenly all along they should be brought down into a horizontal position for a time. As soon as the shoots have all made a good start tie the rods into position again before there is any danger of the shoots being broken off. Syringe them twice daily, the second application when shutting up the house in the afternoon. In succession houses carefully attend to disbudding and tying in of the young shoots. The

best time for the latter operation is during the middle of the day when the shoots are more limp than in the morning, and there is less liability in snapping the shoots from the basal joint. Thinning must be attended to directly the berries are set, at least in the case of all free setting kinds. Remove all the weak, small and badly placed bunches. This gives the others a better chance and also prevents overcropping. It requires some firmness and decision to do this, as most gardeners have an eye to a heavy crop and an imposing appearance; but it is possible to overdo this at the expense of the Vines the year following. The thinning of the shy setters should be deferred for a time till the berries show the true state of matters. If many of the tendrils show signs of producing tendrils rather than flowers it is a sign of weakness and should be counteracted by somewhat increasing the heat during the day so that more ventilation can be given, and a drier atmosphere maintained. This latter condition always holds good when the Vines are in flower to insure setting. They should be kept dry, particularly during the middle of the day when the temperature is highest and the caps are falling off the flowers. Shy setting varieties should be assisted by tapping the rods occasionally during the middle of the day. A bunch of very light feathers or a rabbit's tail tied to a stake and passed lightly over the bunches assists greatly in distributing the pollen and causing such as Alicante, Alnwick Seedling and Black Morocco to set more freely.

MELONS.—Remove all flowers that appear on plants which are swelling off their fruits in the early house. This, of course, applies also to superfluous growth not now required and for which no room is now available. Feeding with weak liquid manure may be resorted to in order to assist the plants in developing good sized fruits according to the variety. Do not go too near the stem of the plants as moisture about the neck of the plant encourages fungi and other evils; besides the feeding roots are at some distance from that point. In successional pits fresh soil may be added to the mounds from time to time so as to encourage vigorous growth. Stop, thin and tie the shoots wherever necessary, and syringe twice daily. When the flowers intended for setting are in bloom, the atmosphere may be kept drier for a day or two, till setting has been accomplished. Keep a sharp look out for greenfly and fumigate before it has obtained a strong footing. Maintain a night temperature of 70°, rising to 90° by day with sunheat. A bottom heat of 85° to 90° should be maintained and will create no difficulty where plenty of piping and a good boiler are at command.—*M. I.*

Gleanings from the World of Science.

THE subjects mentioned below came up for discussion at the Scientific Committee Meeting of the Royal Horticultural Society on the 26th ult.

Double Tulips.—Mr. Houston exhibited and commented upon an early double Tulip, pointing out that the filaments of the stamens became petals (as in the Water Lily), and that from his experience a dry poor soil appeared to be conducive to the process of doubling. Stock seed, for instance, gave 90 per cent. of doubles under those conditions. On the other hand, Mr. Wilks observed that Papaver Rhoeas became double in a rich garden border, but rarely, if ever, so in the wild state. Prof. Boulger remarked that he had found Ranunculus acris and Geum rivale double in moist places; Cardamine pratensis has also occurred double in similar situations. Mr. Douglas' experience was that Carnations raised in pots gave many more doubles than when in the open border, only 10 to 12 per cent. being single. This would seem to agree with Mr. Houston's experience. Mr. Henslow drew attention to the fact that it was long ago asserted by Mr. William Masters that a suspension of vitality must take place before a flower is formed, whether single or double; that mere vegetative vigour is not the cause of doubling, but that when once the doubling has been developed and, as Mr. Masters said, "is constitutional or in the blood," then abundant food will favour the development of double flowers. Mr. Masters gives the following instance in the case of Balsams:—"One year we did not pot off from the seed pots for many weeks after they were ready. They were, in fact, starved before being transplanted, and only produced single flowers. I treated them liberally, and they then bore flowers as double as could be wished." Mr. G. Duffield some years ago produced double Lapagerias, and remarked that both a white and a red-flowering plant, growing side by side, bore double flowers in the same year, and remarked that it seemed curious, as the plants were by no means remarkable for vigour. This, however, was apparently the cause. Mr. Laxton has also observed with regard to double Peas:—"I am of opinion that a check during the growth of the plant, either from drought, frost, or even injury to the stem, may produce it. Hitherto all the double-flowered forms have been produced later in the season, just as late or second blossoms of Apples and Pears are frequently semi-double, while the early flowers of Zonal Pelargoniums have often from six to ten petals." From Gosbel's obervations double-flowered Stocks can be raised from seed of single-flowered, up to 90 per cent., if the smaller and abnormally formed seeds are selected. Other testimony of a similar kind might be quoted in corroboration.

Diseased growth of Yews.—Mr. J. W. Odell exhibited specimens, and observed that Yew trees in his district (N.-W. Middlesex) are very much disfigured by the formation of cone-like galls. These are due to the gall fly Cecidomya Taxi (Inchbald). The specimens were from several trees. On the young trees the gall seems to be more persistent than on the older trees. On the former the leaves forming the cones appear to recurve after the pupae escape, assuming a rosette appearance, and beyond the arresting of the growth of the shoots affected no great harm seems to be done. On the older trees the cones and rosettes drop off rather freely, and this often gives a shabby look to the tree as the shoots die back and decay. Dr. Masters observed that these galls are commoner upon the golden-leaved varieties of Yew.

Crested Ferns, &c.—Mr. C. T. Druery exhibited the following specimens:—1, Fronds of Phegopteris hexagonoptera truncata, found by Mr. Maxon (Smithsonian Institute) on the banks of the Potomac in 1900. Living plants are in the exhibitor's possession. All the terminals are abruptly truncated with excurrent midribs like slender thorns. 2, Fronds of a partially bipinnate form of Nephrolepis exaltata, from Mr. Roupell. Many of the central pinnae are much elongated and thoroughly bipinnate, resembling small fronds. These fronds were taken about three years ago, but Mr. Roupell states that the plant has since resumed its normal pinnate type. Sowing the spores was suggested with a view to obtaining a decompound strain of this species. 3, Fronds of three distinct varieties of three distinct species, found growing together in one clump in a wood near St. Austell, Cornwall, by Mr. Williams. They represent:—(*a*) A small crested form of Lastrea pseudo-mas, and it is worthy of remark, that the well-known L. p.-m. cristata (king of male Ferns) was found in the same locality; (*b*) a polydactylous foliose form of Polystichum angulare of very distinct type from the normal, but imperfectly polydactylous; (*c*) an extremely fine bipinnate form of Polypodium vulgare, with basal pinnules over 2 in. long and deeply cut throughout. Mr. Williams stated that the remaining fronds were very much larger but damaged, which indicates a very abnormal size, as well as development. Such an association of varieties is certainly quite unique so far as any record is concerned, and as all three are redundant the conditions of growth must be peculiarly favourable, which may have induced the "sports." The P. vulgare is quite distinct from previous finds; the other two have been closely paralleled. Pteris aquilina cristata, found by Mr. C. B. Green, Acton, at Faygate, Sussex. Some acres of this form exist near the railway station (half a mile) interningled with about 50 per cent. of normal fronds.

Rhamnus, sp.—Mr. E. M. Holmes exhibited a specimen of Rhamnus californica, showing that the leaves in this species are evergreen, whilst the nearly allied species, R. purshiana, loses its leaves in the autumn, the majority of the species of this genus being deciduous. The bark of both species is collected, and is known in commerce as "cascara sagrada." Attention was also directed to the fact that the bark, met with in commerce under the name of Salix nigra, does not possess the appearance of the bark of that species, of which the young twigs are black and polished, and have at first a waxy bloom on them. The bark of commerce more nearly resembles that of Salix alba. Mr. Holmes also brought seeds (stones) of Prunus nepalensis, which he had received from Dr. Geo. Watt, C.I.E. (reporter on economic products to the Indian Government), as worthy of cultivation in this country, the fruit having a pleasant acid taste, and being used as a fruit in Nepal.

Croci, sp. and vars.—Mr. E. A. Bowles exhibited the following interesting series of Croci. The type forms and albino varieties of C. reticulatus, pure white, except for a line or two of greyish blue at the base of the segments and extending down the perianth tube. (For some years I could not identify this variety with certainty, until one bulb in 1899 reverted to a striped form identical with the C. retic. v. albicans of Herbert, figured in "Bot. Reg." vol. xxxiii., 16 (17), fig. 2). 2, C. Imperati.—Pure white internally, externally pale buff, almost white, and richly feathered with deep purple on the outer segments. The seedlings raised from this form produce the typical Imperati, with diphyllous, proper spathe. 3, versicolor.—A form often confounded with Imperati and known as Imp. v. albidus. The inner segments distinctly show the feathering so characteristic of versicolor, the form of Maw's, plate xvi., fig. 1, d. I have wild forms, collected near Mentone, which very nearly approach this, and like this, have a ligulate inner proper spathe. 4. C. biflorus v. Weldeni.—A pure white form, sold as Weldeni v. niveus and dalmaticus niveus. C. candidus.—Typical forms, white grained with blue externally, and the new yellow variety, clear orange grained externally with purple. A very floriferous and beautiful form. C. cyprius.—A small blue species with rich purple bases to the segments on the outer surfaces. The only species that has scarlet filaments. It, unfortunately, appears to have a delicate constitution in cultivation. C. corsicus.—Proper spathe monophyllous. C. minimus.—Proper spathe diphyllous; both natives of Corsica, the former in mountainous regions, the latter in lower ground. C. reticulatus v. micranthus. A small-flowered form, much deeper lilac internally. 5 Seedling varieties of Crocus chrysanthus, approaching most nearly to the v. caerulescens. It is the first year of flowering, and this perhaps accounts for the small blossoms. Two of these, internally, pure white with a bright orange throat; the outer surface of the outer segments is suffused with a rich crimson purple with the exception of a narrow marginal band of a pale cream colour. The other has the outer segments sulphur yellow, slightly paler on the inner surface, and grained with dull purple down the centre on the outer susface. The black spot at the base of the barbs of the anthers, so characteristic of C. chrysanthus, is present in this form and one of the former, but absent in the third specimen.

Turnip budding from root.—Mr. Wilks exhibited a root with two or three tufts of shoots springing from apparently the true root. It is not a very uncommon occurrence, and was probably due to some check from local injury, &c.

Phalaenopsis weevil.—Mr. Chapman brought specimens of this insect. The only remedy that could be suggested was a careful search for them at night.

Epidendrum longicolle.—Mr. O'Brien exhibited flowers in a malformed state. Dr. Masters undertook to examine and report upon them.

Prunus tuberculata.—Dr. Masters exhibited a branch with cones of this W. American Pine. It is one of the species the cones of which remain for some years upon the tree, and only shed their seeds after a forest fire.

Winter Aconite germinating.—Mr. Henslow showed specimens to illustrate the aparently abnormal fact of the tuber being first formed on the slender tap root, and not on the radicle.

The Armonicae or Atlantic British plants.—He commented upon these terms, the first given by Ed. Forbes to plants found in Normandy, the Channel Islands, and S. W. England, as well as up the west side to Scotland; the latter name was H. C. Watson's. He pointed out that their true source is S. Europe or Mediterranean regions, and exhibited specimens of Ranunculus ophioglossifolius from Jersey (now extinct), from Hyères, and from Malta, as well as other plants illustrating the same fact.

Scabious bracts virescent.—He also exhibited specimens in which the florets were suppressed, but the bracteoles had become elongated and sub-foliaceous. It was comparable with the green Dahlia wheat-eared Carnation, &c.

HINTS FOR AMATEURS.

COOL FERNS.

Of the various assortment of pot plants grown for the retail market, Ferns are undoubtedly far ahead as the public favourites. Seeing the enormous quantities sold daily in the market, it is at first difficult to understand where they all go to. But when the conditions under which the majority have to live are taken into consideration, the question is soon answered as to their disappearance. They are taken from bright warm glass houses where they are supplied with almost the same conditions as when growing wild in their native habitat and thrust into all sorts of positions, the majority being in semi-darkness with the atmospheric conditions just the reverse of what they have been subjected to in the nursery. The result is followed by disaster as is invariably the case when any of Nature's laws are infringed. Whether success in Fern cultivation is obtained or not, depends to a great extent on a proper knowledge of their habits and requirements and applying it in the treatment of them. Ferns when grown under artificial conditions are very susceptible to the attacks of insects. They will not stand the stringent methods applied to most plants to eradicate the pests, so that great care must be exercised in keeping them clean. The conditions under which plants are found growing wild require imitating as near as possible when grown under cultivation. When we are going to keep a wild animal we study its habits in detail so that it may live as comfortable as possible, we ascertain whether it lives in hot or cold climates, in the open or in the shade, whether it likes watery or dry surroundings, what it requires as food, and the best methods of keeping it clean, and we must do the same with plants. In a living room there are many things that militate against the health of a plant. The atmosphere is often vitiated by the fumes from the gas and various heating apparatus; cold draughts often sweep through the rooms, or they are shut up and the air is parched with fire heat. By careful arrangement many of these conditions can be mitigated, and with the aid of a small greenhouse where they may be placed for a few weeks now and again to recuperate their health, a very creditable display of Ferns may be maintained at a very trifling cost. Ferns have the advantage over flowering plants that they are always pretty, whereas, flowering plants are but as "ships that pass in the night," their beauties are evanescent. When once their flowering period is passed they are sure to look shabby. To have a good collection of Ferns it must always be borne in mind that when they are decorating a dwelling-room they are not pieces of furniture but actually living and just as sensitive to their surroundings as we are.

The Fernery.—The dimensions of the structure to supply a succession of plants for a large house need not be very large. The best form of fernery is a little conservatory attached to the dwelling house by a short corridor. It is not advisable to have the fernery opening directly into the house, as Ferns require a large amount of water in the atmosphere, and either the Ferns must suffer from lack of moisture or the furniture in the room adjoining the fernery must suffer from damp.

Culture.—The majority of Ferns are not difficult to manage. In the winter a temperature of 45 to 50° at night rising to 60° in the day is sufficient for cool Ferns. No more fire heat than what is absolutely necessary should be used, as it is a necessary evil and quickly dries the air. Plenty of light should be given during the winter, but they require some kind of thin shading in the summer. Great care should be given to the ventilation, cold draughts should be avoided and the plants should never be subjected to dry currents of air. It is of great importance that they should be kept near the glass or the fronds will become very drawn and weak. Ferns are a lot of trouble to raise from spores and do not pay the amateur for the attention they require, but it makes a fascinating hobby for anyone who has the time to devote to it. Their mode of development is very peculiar. First the spore germinates and grows into a flat heart shaped disc about the size of a threepenny piece known as a prothallus. This curious little disc constitutes a whole generation, for on its underside it bears perfect sexual organs, which produce another plant which grows up into the Fern as it is generally seen. This curious custom of having two generations is a very interesting study for anybody who delights in the study of Nature. Numerous books can be obtained dealing fully with the subject as it has engaged the studies of botanists for years, many men having spent their whole lives wrapped up in the subject. Where anyone requires a quantity of plants, they can be had at a very low rate from some of the large raisers. The price for small plants is generally about £4 per 1,000, and for larger plants, fit for the window, 6s. per doz. Plants should not have their roots disturbed more than what is absolutely necessary, and great care must be taken when potting on. Large plants will stand for two or three years without requiring a shift into larger pots, providing they get careful watering and attention, and the addition of a little weak manure water in the growing season. When they have grown too large to be potted on they may be divided; this should be done about March or April, just before they start to grow. Plenty of crocks must be put into the bottom of the pots to ensure the surplus water passing away freely. On no account must they be allowed to get dry at the root, or the effect on the fronds will be irreparable, and on the other hand they must never be allowed to get sour from the excessive use of the watering-can. The walls, stages and floor should be kept constantly damped, but do not allow the water to fall on the foliage or it will become disfigured by the deposition of lime, &c.

Soil.—The compost best suited for Ferns is half good turfy loam and half well decayed leaves and a little peat. A good sprinkling of soil and small crocks should be added to keep it well open. It is not advisable to use too much peat, leaf soil being much more beneficial.

Propagation.—If it is proposed to raise plants from spores, shallow well drained pans should be prepared by filling them with a mixture of sifted peat and sand and pressed firmly. On this the spores should be scattered thinly and the pans stood in shallow saucers of water. On no account must water be poured on the pan after the spores have been sown as they are so minute that they would be washed down into the soil and destroyed. If well soaked before the spores are sown the soil will keep moist by virtue of capillary attraction from the water in the saucer. For raising spores a house or case is required that can be kept very moist and close and a temperature of about 60° maintained. When the plants have developed one small frond they should be carefully pricked off into other pans. Large plants with numerous crowns can be easily multiplied by division. Some species produce little bulbils, the fronds bearing these should be pegged down on pans of light soil and kept moist, when they soon take root and can be separated and potted into small pots One of the Ferns best adapted to this method of propagation is Asplenium bulbiferum, a very graceful and useful plant that will stand more rough usage than perhaps any other of the Filices.

Begonia Rex.—If some variation or change is thought necessary nothing will be found to thrive better intermixed with Ferns than a few plants of Begonia Rex. It is the easiest managed Begonia and no trouble is experienced in keeping up a stock, as it propagates freely. The method usually adopted is by leaf cuttings. The best season is about June as the leaves are then fully matured. The firmest should be selected and pegged down on pans of light soil in the manner recommended for Asplenium bulbiferum. The leaf should not be wetted more than is necessary or it is liable to rot. The pans should be placed in a light position near the glass. Very soon the veins will put out roots and a quantity of small leaves will be formed. When these are sufficiently strong they may be cut up into small plants and pricked off into pans of light soil or potted up singly in small pots.—*F. J. C.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Northern Queensland.—*Colonist*: For information apply to the Emigrants' Information Office, 31, Broadway, London, S.W., for their handbook, 1d. Northern Queensland (Australia) lies within the tropics almost to the latitude of Brisbane. Along the east coast the lands are generally higher and healthy, and being subject to the prevailing trade winds the rainfall is heavier. All tropical crops, including Coffee, Sugar-cane, Bananas, Pineapples, Sago Palms, &c., are grown. Southward in Victoria, the Vine, Orange, Olive, Peach, and all other fruits of temperate countries are grown. Personally we should prefer to settle about Melbourne or north-east from it.

Gardens and Gardeners' Addresses, &c.—*Young Gardener*: You will find most of the prominent garden addresses in the Horticultural Directory.

"Silver Tree of the Cape."—"*Locust*": The Silver Tree or Witteboom, so common all over Cape Colony, is at times grown as a small shrubby pot plant. The shrub growing naturally, attains a height of from 10 ft. to 12 ft. Botanically, the Silver Tree is named Leucodendron argenteum; and the culture suitable for Heaths answers for them. They have to withstand periods of long drought in their wild state.

Crassulas.—*H. Read*: These succulent plants now generally named Kalosanthes, are easy to grow, and you may expect to succeed very well, even with only a cool greenhouse. The firm lateral shoots can be used as cuttings, striking them in light sandy soil, in small 3-in or even thumb pots. They will strike readily in a temperature ranging between 60° and 65°, though when potted-off afterwards, the ordinary greenhouse will suffice for them. A compost that will suit Zonal Pelargoniums answers for the Kalosanthes. It is generally necessary to pinch the leading shoot and the stronger laterals well back, so as to get nice spreading plants. Their culture presents no peculiarities. The wood should be maintained firm, well ripened, and short.

When to sow Winter Broccoli.—*J. Moss*: Sow the seeds thinly early in April, and plant them out as soon as they are fit. Choose moist showery weather to accomplish the work and the seedlings will soon get established. In the case of very dry weather about the time they should be put in their permanent positions it will be a gain to lift the plants carefully and transplant them into a newly dug bed. Water thoroughly after planting. When treated in this manner they lift with good roots, and do not feel the check so much as if lifted directly from the seed bed.

Raising Chillies without a hothouse.—*L. A. C.*: Your best plan would be to make a hotbed of stable manure mixed with leaves, or alone if you have no fresh leaves. Shake up the material in a heap and let it ferment for a few days, after which you may shake it all up in a fresh heap, turning the long litter into the centre. About the end of another three days it may be formed into a square bed, upon which you can stand a frame or several handlights. Cover the manure with some inches of soil, and in this plunge the pots or seed pans. If the heat rises strongly during the first week or so you should be careful to ventilate a little at the back of the frame by inserting a peg beneath the sash to allow the steam to escape.

Marguerite Carnations to Flower this Year.—*W. B. D.*: By sowing seeds at once in a warm greenhouse you can get the plants to bloom by August, if the season is favourable, If they do not come on very rapidly when put in the open, they should commence flowering at least in September, and if the weather becomes bad before they are over you could lift the plants carefully and pot them up. Put them in a frame for a time and keep them close till they have taken to the fresh soil. You can then place them in a greenhouse, where they will flower for some weeks and keep the house quite gay during the dull months of late autumn.

Cosmos for Cut Flowers.—*L. A. C.*: The best way would be to treat them as half hardy annuals like Stocks and Asters, raising them in a gentle heat and transplanting them to boxes when fit to handle. In fairly rich soil with plenty of leaf mould in it they will come along quickly in cold frames. Attend to them in the matter of airing and watering so as to secure sturdy plants to put in the open by the end of May. They should flower towards the end of August,

and finely so in September, when you can cut long leafy sprays for filling your vases. The typical form of Cosmos bipinnata has flowers of a beautiful shade of purple, but there are white and sulphur coloured varieties, though in our opinion the purple is the best, as it resembles a very refined small single Dahlia. The finely cut foliage is handsome.

SUTTON'S SELECTED HYBRID AQUILEGIA.

In gardening literature we read of hybrid plants where no one has ever been able to prove hybridity. On the other hand the hybrid origin of certain plants is warmly disputed, even where the raiser felt absolutely sure. There will always remain, no doubt, some questions admitting of dispute, but few we believe have any doubt that many of the Aquilegias hybridise freely with one another. Certain plants have been introduced from the Rocky Mountains, namely Aquilegia chrysantha and A. caerulea. Their specific distinctness has been disputed by some, but that is a harder nut to crack than the question of progeny being raised between the two. The flowers of the first named are of two or more shades of yellow, while A. caerulea has blue and white flowers. They have been freely intercrossed, and an interesting lot of colours have been produced as a result. A. canadensis has also been used to some extent, and the two or three species mentioned are responsible for the plant represented by the accompanying illustration placed at our disposal by Messrs, Sutton & Sons, Reading. The Rocky Mountain Aquilegias and their hybrid progeny may be recognised by the long spurred flowers carried on long and graceful stalks well above the finely divided foliage. They are of the easiest culture in any ordinary garden soil, and may be raised from seed by the 100 or 1,000 in boxes stood in frames, and afterwards planted out in the open when they have made a number of leaves. To guard against dry weather about the time of planting, it would be advisable to transplant the seedlings from boxes into others, or into frames in soil containing a good percentage of leaf mould. They will root freely in the latter and lift with soil upon the roots. If the frames are gently heated in the early stages germination will take place more rapidly. The plants will flower in May and June of the following year. These Columbines are magnificent for cutting, and equally so for garden decoration. By growing and flowering them in pots they are equally handsome and amenable for conservatory decoration.

GARDENERS' GRIEVANCES.

This subject is still receiving a great amount of attention and occupying many a column in this invaluable paper. As the same matter has collapsed before, it will more than likely happen in this case. There can be no improvement whatever if the subject is not taken up by the heads of our departments. A gardeners' union would improve us, if we could only bring about the same. There is but a minority of us speaking on this abortive discussion with much diversity of opinion. To have the high and low paid journeymen in a place may suit some cases, but it should not be encouraged. But when twelve years a journeyman, no doubt we would echo a rise. Half holidays for gardeners would be more general if the men in their respective places would fight for it. Journeymen are much in fault with the matter of wages. They should refuse taking these places, where 15s. is their weekly pay. There are two kinds of places, which are termed by gardeners bad and good, a bad place being considered a rough shop, with all outside work, a lot of marketing, a bad hothy and, perhaps, not a very considerate head gardener. Such places should be rejected by young gardeners, and then both gardener and employer would be brought to their senses by the scarcity of men.

A writer mentions the intemperate habits of us young men. He will find that in other trades and professions. We need no improvement in that line, although there are black sheep in every flock. The originator of this discussion—Mr. Blair—in a past paper draws attention to grievances of the head gardener. They are *nil* in comparison with the junior's. If we could all be of one accord, the union would succeed. This discussion ought to be in the columns of other gardening papers, to take a still wider circuit of opinion.—*A. V. M. (Journeyman), Coltness Gardens.*

I am afraid we are encroaching somewhat on our kind editor's space with our discussion, but as our friend from Bristol has brought forward a few questions, I hope Mr. Editor will find room for another short article. Our friend from Bristol says "he has received his training in small establishments, but can hold his own with men who received their training in large establishments, and even learn them a lot." I have no doubt but that he can do so, but would it be impossible for him to learn anything from men who have received part of their training in large establishments? I think not. We must give and take and help one another, as it is a profession in which it is impossible to exhaust the lessons to be learnt.

Then he considers that in England men call themselves gardeners if they happen to labour in a garden. That is so; but I contend that a gardener is better defined in large establishments than in small ones. Certainly a great deal depends on whether the estate is well kept or not. In many small establishments a gardener is a gardener in the proper sense of the word, and his crops, both inside and out, are very meritorious, reflecting considerable credit on the cultivator. He also asks where the establishment is that employs fifty gardeners. I must answer that the grand old gardens are in England; and will also mention that there is a distinction made in these gardens between gardeners and garden labourers.

Here we meet many of his friends from across the borders, and soon learn to respect them; and I will corrobate him when he says they always leave their mark behind. They are fine fellows and set a good example of perseverance and energy. Whatever success in life I have, I owe to the training I received in those gardens, for which I am very grateful. I have also been in small establishments, but the training did not help me so much as the training I received in those grand old gardens, when the instructors and my fellow gardeners made life worth living.—*C. P. C.*

ANNUALS.

These are now coming much into favour in all gardens. They are to a vast extent superseding the rooted section of plants, which require time and labour all the year. There is such an innumerable stock of annuals, that a selection must be made. A few of the most effective are, Sweet Peas, Salpiglossis, Scabious, Godetia, Malope, Coreopsis, Mignonette, Cornflower (Cyanus minor), Linaria, Nigella (Love-in-a-Mist), Nemesia, Sweet Sultan, Eschscholtzia and Candytuft. The above are also a selection for exhibition, being all included at the Edinburgh September show, 1900. The class for annuals does not receive so much attention as is due to them. No names were attached to the bunches of annuals shown. The tickets of prize winners were marked "Should have been named," as if unknown to the judges. Hardy and half hardy were also included in each lot. The difference of the first and second stands was that the former consisted of small compact bunches devoid of foliage, the latter the very extreme. The naming of the varieties shown would be interesting to spectators and facilitate the judging; also debar other than annuals being staged.

Hardy annuals are those that flower from seed sown in the open the same year. Choose a border with a good exposure to sun. The soil being of a light nature, some rotted leaves should be dug in the previous autumn. The last week of March and first days of April is a good time for sowing, if climatic conditions be favourable. Fork the border over in the morning if it is likely to be a good day. In the afternoon go over it with a wooden rake, working a nice mould on the surface and as level as possible. If the seed be sown in lines it must be shallow, a mere mark with a stick run down the line is deep enough for the reception of the minute seeds. The best method is to sow broadcast, covering the seed with the wooden rake, working it with care along the bed. Steel rakes are to be discarded for such work. Annuals when sown are very rarely looked at again, until all is an entangled mass of weeds, and a few flowers to be seen striving for life. Unless the thinning, watering, staking and weeding be carried out, we will have little reward for our labour. Thin

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Aquilegia Sutton's Selected Hybrid.

out when large enough, 6 in. apart. Any select variety may be pricked off in another portion of the border.

Old birch brooms and brushwood will hold up the delicate varieties. Apply water, should the border get dry. Attend to Dutch hoeing once a week. The above is the system of an exhibitor of annuals which may not be favourable for each district. The district spoken of is Perthshire, where soil and climate are very favourable for hardy annuals. The half hardy annuals in the list are, Salpiglossis, Scabious, Nemesia, Sweet Sultan, and Nigella, requiring to be sown in heat now, planting out first week of June. Salpiglossis, Scabious and Sweet Peas, take first honours for effect in ribbon borders and for cut flower. To describe each individually would occupy too much space.—*A. V. M., Coltness Gardens, Wishaw, N.B.*

SUNFLOWER MINIATURE GOLDEN STAR.

SUNFLOWER MINIATURE GOLDEN STAR.

MANY of the annual Sunflowers are too gigantic for cut flower purposes, and are best used for garden decoration in beds, borders, shrubberies or otherwise according to circumstances and the requirements of the growers. There are small flowered annual Sunflowers, however, the product of Helianthus debilis, better known in gardens under the long name of H. cucumerifolius. The former name, however, is quite as expressive of the appearance of the plant as the latter. Miniature Golden Star is a variety of the species named, and is characterised by its dwarf habit, slender stems and small flowers (that is by comparison with other annual Sunflowers, for they are quite of appreciable size). The golden yellow rays overlap one another, and the disc or centre is black, thus affording a beautiful contrast as shown in the illustration lent us by Messrs. R. Veitch & Son, 54, High Street, Exeter. The variety may be sown in the open ground in April, or under glass at once, and afterwards hardened off and planted out in May to urge it forward so that flowers may be available for cutting purposes at an earlier period if necessary. The gardener will have to decide whether he need go to this trouble even, as the plants grow rapidly and bloom for a long period. If planted or sown in lines, 12 in. from plant to plant, they will form quite a hedge from which any quantity of flowers can be obtained. Clumps in the border also look well.

Animals that never Drink.—In the Hawaiian Islands (Polynesia) there are horses and cattle that never drink during the whole course of their lives. By eating a short, jointed, juicy grass, this furnishes both food and drink.

GODETIA WEBB'S NEW BRIDEGROOM.

THE flowers of this new variety of Godetia are of large size, and of a pleasing salmon colour, with a crimson blotch on the centre of each petal. All the popular Godetias of the present day are notable for their large flowers, dwarf habit, and the character of producing a large quantity of blooms all open at the same time. For this reason they are very effective for garden decoration, either in beds or borders. A field of them may not be the best way to grow them for decorative purposes on account of the overpowering quantity and breadth of bloom; but as seen in the accompanying illustration placed at our service by Messrs. Ed. Webb & Sons, Wordsley, Stourbridge, they are grown for seed and planted thickly so as to get the flowers of the leading shoots to bloom at one time and early so as to ensure a good and even harvest of seed. On the contrary gardeners must avoid planting thickly; and if sown where they are to bloom, the seedlings must be subsequently thinned to 9 in. apart in the lines on light and poor soils, but on those of good quality 12 in. would not be too great a distance between the plants. This enables them to throw out side shoots and to keep up a succession of bloom for a much longer period. The variety under notice is a novelty for this year and a very pretty one.

WEBB & SONS.

WEBBS' NEW BRIDEGROOM GODETIA.

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned below were made by the Royal Horticultural Society on the 12th inst.:—

Orchid Committee.

ODONTOGLOSSUM CRISPUM QUEEN EMPRESS.—The flowers of this splendid variety are of large size, with much imbricated and wavy segments. The sepals are rosy, while the petals are silvery blush. The lip is also blush coloured, with a large yellow blotch where the crest is situated. A large spike was carried by the plant exhibited. (First-class Certificate). W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs.

CYPRIPEDIUM LORD DERBY.—The huge size of the flowers and the vigour of the spike of this hybrid attracted a considerable amount of attention. The parentage was C. rothschildianum × C. superbiens, both being vigorous species well exemplified in the progeny. The dorsal sepal is ovate, densely lined with brownish-purple along the veins on a pale yellow ground. The petals are decurved, oblong, and densely spotted with blackish-crimson on a pale straw-yellow ground, which is nearly white at the apex. The lip is large and dull purple. The leaves are about a foot long and beautifully tessellated with dark green on a light green ground. (First-class Certificate.) Messrs. F. Sander & Co., St. Albans.

LAELIOCATTLEYA VACUNA.—The parents of this bigeneric hybrid were Laelia cinnabarina (female) and Cattleya guttata. The segments are incurved and of good substance like the last named parent. The sepals and petals are soft, clear primrose-yellow; while the lip has a golden tube, with a crimson lamina, and crimson tips to the side lobes. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

DENDROBIUM EDITHAE SUPERBUM.—While this belongs to the same group as the hybrid D. Ainsworthi it is a finer thing, being raised from D. aureum crossed with D. nobile nobillus. The large flowers have rosy sepals with darker edges; the petals are rose and purple on the upper half of their

length. The lip has also fine dimensions with a large crimson blotch, surrounded by a narrow white band, and that again by a purple edge. (Award of Merit.) Mrs. Haywood (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate.

DENDROBIUM ROEBLINGIANUM.—The parentage of this hybrid was D. Ruckeri × nobile. The stems are slender and carry the flowers towards the top. The incurved sepals and petals are of good substance, and white with pale pink tips. The lip is velvety rose shaded with buff and yellow on the disc; the reflexed tip is white. (Award of Merit.) R. G. Thwaites, Esq. (gardener, Mr. J. M. Black), Chessington, Christchurch Road, Streatham. It is an American raised hybrid, and there was another plant of it in the group of Messrs Hugh Low & Co., Bush Hill Park, Middlesex.

CYPRIPEDIUM ERNESTO.—The dorsal sepal of this hybrid is obovate, revolute at the sides, and of a rich shining dark brown, edged and tipped with white. The petals and lip are also of a rich shining brown. The flowers suggested C. villosum Boxallii with possibly C. oenanthum as the parents. (Award of Merit.) F. A. Rehder, Esq. (gardener, Mr. J. Norris), Gipsy Hill.

LIPARIS TRICALLOSA.—The two lateral sepals of this curious and pretty Orchid are linear and purple, while the petals are white. The dorsal sepal is broad, heart-shaped, and densely lined with purple on a pale ground. (Botanical Certificate.) Sir Trevor Lawrence, Bart (grower, Mr. W. H. White), Burford, Dorking.

Fruit and Vegetable Committee.

APPLE LAMB ABBEY PEARMAIN.—The fruits of this dessert variety are small and globose, with an open eye seated in a slightly plaited cavity. The skin at this season is yellowish gray with a red cheek. The flesh is of good quality. It will keep for some time, as the fruits shown by Messrs. J. Veitch & Sons, Ltd., Chelsea, were still very hard and otherwise in first-class condition. (Award of Merit.)

LAVATERA ARBOREA VARIEGATA.

As a British plant the ordinary green form of this may be found on the chalky or rocky sea bank in various places on the south and west coasts of England. In gardens, therefore, it is by no means particular as to the fertility of the soil; but it is found by experience that good soil gives the best results when foliage effect is required. The plant is practically a biennial belonging to the Mallow family, and if sown this month in a greenhouse or frame with a little heat, and afterwards planted in the open in fairly good soil, each plant will make a massive bush, having a subtropical effect. During the second year the flowering stem is produced, bearing purple flowers in great numbers, and by no means devoid of beauty. As a foliage plant it is most appreciated, but particularly the variegated one, Lavatera arborea variegata (variegated Tree Mallow), represented by the accompanying illustration which has been placed at our service by Messrs. H. Cannell & Sons, Swanley, Kent. The large, palmately lobed leaves are abundantly variegated with cream and yellow on a dark green ground, and this variegation is abundant and comes true from seeds. Those who desire subtropical effect in the summer garden will find this plant easy to raise and manage, while its huge bush of leaves raised upon a single stem make it desirable for planting in the centre of large beds, with a groundwork of flowering subjects. Plants may also be set out in the shrubberies, borders of the garden, or even in the wild garden for which it is highly suitable and effective in certain situations. In a wild state it delights in rocky situations, and the idea might be adopted in gardens where rocks or banks exist.

LAVATERA ARBOREA VARIEGATA.

Broccoli for Market Supply.—For spring cutting Sutton's Snow White, Knight's Protecting, and Early Reliance are recommended. In like manner Backhouse's Winter White, Sutton's Christmas White, and Snow's Winter White are used for winter cutting. Late autumn supplies are obtained from Walcheren, Autumn Giant, Veitch's Self Protecting, and Michaelmas White.

DAISY NEW GIANT WHITE.

IN droughty seasons Daisies are liable to suffer great loss in the drier counties of the southern part of England, while cultivators in the cooler and moister parts of the country are unaware, in some cases, of the difficulty of preserving such common and old fashioned flowers as Daisies. That double varieties can be raised from seeds and bloomed the first year is a boon that cultivators can hardly fail to appreciate. The accompanying illustration of New Giant White was put at our disposal by Messrs. Daniels Brothers, The Royal Norfolk Seed Establishment, Norwich. All they claim for it is that the flowers are large, double, of the purest white and well adapted for spring beds or edgings. This latter statement is well known to most growers, whether gardeners or amateurs. These humble flowers are as suitable and available for the cottager's garden as that of the king; and few flowers are more homely or cheerful than Daisies. They can also be grown and flowered in pots for greenhouse or conservatory decoration, if cultivators feel so inclined.

DAISY NEW GIANT WHITE.

PRUNING AND SUMMER TREATMENT OF PEACH AND NECTARINE TREES.

PERHAPS Mr. Temple or other able grower, with your kind permission, Mr. Editor, would give his opinion on the practice of laying in lateral growths from the young shoots of the current season on Peach, Nectarine and Morello Cherry trees.

I think I have seen or heard of the practice being recommended by those whose signature or name should give weight to their opinion, the idea being that it is possible to fill in the allotted space much sooner than can be done by simply laying in the straight shoot or so much of it as is left after pruning.

In moving about the country I have generally noticed that of all fruit trees Peach and Nectarine appeared the most unsatisfactory even in those localities where it is possible to grow good fruit outside, the trees usually being destitute or nearly so of fruiting wood at the base and many of the main branches bare for 4 ft. or 5 ft. of their length.

Rightly or wrongly I have attributed much of this to the practice named above. Young trees when planted first usually make strong shoots 3 ft. or more long, and these, during the season, may push several lateral growths, quite strong enough to carry fruits, but seldom ripening them although *appearing* to ripen fruit buds.

It is about the removal of these growths at pruning time or suppression during the summer that I now ask an opinion.

My own idea is that they should be pinched when starting to grow, not waiting until pruning time for their removal, but others may think differently.

I have noticed that these lateral growths, if laid in, seldom break at the base in the spring, or if they do the ensuing shoot is so weak and spindly that it is of no use for building the foundation of a good tree; and with the fruits named. The basal shoot is the most important, as going a long way towards keeping the trees furnished in after years.

Another practice, too, which I have thought helps to bring about the condition named, is that of leaving shoots their whole length, the terminal bud breaking strongly and robbing the basal ones.

I should like to hear what some older and more experienced cultivator may have to say on the subject, as a badly trained and badly furnished tree—only too common—is an eyesore to every good gardener.

I am sorry other work has prevented me from sending this some weeks earlier when the advice asked would have been more useful.—*G.*

SOCIETIES.

ROYAL HORTICULTURAL.—*March 12th.*

The Drill Hall was packed with exhibits on Tuesday 12th inst., a large proportion of them consisting of forced subjects such as Tulips, flowering trees and shrubs, Daffodils, Roses, &c. Cyclamens were also abundantly represented, hardy herbaceous and alpine plants and similar things. Orchids were well shown, both in quantity and profusion of flowers.

A splendid group of Orchids was exhibited by Messrs. J. Veitch & Sons, Ltd., Chelsea, set up with Palms and Maidenhair Ferns. In the centre was a grand piece of Cymbidium eburneo-lowianum, and on either side were well-flowered pieces of Dendrobium euosmum leucopterum, D. findlayanum, D. splendidissimum, D rubens, and D. Wiganiae. The hybrid Laeliocattleya Myra showed a considerable amount of variety in colour, from sulphur to rich orange. Other interesting things were Laelia Mrs. M. Gratrix, Laeliocattleya Coronis, Phalaenopsis Mrs. J. H. Veitch, Sophrolaelia laeta, Dendrobium barbatulum, &c. (Silver Gilt Flora Medal)

H. T. Pitt, Esq. (gardener, Mr. Thurgood), Rosslyn, Stamford Hill, staged an interesting group of Orchids, including grand pieces of Dendrobium aggregatum majus, D. atroviolaceum, and several others, chiefly hybrids. Phaius Cooksoni, Epidendrum Endresio-Wallisii, Odontoglossum crispum, Coelogyne Sanderae, Dendrobium wardianum and Laelia harpophylla were also good. (Silver Flora Medal)

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, had a gorgeous group of Dendrobiums, the bulk of which consisted of floriferous pieces of D. wardianum, D. crassinode, D. findlayanum, and D. nobile. Interesting also were Dendrobium primulinum, Oncidium Krameri, Laella jongheana, in richly coloured varieties, Laeliocattleya Hon. Mrs. Astor, D. nobile ballianum, D. n. Cooksoni, and D. roeblingianum. Angraecum citratum was also very fine. (Silver Flora Medal.)

Jeremiah Colman (gardener, Mr. W. P. Bound), Gatton Park, Reigate, exhibited a group of Orchids on a ground work of Stenotaphrum glabrum variegatum. He had good pieces of Cymbidium eburneo-lowianum, Laelia anceps, L. jongheana, L. j. crispa, Laeliocattleya Capt. Percy Scott and Coelogyne cristata. (Silver Banksian Medal.)

Mr. James Cypher, Cheltenham, exhibited an interesting group of Dendrobiums, consisting largely of hybrids. Amongst the species were some very distinct and handsome varieties of D. findlayanum (imported pieces), D. atroviolaceum, and D. barbatulum. Amongst the hybrids we noted D. melanodiscus Aurora, D. Cybele, D. splendidissimum, D. nobile nobilus (very richly coloured and true), D. n. statterianum, D. leechianum, D. rubens grandiflorum, D. nobile ballianum, D. nobile Cooksoni, D. Cybele dellcatulum, and a very fine seedling of the D. Ainsworthii type with white segments and a large, richly coloured lip. (Silver Flora Medal,)

R. G. Thwaites, Esq. (gardener, Mr. J. M. Black), Streatham, S.W., had a nice group of Orchids, including a grand piece of D. nobile Cooksoni, also D. brymerianum, D. roeblingianum, D. Wiganiae, D. crassinode, D. findlayanum, Odontoglossum crispum and various others. (Silver Banksian Medal.)

Mrs. Haywood (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, exhibited grandly-flowered specimens of Dendrobium Edithae superbum, D. splendidissimum pallens, D. s. purpureum, D. s. rubens, D. picturatum, D. Ainsworthii Violetta and others. (Silver Banksian Medal).

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking, exhibitive a small group of well-flowered Orchids. Odontoglossum ruckerianum carried sixty flowers. O. andersonianum Dormans var., Laeliocattleya osyana, O. coronarium miniatum and various others were also splendidly flowered.

Messrs. F. Sander & Co., St. Albans, exhibited Cypripedium Lord Derby, a remarkably vigorous hybrid.

M. Florent Claes, Etterbeck, Brussels, exhibited Odontoglossum etterbeckense, O. loochristiense, O. wilckeanum, O. Adrianae, O. nobilior and various others of a showy character. (Vote of Thanks.)

Captain Holford, C.I.E. (gardener, Mr. A. Chapman), Westonhirt, Tetbury, Gloucester, exhibited a well grown specimen of Cymbidium eburneo-lowianum, which attracted considerable attention.

Dendrobium Sybil was shown by F. A. Rehder, Esq., Gipsy Hill.

The Church Road Nursery Company, Hanwell, W., were awarded a Silver Banksian Medal for a very large batch of Cyclamen. Their exhibit included some excellent plants of a very free flowering white variety.

Mr. John May, Garden Nursery, Twickenham, Middlesex, received a Silver Flora Medal for a remarkably well grown collection of Cyclamen. The variety and richness of the colours were a feature of the show.

Mr. George Mount, The Rose Nurseries, Canterbury, staged the only exhibit of cut Roses, for which he obtained a Silver Banksian Medal.

Messrs. Wm. Cutbush & Son, of Highgate, had a large and varied collection of Tulips, and were awarded a Silver Gilt Banksian Medal. There were some very striking colours, some of the best being Carl de Moor, a yellow ground, delicately marked with red; La Belle Alliance, a good crimson; Grace Darling, a red suffused with purple; Dusart, a very dark, well-formed flower, with pointed petals; Cottage Bay, Charles V. and Rose Lulsante. Koh-i-Noor had some exquisite flowers of a deep maroon colour, with the apices of the perianth segments tipped with green. Ophir d'Or was also shown; it is a fine deep yellow, with a very dwarf habit.

Messrs. H. Cannell & Sons, Swanley, Kent, put up a group of New Century Cinerarias. The list on which Messrs. Cannell are working deserves high praise. For some years now we have been accustomed to see these plants in compact masses, until their formality grew almost repulsive. The class of plant exhibited in this group could not fail to recommend itself to everybody who had a large amount of cut bloom to supply.

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, Middlesex, had an interesting collection of early flowering Alpines, &c., for which they received a Silver Banksian Medal. Conspicuous in the collection were Crocus biflorus, Erythronium roseum, Saxifraga apiculata, Narcissus cyclamineus, a very quaint variety; Scilla sibirica alba, Primula acaulis caerulea, Primula marginata, Iris fimbriata, &c.

Messrs. John Laing & Sons, of Forest Hill, had a small group of plants, in which were several plants of Calla pentlandi. It is a good thing, the deep yellow colour and dark maroon throat being very effective.

Messrs. J. Veitch & Sons, Chelsea, exhibited eight large plants of Amygdalus davidiana alba, A. d. rubra, and a batch of Cineraria polyantha Kew Blue; also a hundred baskets of Apples and Pears, for which they received a well deserved Gold Medal.

Messrs. W. Paul & Son, Waltham Cross, received a Silver Gilt Flora Medal for a very showy collection of forced flowering trees and shrubs. There were some very fine plants of Forsythia suspensa Magnolias, Kerrias, including several single flowered plants, a thing not often met with; Prunus triloba, Xanthoceras sorbifolia, numerous Carnations, and Camellia-flowered Peaches, Prunus sinensis flore pleno, single Camellias, and many others of a very attractive nature.

Messrs. R. and G. Cuthbert, Southgate Nurseries, Southgate, Middlesex, again put up a splendid group of their Azaleas, for which they are noted. The varieties of A. mollis were very striking, including Anthony Koster, W. E. Gladstone, Dr. Reichenbach, Peter Koster, &c. Over them were standards of forced Laburnums, Guelder Roses, Cytisus purpureus, Prunus sinensis fl. pl., &c. (Silver Banksian Medal.)

Messrs. J. Peed & Son, Roupell Park Nurseries, South Norwood, set up a group of forced Lilacs, Azalea mollis, Lily of the Valley, and other subjects of that class.

Messrs. F. Sander & Co., St. Albans, exhibited a new Azalea named A. Souvenir de la Reine Victoria, the flowers of which were of large size and pure white.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, exhibited Prunus Mume and Cerasus J. H. Veitch, the former having been grown in the open. They also staged a group of Lachenalias, including the hybrid L. Nelsoni and L. luteola, both very handsome for conservatory work.

Captain Holford, C.I.E. (gardener, Mr. A. Chapman), Westonhirt, Tetbury, Gloucester, exhibited some of his Hippeastrums, of which he grows such a fine collection. He is to exhibit a fine group at the next meeting on the 26th inst.

A very striking and handsome group of Primula kewensis (floribunda × verticillata) was exhibited by the Director of the Royal Gardens, Kew. The plants were quite massive compared with P. floribunda, and were profusely flowered. The hybrid is an acquisition, being over 12 in. high, with bright yellow flowers in tiers one above the other.

C. E. Shea, Esq., The Elms, Foots Cray, Kent, staged vigorous plants of Primula obconica, with rosy flowers Lachenalias were also shown by Mr. A. Chandler, Bunch Lane, Haslemere.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, exhibited a small but extremely interesting collection of herbaceous and alpine plants, including two new Irises, namely, I. tubergeniana and I. Tauri, very dwarf in habit, with violet purple flowers. They also had I. Heldreichi, I. reticulata, I. stylosa, I. s. alba, Anemones, Chionodoxas, Scillas, Eranthis cilicica, &c.

Messrs. Barr & Sons, King Street, Covent Garden, London, staged a group of Daffodils, including such fine things as Sir Watkin, Barrii conspicuus, Horsfieldi, &c. They also exhibited Galanthus Ikariae, Chionodoxa Luciliae, C. sardensis, Iris orchioides, I. reticulata, I. persica Heldreichi, Fritillaria aurea, a handsome dwarf species with yellow flowers, and many other spring flowering subjects.

Messrs. Geo. Jackman & Son, Woking, Surrey, exhibited forced Daffodils; also Incarvillea Delavayi, Ramondia pyrenaica, Adonis amurensis, double yellow Wallflowers, hardy Cyclamens, and other flowers which can readily be brought into bloom at this period of the year.

E. Augustus Bowles, Esq., Myddleton House, Waltham Cross, exhibited a hybrid between Chionodoxa Luciliae and Scilla bifolia, the specimens being more or less intermediate. The hybrid is of frequent occurrence where the two plants are grown in proximity.

OBITUARY.

Mr. Archibald Veitch.

This sturdy Scotchman died at the ripe old age of eighty-one, on January 25th last, at New Haven, Conn., U.S.A. He was the younger brother of Mr. Robert Veitch, of the firm of Messrs. Robert Veitch & Son, Chapel Street, New Haven, where the two had been carrying on the business of florists for many years. Mr. Archibald Veitch enjoyed a reputation for his staunch Scottish honesty and reliability in business, and for his kindly traits of character amongst his personal friends and acquaintances. A good few years ago he had a florists' establishment in Sylvan Avenue of the American town of his adoption.

Mr. Robert Veitch.

On Sunday, March 17th, there passed away one of Scotland's respected sons, Mr. Robert Veitch, at New Haven, Conn., U.S.A. He was born in Peebles, Scotland, May 8th, 1817, so that he had almost completed his eighty-fourth year.

THEODORE TURNER, F.R.H.S.,

Begonia Nurseries, GT. SUTTON, CHESTER.

THE PROGRESSIVE AGE.—The past century has been unique in its development. Among others is the success attained by T. Turner. With the new century I have better value than ever. 2/6 orders carriage paid. My Spring Catalogue a 20th Century wonder.

Do you want 12 Roses for the Garden? Send me 4/-. I will send you 12 different sorts, carriage paid. Do you want 12 climbing Roses for outside? I will send you 12 for 4/-. 12 Monthly Roses for 4/-. 12 Moss Roses for 4/-. All named. I have a lot, names lost, 6, 1/6; 12, 3/-.

TEA ROSES.—6, 2/6; 12, 4/6; 100, 30/-; picked.

Niphetos	Maréchal Niel	Mdme. Berard
Paul Nabonnand	Climbing Niphetos	The Bride
Devoniensis	Mdme. Camille	S. de la Malmaison
Belle Seabright	H. E. Gifford	S. de S. A. Prince
Bardou Job	Mdme. Hoste	Ernest Metz
A. Vibert	Amazon	Mdme. P. Guillott
Sunset	Mdme. Cusin	L'Ideal
C. Testout	B.Henriette d'Lew	S. de Pres. Carnot
Mdme. P. Ducher	Mdme. H Jamain	C. Kuster
Francis Kruger	La France	Reine M. Henriette
Rêve d'Or	Elise Finger	Marie d'Orleans
Mdme. Tiller	Irene Watts	T. de Pernet Pere
Hermosa	C'tsse R. du Parc	Duchess of Albany
Mamsn Cochet	M. C. Guinoisseau	A. Olivier
Coquette de Lyon	The Homère	Ly. M. Fitzwilliam
Cheshunt Hybrid	Mdme. Falcot	Leo XIII.
Souv. de C.Guillott	C. Mermet	A. M. Immacula
Euphrosine	Aglaia	Etoile de Lyon
Papa Gontier	G. Nabonnand	Mdme. Welsh
H. Majesty	Souv. d'un Ami	C'tsse de Frigneuse
Gustave Regis	Kaiser A. Victoria	A. Guinoisseau
S. de Paul Neyron	Marie Guillott	J. Ducher
Bouquet d'Or.	Grace Darling	Marie V. Houtte
Dr. Grill	Ophirie	Mdme.A.Chatenay
Perle des Jardins		

12, picked, our selection, for 5/-.

A large assortment of Tea Roses.—Large stuff. F. Kruger, A. Guinosseau, Mr. W. J. Grant, H. E. Gifford, Rêve d'Or, W. A. Richardson, Maréchal Niel, White Maréchal, Mdme. Berard, and about 40 more sorts extra, 1/- each, 9/- per doz.

New Roses.—Turner's Rambler, 3 to 7 ft., strong; Turner's Crimson Rambler, Aglaia (Yellow Rambler), Thalia (White Rambler), Euphrosine (Pink Rambler), 1/6 each; 4, 1 of each, for 5/-.

5 large Climbers for 6/-, or 1/3 each, 3 to 7 ft. —Gloire de Dijon. Reine Marie Henriette, Rêve d'Or, Mdme. Berard, W. A. Richardson. Any one can be placed by another.

Gloire de Dijon, 3 to 7 ft., strong, 1/3 each; 12, 12/-.

H.P. ROSES.—6, 2/6; 12 for 4/6; 100, 30/-; large.

A few of names enclosed.

Thos. Mills	Cheshunt Hybrid	C. Forestier
Pierre Notting	Chas. Lefebvre	Crimson Bedder
S. M. Rodocanachi	C. Tretrahoff	Xavier Olibo
A. Carriere	C. of Oxford	Violet Bouyer
Sir R. Hill	A. K. Williams	Mrs. Baker
M. de St Amand	B. Rothschild	Senateur Vaisse
Maurice Bernardin	Bessie Johnson	Paul's Pillar
Magna Charta	A. Vibert	Marie Rady
Gen. Jacqueminot	Marie Beaumann	Mdme. Chas.Wood
Perle des Blanche	D. of Connaught	M. of Londonderry
Lord F. Cavendish	P. C. de Rohan	Victor Hugo
Jean Liabaud	Dr. Andry	Emperor de Marc
Duchesse de Morny	A. Wood	Merveille de Lyon
Lord Bacon	D. of Albany	D. of Bedford
Le Havre	Reynolds Hole	Mrs. Harkness
A. O. Rigotard	Gustave	Duke of Teck
Wm. H. Turner	Prince Arthur	Sir G. Wolseley
U. Bronner	Princess Beatrice	Rd. Wallace
Rd. Caxton	White Baroness	Mrs. J. Laing
Paul Neyron	Crown Prince	W. W. Saunders
Black Prince	Gloire de Margottin	Mabel Morrison
Emily Hausburg	Lord Herbert	J. Cherpin

Our selection, 5/- doz.

6 Tea Roses, 2/6; 12, 4/6—Aug. Guinosseau, white, tinted pale rose, fine for button-holes; 2, Caroline Testout, light salmon-pink; 3, La France, bright silvery-rose, bright pink; 4, Mrs. W. Grant, bright salmon-pink; 5, Perles des Jardins, deep straw-yellow; 6, Sunset, deep apricot-yellow; 6, 2/6; 12, 4/6.

6 Tea Roses, 3/-; 12, 5/—Catherine Mermet, light rosy-flesh; 2, The Bride, nearly pure white; 3, Souv. d'un Ami, salmon and rose shaded; 4, Souv. de Catherine Guillott, coppery-carmine shaded orange, good for coat flower; 5, Kaiser Aug. Victoria, cream, shaded lemon; 6, Marie d'Orleans, terra-cotta, one of the best. 6, 3/-; 12, 5/-.

6 Tea Roses, 3/6; 12, 6/- — Homère, rosy-salmon centre; 2, Ernest Metz Tendre Carnation Rose; 3, Francisca Kruger, copper-yellow shaded peach; 4, Papa Gontier, rose-carmine, fine long buds; 5, Souv. de Pres. Carnot, rosy-flesh; 6, G. Nabonnand, pale rose, shaded with yellow. 6, 3/6; 12, 6/- (the very best).

Turner's New Hybrid Delphiniums, all colours, 6, 1/6; 12, 2/6. Turner's Lychnis chalcedonica, large. 6, 1/6; 12, 2/6. Wallflowers, Double German, 12, 1/6. Ruby Gem, 25, 1/6. Crimson Dame, 25, 1/6. English Iris, 50, 1/6; 100, 2/6.

6 Climbing Roses for 2/6; 12, 4/6—L'Ideal, yellow and metallic-red, streaked and tinted golden-yellow; 2, Maréchal Niel, rich golden-yellow; 3, Climbing Devoniensis, creamy-white, blush centre; 4, Reine Marie Henriette, deep cherry-red, large and full; 5, Mdme. Berard, fawn-yellow, tinted, rose-yellow; 6, Aglaia (Turner's Yellow Rambler), 6, 2/6; 12, 4/6.

Moss Roses, 6d. each; 6, 2/3; 12, 4/- — Light crimson, white, crested, rich crimson, pale rose, all the latest and newest, 6d. each; 6, 2/3; 12, 4/-. All named.

Dielytra spectabilis (the Bleeding Heart-tree), very pretty, large roots, 3, 1/3; 6, 2/3; 12, 4/-.

Extra Large Trees (standards).—Snowball Trees, standards, bush, 1/6 each; 15/- dozen. Acers, variegated Maples, extra large standards, 2/6 each, worth 7/6; 5 for 10/-. Acers, pyramids, 1/6 each; 15/- dozen. Standard Prunus nobilis, double flowered Plum, 2/6 each; 5 for 10/-. Extra large standard Lilacs, 2/6; 5 for 10/-. Standard Hydrangea paniculata, 2/- each.

Viola Kitty Hay, yellow, 12, 1/6, Wallflower Ruby Gem, 25, 1/6. Primrose Dame, 25, 1/3. Double German, 12, 1/3. Delphiniums, large stuff, 6, 1/6; 12. 2/6. Canterbury Bells, Dean's strain, 12, 1/3; Canterbury Bells, mixed, 25, 1/6; 100, 5/-. Gaillardias, extra fine, 6, 1/3; 12, 2/-. Grenadin Carnation, 6 for 1/6; 12, 2/6. Margarita Carnations, 6, 1/6; 12, 2/6. Lychnis chalcedonica, 6, 1/6; 12. 2/6. These are all extra large stuff.

Potatos.—British Queen, Challenger, Up-to-Date, Duke of York, 6 lbs., 1/3; 12 lbs., 2/-. Free in 10/- orders; otherwise, carriage forward.

CANNAS.—Large roots. Exhibition size.

	6	12	100
	s. d.	s. d.	s. d.
Crozy's Cannas, dwarf, in fine mixtures ...	1 6	2 6	16 0
Cannas, all sorts, mixed	1 3	2 0	12 0
Crozy's Cannas, all yellow flowers	1 6	2 6	16 0
Crozy's Cannas, all red flowers	1 6	2 6	16 0
Crozy's Cannas, all red leaves...	1 6	2 6	16 0
Cannas, variegated leaves, mixed	1 6	2 6	16 0
Named Cannas, Gladiolus flowered	2 6	4 6	32 0
Named Cannas, red-striped and spotted ...	2 6	4 6	32 0
Named Cannas, green leaves, red flowers ..	2 6	4 6	32 0
Named Cannas, red leaves, red-flowered ...	2 6	4 6	32 0
Orchid-flow'r'd Cannas, named 8s. doz. mxd.	3 0	5 0	40 0

See Catalogue for description.

Turner's Clearance Offer of Lilies. Special offer.

	6	12	50	100	Case.	
Lilium auratum (Golden-rayed Lily of Japan), nice solid bulbs, 7 in. to 8 in....	1 3	2 3	7 6	14 0	26 0	200
Lilium auratum 8in. to 9in.	1 9	3 0	11 0	21 0	26 0	140
Lilium auratum 9 in. ...	2 0	3 9	14 0	—	26 0	100
Lilium auratum, 9in. to 10in.	2 6	4 6	17 0	32 0	———	

Lilium auratum, exhibition bulbs, 1/3 each; 12/- doz.

Lilium longiflorum (Hardy Harrisi). Sale price.

	6	12	50	100
Large bulbs, 7 to 8in. to clear them out	1 6	2 6	9 0	17 6
A few exhibition, 9 in. to 10 in.	2 6	4 6	—	—

Sale price Lilies.—Umbellatum grandiflorum, 6, 1/3; 12, 2/-; 50, 7/6; 100, 12/-.

Tiger Lilies, single and double, 25, 1/6.

Tigrinum splendens, 12, 1/6. Sale price.

Iris Kaempferi, true Japanese varieties in extra fine mixtures, brilliant colours, sale price, 25, 1/6; 50, 2/6; 100, 4/6.

Iris germanica (the Flag Iris), in extra fine mixtures, clear them out, 50, 1/6; 100, 2/6.

Shrubs, all at clearance prices.—Laurels (Portugal), 12, 1/9. Aucuba japonica (variegated), 12, 2/-. Mahonia (Holly-leaved), large plants, 12, 2/6. Retinospora plumosa, 12, 3/6. Thuja Lobbi, 1½ ft., 12, 2/6. Laurestinus (large-leaved), 6, 1/6; 12, 2/6. Assorted Shrubs for pots and boxes and gardens at 2/6 and 3/6 per doz.

Monthly Roses, 6, 2/6; 12, 4/6. Cramoisie-Superieure, velvety-crimson flowers in large clusters; Ducher, pure white, good form, very free; Irene Watts, new '96, tinted salmon pink, loug bud, very pretty and distinct. 3, 1/6; 6, 2/6; 12, 4/6.

Hardy Climbers, 6, 2/6; 12, 4/6; 3 ft. to 10 ft.—Leopold de Orleans, white, tipped red, rosette-shaped flowers; Ruga, pale flesh, double, very sweet-scented, glossy foliage; The Garland, nankeen and pink, changing to white clusters; Climbing Pet, white clusters; Félicité-Perpetue, creamy-white; Gracilis, bright pink (13 varieties). 6, 2/6; 12, 4/6; 3 ft. to 10 ft. Picked, 6, 3/6; 12, 6/-.

Tritoma Uvaria (Red-hot Pokers), 6, 2/-; 12, 3/6.

Gaillardia grandiflora, 6, 1/6; 12, 2/6. Large Canterbury Bells, 12, 1/6; Wallflowers, 25, 1/6; Coreopsis grandiflora, 6, 1/6; 12, 2/6.

Palm-Seed, Kentia Belmoreana, sale price, 25, 1/-; 50, 1/9; 100, 3/-.

Gloxinia erecta grandiflora, large 2-year-old tubers, 6, 2/6; 12, 4/6; 24, 7/6; 50, 14/-; 100, 25/-. 2-year-old, selected, 12, 2/6; 100, 16/-.

Gloxinia erecta, 1-year-old, grandiflora. 12, 1/6; 100, 8/-. Named Gloxinias, 6d. each; 6, 2/6; 12, 4/6 Turner's Tigridia, Turner's Scarlet Defiance, Emperor Frederick, Kaiser Wilhelm, Firefly, Mont Blanc, Snow Queen, Blue Celestial, Turner's white and blue bordered, 6d. each; 6, 2/6; 12, 4/6. A few extra large, 1/- each; 12, 10/-. 1-year-old, named, 12, 2/6; 100, 16/-.

Azalea indica, large bushes, all named, full of buds, 1/3 each, 6, 6/-; a few smaller, well set, 2, 1/6. Azalea mollis, extra large plants, 1/- each, 10/- doz. Azalea mollis, smaller, full of buds, 5/- doz., 6d. each.

Deutzia gracilis.—For forcing, well set, 6, 1/6; 12, 2/6.

Wistaria sinensis, 3, 1/3; 6, 2/-; 12, 3/6.

Carnations, large plants, 6d. each; 6, 2/6; 12, 4/6.—La Villette, Miss A. Campbell, Pride of Garden, Mrs. Fred, Sir George White, G H. Sage, Lady Houghton. Raby Castle, Salamander Improved, Clove. All large stuff, 6d. each; 6, 2/6; 12, 4/6.

Japanese Wineberries, 6 ft., 1/6 each. Strawberry-Raspberry, 1/ each.

Geraniums, 6, 1/3; 12, 2/-.—Vesuvius, H. Jacoby, J. Gibbons, West Brighton Gem, Crystal Palace Gem, Queen of Whites, Happy Thoughts, Flower of Spring, 6, 1/3; 12, 2/-; 100. 15/-. Mrs. Pollock, 6, 1/6; 12, 2/6. Calceolarias, 12, 1/6.

A 20th Century Marvel in Sweet Peas.—All leading sorts, 21 varieties, 50 seeds of each, 1,050 seeds, for 1/3, all guaranteed new seeds; or 100 each, 21 varieties, for 2/-; mixed, 1/6 per lb. Primrose, Princess May, Senator, Countess of Radnor, Dorothy Tennant, Emily Henderson, Mrs. J. Camberlain, Mrs. Eckford, Mrs. Sankey, Mrs. Gladstone, Blanche Burpee, Princess Beatrice, Purple Prince, Splendour, The Queen, Boreatton, Captain of the Blues, Cardinal, Lottie Eckford, Invincible (white), Invincible (scarlet). These 21 choice varieties, 60 seeds each, 1/3; 100 seeds each, 2/-.

Tiger Lilies, splendens, 6, 1/6; 12, 2/6.
Crocenm (Orange Lilies), 6 2/-; 12, 3/6.

A 20th Century Wonder.—Montbretias, in 10 named sorts (see Catalogue for names). 50, 1/3; 100, 2/6. Montbretia Pottsi, 100, 1/6; picked, 50, 1/-. Montbretia crocosmiaeflora, 50, 1/3; 100, 2/-. Mixed seedlings, 100, 1/6.

1/6. Special Cheap Collection Gladiolus. 1/6.—6 Brench. (Sword Lilies), 6 Lemoine's Hardy. 6 Hybrid Gandavensis, 6 Psittacinus, gold striped, 6 French Hybrids, 6 Brides 3 doz. for 1/6; double lot, 2/6.

Hyacinthus candicans, very pretty, 3 ft. spikes. white Bellflowers, goes well with Gladiolus, 12, 1/-, 50, 3/6; 100, 6/-.

Tigridias (Mexican Lilies), very pretty, Canariensis grandiflora alba, speciosa, violacea, 1/- per doz.

Lobelia cardinalis Queen Victoria, 6, 1/6; 12, 2/6. Gaillardia grandiflora, 6, 1/6; 12, 2/6. Auriculas, fine strain, 6, 1/6; 12, 2/6. Hydrangeas pontica and japonica, 6, 1/6; 12, 2/6.

Trees.—Poplars, 9 to 10 ft., 2/6 each; smaller, 6d. each; Limes, Beech. Wych Elms, Sycamores, 6d. each; 12, 4/6; Hornbeam Beech, 25, 1/6. Privet ovalifolium, large, 12, 1/6; 100, 8/-; smaller, 50, 2/6. Variegated Ivy, 12, 4/6. Honeysuckles, 12, 2/6. Aucuba japonica, 12, 2/-.

Gladiolus, one of our Specialities.—Brenchleyensis, the well-known Scarlet or Sword Lilies, so much called for for Harvest Decorations:—

	Doz.	50	100	500	1,000
	s.d.	s.d.	s.d.	s.d.	s.d.
Immense specimen Bulbs	1 3	4 6	8 0	35 0	60 0
Extra large first size Bulbs ...	1 0	3 0	5 6	25 0	40 0
Very large second size Bulbs ...	0 9	2 0	3 6	15 0	27 6
Third size good flowering Bulbs	0 6	1 6	2 6	10 0	17 6
Colvillei alba, The Bride, picked	0 4	1 3	2 0	9 0	17 6
Bride, good flowering Bulbs ..	0 3	0 9	1 3	5 6	10 0
Colvillei Red Brides	0 4	1 3	2 0	9 0	17 6
Lemoine's new hardy Gladiolus	0 9	2 6	4 0	18 0	32 6
Lemoine's large exhibition Bulbs	1 0	3 6	6 0	27 6	—
Gandavensis Hybrids, extra fine, mixed	0 9	2 6	4 0	18 0	32 6
Gandavensis, large exhibition roots	1 0	3 6	6 0	27 6	—
French Hybrids, fine, mixed ...	1 0	3 6	6 0	27 6	—
Marie Lemoines, very striking ...	1 0	3 6	6 0	27 6	—
Kelway's best mixed	1 6	5 0	9 0	—	80 0

Named Gladiolus, 3d. each; 6, 1/3; 12, 2/3, 100, 16/-.

Lily of Valley, large Dutch crowns. the large flowers, 50, 1/6; 100, 2/6. Large clumps, 9d. each, 8/- doz. Berlin crowns, 50, 2/6; 100, 4/6.

Climbers.—Clematis Jackmani, montana, and named sorts, 4 to 7 ft., bushy, 1/3 each; 6 for 6/-. Names see Catalogue. Ampelopsis Veitchi, large, 3 to 6 branches, 2, 1/6; 12, 7/6. Ampelopsis, the old sort, about 3 yds. long, 1/6 each. Aristolochia Sipho (Dutchman's Pipe), 7 to 10 ft., 1/6 each. Wistaria sinensis, 7 to 10 ft., 1/6 each. W. alba, 7 to 10 ft., 1/6 each. Bignonia radicans, 7 to 10 ft., 1/6 each.

Hybrid Rhododendrons, choice named sorts, well set with bud, including large specimens Cunningham's White, 1/6 each; 15/- per doz.

Cactus, extra large plants, 1/- each; 10/- doz., named. Cactus, smaller, nice plants, 2, 1/6. Hedgehog Cactus, 2, 1/6. Cactus Ball of Snow, quite round, covered with white, each 2/6.

Dracaenas indivisa, 2, 1/6. Palms, 3, 1/3 Asparagus Ferns, 2, 1/6. Japanese Honeysuckles, 3, 1/3. Fuchsias, 6, 2/6. Pentstemon, Kelway's, 6, 2/6 Marguerites, 12, 2/6.

Plants.—Pansies, large-flowered, black, white, cat's-eye, blue, marine blue, mahogany, silver-lined, bronze, all at, 25, 1/6; 100, 4/-. Viola Pansies, or Tufted, white, blue, yellow, 25, 1/6; 100, 4/-. Pansies, mixed, large giant flowered, 25, 1/6; 100, 4/-. Viola Pansies, mixed, 50, 1/6; 100, 2/6. Canterbury Bells, 25, 1/6. Auriculas, 6, 1/6; 12, 2/6. Named Phlox, 6, 2/6; 12, 4/6. Michaelmas Daisies, white and red, 6, 2/6; 12, 4/6. Polyanthus, large, 12, 1/6. Single Pyrethrum, 6, 1/6; 12, 2/6. Forget-me-nots, 25, 1/6. Daisies, 50, 1/6; 100, 2/6. Hollyhocks, 12, 1/6. Chrysanthemum maximum, 6, 1/6; 12, 2/6.

2/6 Collection of Climbers.—2 Pyracanthas (Fire Thorns), 2 Jessamiues, white; 2 Jessamines, yellow; 2 Irish Ivies, 2 Ampelopsis Veitchi, 2 Honeysuckles; lot, 2/6.

Helleborus niger, 6, 1/6; 12, 2/6; 100, 16/-.

Pyracanthas (Fire Thorns), 6, 1/6; 12, 2/6. Jessamiues, white, 3, 1/3. Jessamines, yellow, 6, 1/6; 12, 2/6. Ampelopsis Veitchi, 12, 1/6.

Plants for Forcing.—Spiraea japonica, large clumps, 3, 1/-; 6, 1/9; 12, 3/-. Spiraea japonica compacta, 6, 2/-; 12, 3/6. Spiraea elegans (Pink Spiraea), 6, 1/6; 12, 2/6.

Syringas, Hybrids, all colours. for forcing or garden, 6, 1/6; 12, 2/6. Philadelphus (Mock Orange), named, 6, 1/6; 12, 2/6.

Turner's Prize Strain Begonias are the very best obtainable.—Double Begonias, grown from seed. These produce flowers like double Camellias, and about 80 per cent. come true. We have them in 5 colours—white, yellow, orange, rose, scarlet. 5, extra picked, for 5/-; 12 for 10/-. Double Begonias, 2-year-old tubers for exhibition, fine tubers, 5 for 2/6; 10, 4/-; 20. 7/6; 50, 17/-; 100, 30/-. Double Begonias, 1-year-old, in 5 colours, 5, 1/3; 10, 2/-; 20, 3/6; 50, 7/-; 100, 12/-. (For named ones see Catalogue.)

Turner's Prize Strain Single Begonias.—These have been a great success during the past 10 years for pots, showing and bedding.

Single Prize Strain Begonias for pots or showing. —White, yellow, orange, rose, scarlet, take prizes anywhere, 5, in 5 colours, 2/6; 10, 4/-; 20, 7/6; 50, 17/6; 100, 32/6.

Bedding Begonias.—For the last six years I have made a speciality in these. 5 colours, at 12/- 100; 50, 7/-; 1,000 for £5.

Prize Strain Begonias.

	Extra large Selected tubers Splendid for pots.		Very fine selected tubers Also for pots.		Good certain flowering tubers Fine for bedding.	
	Per doz.	100.	Doz.	100.	Doz.	100.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Crimson	3 0	20 0	2 0	12 0	1 3	8 0
Scarlet	3 0	20 0	2 0	12 0	1 3	8 0
Rose	3 0	20 0	2 0	12 0	1 3	8 0
Orange	3 0	20 0	2 0	12 0	1 3	8 0
White	3 0	20 0	2 0	12 0	1 3	8 0
Yellow	3 0	20 0	2 0	12 0	1 3	8 0

5/-.—The Great Sutton Collection of Vegetable and Flower Seeds contains 6 ½ pints of Peas, 4 ½ pints Beans; 1 oz. each Onion, Parsnip, Carrot, Radish, Mustard, Cress, Spinach; 1 pkt. each Extra Curled Parsley, Aigburth Brussels Sprouts, Savoy, Lyon Leek, Autumn Giant Cauliflower, Silver King Turnip, Cabbage and Cos Lettuce, Covent Garden Beet, Celery, Cabbage, Broccoli, Marrow, Kale, choice Paeony-flowered Aster, Double Ten-week Stocks; and 12 pkts. various Annual Flower Seeds. All new seeds guaranteed. A Twentieth Century wonder.

3-year-old Currant Trees, 6, 2/-; 12, 3/6; named, Red, Black, White, all choice stuff; smaller, Black and Red, 6, 1/-; 12, 1/4.

Gooseberries, all leading sorts, 6, 2/-; 12, 3/6; smaller, 6, 1/6; 12, 2/6; all fruiting trees.

Plums, all leading sorts, 1/- each; 12, 10/-; large standards, 2/6 each, 5 for 10/-; dwarf trained, 2/6 each, 5, 10/-; also large standard Victorias, 2/6 each, 5 for 10/-.

Cherries, May Duke and Morello, 1/6 each.

Apples, large, unnamed, 2/- each, 5 for 10/-; large, 3-year standards, 2/6 each, 5 for 10/-; Ecklinville, Frogmore, Cox's Orange, etc., maiden Apples, 1/- each, 10/- doz. Pears, Jargonelle, maidens, 1/- each. All leading sorts. Pears, 1/- each, 10/- doz. Raspberry Canes, 25, 1/6.

New Century Pinks.—Flowers like a large double Camellia, big as 5/- piece—Mrs. Theodore Turner, Mrs. Hall, Mrs. Prichard, Mrs. Naish, May Queen, Lady Falmouth, White Gem, Mr. Ed. Ferris, 6d. each; 6, 2/6; 12, 3/6. The flowers are as full as a Carnation, only larger. Splendid for cuttiug, wreaths, &c.

For many years Mr. R. Veitch was gardener at Arniston, near Edinburgh, and for a number of years had one of the most select collections of hardy plants in the country. He was also the raiser of Hollyhock General Bem, one of the best crimson varieties. On his visit to Scotland in 1871, his wife, Mrs. Veitch, died and was buried in the grave of one of her own children at the Temple Parish Churchyard, and Mr. Veitch returned a widower to the land of his adoption. While on a ten mile tramp in Scotland with a friend he conversed on the flora of Scotland, and the ups and downs of life.

He first went to America in 1853, and continued in business there under his own name till 1873, when the name of the firm was changed to Robert Veitch & Son. Twenty-six years later the business was reorganised, and the name again changed to The Robert Veitch Company. He was full of enthusiasm to the very last over the flowers he so dearly loved. He had a great knowledge of botany which he acquired in the old country and kept up in the new. Work and life were practically synonymous terms with him. When the infirmities of an advanced age were creeping in upon him, his supreme ambition was to be continually at work amongst his favourite flowers; and even in the delirium of his last illness, it was evident to the bystanders that he fancied himself at work amongst the favourites of his life long labours. While in Scotland he made the wild flowers his friends and acquaintances, in company with those who were like minded; and for the last forty-five years he made and maintained a friendship with every flower lover for miles around New Haven in the land of his adoption.

Mr. Robert Veitch is believed to have been the oldest florist in Connecticut; and was thoroughly typical of the Scottish-American, maintaining a strong love and respect for the mother country and everything connected with it; but equally full of enthusiasm for the connections and associations of his adopted country, including the anti-slavery campaign.

He was twice married, his wife dying as above mentioned in 1871. By the Scotch mother he had six children of whom three are still living. His second wife was Miss Helen J. Davidson, of New York, the marriage taking place in 1874. He leaves her a widow, and two of a family, namely Johnstone D. Veitch and Susan H. Veitch.

It seems strange that two brothers at such advanced ages should have died within so short a period of one another in the early part of the year. With the death of the two ends a long list of the noted old Scottish hardy plant collectors and cultivators, including such names as McNab, Cunningham, Stirling, Turnbull, Lees, Miss Hope, &c.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to "Gardener," for his article on "The Old Double White Primula," p. 454. While all of the articles were of a decidedly practical character, eight were of a high order of merit.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed, When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Vine Leaf affected with Something.—*A. V. M.*: We inspected the Vine leaves sent us, but found no evidence of fungus in them, and do not consider that their appearance suggested a fungus. We certainly did find one mite upon those sent, but that was a full grown one, and was not the ordinary red spider. If the damage was due to mites there ought to have been young ones in various stages of development. It may be added, however, that the leaves should have been wrapped up in slightly damp moss to keep them fresh. As it was they were partly dried up, and under such conditions mites of various kinds and insects crawl away, if they can, whenever they find the leaves upon which they have been feeding drying up. On the whole, however, we think that your other statement suggests the cause of the damage, which is akin to what is known as scalding. We have had evidence of damage done to Vine leaves owing to the presence of a heavy dressing of rank cow manure on the border. The high temperature of the house caused rapid fermentation of the manure, so that there was an accumulation of ammonia in the atmosphere, and a very sudden appearance of scorching as if the leaves had been par-boiled. By this time the ammonia should be dissipated, and the Vines will recover. If *not* satisfactory, however, please send us fresh leaves in damp moss.

Roots of Echeveria retusa destroyed.—*E.D.*: The grubs at the roots of your plants of Echeveria are those of one or two species of Weevil, namely, the Black Vine Weevil (Otiorhynchus sulcatus) or the clay-coloured Weevil (O. picipes), but most probably the former, as it is more often found in hothouses than its cousin with the clay-coloured coat. The best plan would be to take cuttings at once of the Echeveria and thereby secure a clean stock for next year's work. Put the cuttings in soil that has been baked to kill any young grubs that may be in the same, though we think that the Weevils may have been bred from eggs laid by Weevils already in the house. The old soil in the pots should be burned or buried 3 ft. deep to prevent the grubs from reaching the perfect state and returning to trouble you. At the same time see that all cracks and crevices of the walls of the plant houses are cemented so as to prevent the old or perfect Weevils from hiding there and coming out at night to carry on their depredations. Remove all loose boards or anything else in the houses that would afford shelter to the Weevils. You may, however, keep a few pieces of board that you may use as traps by having them slightly raised so that the Weevils can take up their abode there at night. You can then examine them in the morning and destroy any Weevils you may find lurking there.

Black Spots on Leaves of Stephanotis.—*E. T.*: The several specimens which we subjected to the test by the microscope all showed structure clearly enough We tested the small black spots first with a good ½ in. objective, and then the ⅛ in. objective which made them quite clear as to structure. They are not of a fungoid nature, but scale insects which have settled down, and had been developing the scaly covering which gives rise to the name scale as used by gardeners, or scale insects which puts the name in a clearer light. Along the middle of the scale a short ridge may be seen under a hand lens; but under a high power this appears as an oblong clearer line with less defined structure. The rest of the scaly covering is made up of cells something between square and oblong in outline. Evidently they had been killed by the XL All fumigator, unless they died after the leaf had been plucked and allowed to dry, for that alone would soon kill suctorial insects through starvation. If any fresh development should occur we should be pleased to have specimens.

Doubtful Species of Grass.—*A. Loydell*: The two grasses, Alopecurus geniculatus and A. fulvus, are certainly closely allied, and on casual observation might appear to be the same thing. If you have both species and examine them closely you can easily see differences, however, even with a lens, and some of them with the naked eye. Taking A. geniculatus first, you will observe that the barren and the flower glumes are dark at the tips. The awn upon the back of the flower glume is inserted near the base of the same, and is almost twice as long as the glume. The anthers are purplish when fresh. These points you can observe as above mentioned. In the case of Alopecurus fulvus you will find that the glumes are all very pale; and that the awn is inserted near the middle or slightly below the middle of the flower glume, and extends only a very short way beyond the latter. Owing to its shortness and pale colour, you cannot see the awn in this species by looking at the spike with the naked eye. The anthers are yellow or tawny yellow when fresh. In the case of A geniculatus you can easily see the long dark awn with the naked eye. Your specimens belong to A. fulvus.

Samphire for Pickles.—*Maritime*: It should be fairly easy to cultivate a quantity of this seaside plant sufficient for your own use If you cannot get enough plants growing in positions where you could dig them up with good roots, you might be able to get seeds either from the seedsmen or from wild specimens. Take out the natural soil to a depth of 18 in., and mix a quantity of it with sand (from the seashore if possible) sufficient to fill up the bed again. This should be done at once. Next month you can plant the roots or sow seeds, whichever you can get in lines 1 ft. apart. A distance of 9 in. at least should be allowed between the plants in the row. At the proper distances you could drop in three or four seeds, covering them with about ½ in. of soil, and leave the strongest seedling after they have made a few leaves. The after culture would consist of keeping the bed clear of weeds, and watering it once or twice a week with sea water, or with water in which you have dissolved about an ounce of salt to the gallon. The bed should be made in a slightly shaded position, but not under the drip of trees.

Names of Plants.—*A. J. B.*: 1, Cornus mas; 2, Nuttallia cerasiformis; 3, Forsythia suspensa.—*W. D*: 1, Anemone Hepatica rubra; 2, Scilla bifolia; 3, Scilla sibirica; 4, Helleborus antiquorum.—*M. C*: 1, Dendrobium crassinode; 2, Dendrobium findlayanum; 3, Dendrobium nobile var.—*A. L.*: 1, Akebia quinata; 2, Acacia ovata; 3, Acacia verticillata; 4, Narcissus odorus rugulosus; 5, Narcissus Jonquilla; 6, Nephrolepis Duffii.—*T. A. S.*: 1, Cyrtanthus Mackenii; 2, Erica persoluta alba; 3, Erica hyemalis.—*Alex. Brown*: Leucojum vernum.—*T. S. D.*: 1, Codiaeum (Croton) Van Oosterzei; 2, Begonia Gloire de Sceaux; 3, Begonia margaritacea; 4, Begonia haageana; 5, Begonia manicata; 6, Begonia suaveolens.

Communications Received.—Doonfoot.—A. W. Godwin.—R. M.—Barr & Sons.—Howard Ruff.—H. N. Ellison.—D. C.—A. M.—W. H.—S. V.—R.

TRADE CATALOGUES RECEIVED.

BARR & SONS, 11, 12 and 13, King Street, Covent Garden, London.—Barr's Hardy Perennials, Alpines, Aquatics, &c.

FREDERIC ADOLPH HAAGE, jun., Erfurt, Germany.—Special Offer of Choice Cacti, Succulents and Seeds thereof.

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FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

MARCH.

26.—R.H.S. Committees; Brighton and Sussex Horticultural Society Show (2 days).
27.—Liverpool Horticultural Show.
29.—Blackheath Horticultural Society Meeting.

APRIL.

3.—Royal Caledonian Horticultural Society Show, Edinburgh (2 days).
4.—Linnean Society Meeting.
6.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
9.—R.H.S. Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society Spring Show (2 days).
10.—Shropshire Horticultural Society Show at Shrewsbury.
22.—Chesterfield Spring Show.
23.—R.H.S Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

MAY.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting
7.—R.H.S. Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.

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The Gardening World

Edited by J. FRASER, F.L.S., F.R.H.S.

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Editorial matters are to be addressed to **the Editor.**

All other communications and Remittances must be addressed direct to the Proprietors—

HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, April 3rd.—Royal Caledonian Horticultural Society's Show, Edinburgh (2 days.)

THURSDAY, April 4th.—Linnean Society's Meeting.

SATURDAY, April 6th.—Royal Botanical Society Meeting; Société Francaise d'Horticulture de Londres Meeting.

JOHN CLAUDIUS LOUDON—A SKETCH.—In 1803 Mr. Loudon turned his face southwards, arriving in London. The next day he called upon Mr. Sowerby, Mead Place, Lambeth, whose museum of mineralogical specimens greatly impressed Loudon on account of their admirable arrangement,

and gave him an idea upon which he improved for his own books and papers. Dr. Coventry had given him a large number of letters of introduction to noblemen and landed proprietors, so that he was soon actively and extensively engaged in landscape gardening. Accounts of his journeys to various parts of England were regularly recorded in his journal, together with the many improvements upon the existing order of things which suggested themselves to his mental activity, and which he afterwards carried out so far as lay in his power. Others happened upon some of his discoveries in after years and took upon themselves the credit of the inventions, without, perhaps, being aware that he had suggested the same thing years before. He was frequently urged to assert his prior claim, but he always answered that the man who made a thing useful to the public had greater claims upon the same than its inventor. In this respect Mr. Loudon amply testified to the deep seated public spirit that possessed him, and the lack of selfishness that pervaded his disposition towards his fellowmen. When writing a book he strove always to get the best possible information upon the subject in hand regardless of trouble or expense. He was actuated by these feelings from his first arrival in England till the day of his death and his journal abundantly testified the fact.

The London of Loudon's first acquaintance must have been vastly different from what it is to-day, for he was much struck with the gloomy appearance of the gardens in the public squares, which were almost entirely planted with Scotch Firs, Yews and Norway Spruce. They must have had peculiar views about town trees in those days. During his first year of residence in London he published an article in *The Literary Journal*, entitled "Observations on laying out the Public Squares of London," in which he freely blamed the prevailing taste, and advised a more liberal use of deciduous trees, including Oriental and Occidental Planes, Sycamores, Almonds, &c., which would withstand the smoke of London that made the evergreens look so grimy and gloomy. If smoke was troublesome then it must be many times more so now. His suggestions have since been abundantly realised. About this time he became a Fellow of the Linnean Society, probably through the influence of Sir Joseph Banks (to whom he had a letter of introduction) and who till his death in 1820 remained his warm friend. At the house of Sir Joseph Banks he met most of the eminent scientific men of that day, and their influence may be traced in his journal.

Next year (1804) he was employed by the Earl of Mansfield, Scone Palace, to alter the gardens there, so that he returned to Scotland where he stayed for some months, and laid out gardens and grounds for many landed gentlemen, at the same time giving directions for the planting and management of woods, draining and otherwise improving estates. While thus employed many new ideas occurred to him, which he embodied in the form of a book which was published in Edinburgh by Constable & Co., and in London by Longman, Hurst, Rees and Orme. With Messrs. Longman he continued to transact business for nearly forty years. In his introduction to this book he wrote that trees were the most striking objects that adorn the face of inanimate nature. Without this accompaniment the hills, valleys, rivers, rocks and mountains of Europe could but present a bleak, savage and uninteresting aspect. A naked country, he continued, was without intricacy to excite curiosity or fix attention, and both eye and brain were kept in a state of perpetual weariness and fatigue. In a wooded country the scene was continually changing and the various combinations relieved without distracting the eye, and engaged the mind without fatiguing it. Then he dealt with the utilitarian aspect of the question, and the dependence of the British Empire for timber to build its "wooden walls." The planting of timber was encouraged by every polished nation. Even the Romans were great tree planters according to the testimony of some of their most celebrated writers. Before leaving Edinburgh, he published another book entitled *A Short Treatise on Some Improvements lately made in Hothouses.*

This last named work is dated 1805, and in that year Mr. Loudon returned to London, electing to travel by sea. The weather proved so rough that he was compelled to break the voyage at Lowestoffe, and for that reason took such a disgust at the sea that he never again adopted that means of transit if it was possible to get to his destination by land. On arrival at London he at once resumed his labours as landscape gardener. The thoughts that were uppermost in his mind generally found their way to his journal; and amongst other ideas committed to paper were some opinions as to the best means of harmonising colours in gardens. Strange to say these opinions were very closely duplicated by M. Chevreul in his work published in Paris in 1839 under the title of *De la Loi du Contraste simultané des Couleurs.* Loudon's idea, taking the simple colours, blue, red and yellow, was that a compound colour should be placed next to each of them in arrangements. For instance, purple, a mixture of blue and red, should have yellow next to it; that orange flowers, being a combination of red and yellow, should be placed in juxtaposition to blue, and so on. He argues that it takes three parts to make a perfect whole; and compared the union of the three primitive colours with the common chord in music. In whatever way he arrived at this conclusion it must be acknowledged that he has had a wide following in this line of thought. Besides the expression of the same idea by M. Chevreul of Paris, it has more recently been confirmed by Mr. F. Schuyler Matthews, of Campton, N.H., U.S.A., who in 1893 said that it is well established knowledge that there is a connection between sound and colour, or in other words that harmony in sound and harmony in colour have a common basis. According to the memoir of Loudon's life the idea had also been worked out by several able writers. Loudon also formed the plan of a Pictorial Dictionary with the intention of accompanying the text with woodcuts. In the following year (1806) he published a *Treatise on Farming* with a very lengthy title. This was the largest of his earlier works and contained some masterly copper plate engravings of landscape scenery from his own drawings. These with the addition of descriptions were published as a separate work in 1807.

He was extensively engaged in landscape-gardening in 1806, and while travelling from Trè-Madoc in Carnarvonshire, to London, he had to travel on the outside of a coach during a night of rain, and, neglecting to change his raiment on arriving at his destination, he caught a severe cold, which brought on rheumatic fever which finally settled in his left knee and left him with a stiff joint from which he never recovered. The ailment proved a source of annoyance to him for the remainder of his life, notwithstanding his health and vigour of mind at the period of contracting the complaint. He took lodgings at a farm house, Pinner, near Harrow, and while endeavouring to recuperate, he passed the time by painting landscapes, some of which were hung at the Royal Academy; and learning German, paying his expenses by selling translations as on former occasions. Greek and Hebrew were also studied; and in his journal is evidence that he was upbraiding himself about the neglect of his studies since he came to London three years previously, and asking himself what he had done to benefit his fellow men, although he was twenty-three years of age, and, perhaps, one-third of his life had passed away. During his stay at Pinner he took a deep interest in English farming, and felt anxious to correct the faults he had observed. Wood Hall, where he had been staying, was to let, and he wrote to his father explaining the capabilities of the soil and the bad state of the husbandry, at the same time urging him to take up his abode in England. His father coincided with his views and rented the farm, where the son continued to reside. During the following year the subject of these remarks wrote a pamphlet on *An immediate and effectual Mode of raising the Rental of the Landed Property of England. . . . . By a Scotch Farmer.* This pamphlet, amongst others, attracted the attention of General Stratton, the owner of a large estate at Tew Park, Oxfordshire, who offered him a portion of the property on condition that he should undertake the superintendence of the whole with the view of improving it. Great Tew, the name of the farm taken by Loudon, was about 18 miles from Oxford and extended to 1,500 acres. He found it very badly laid out for husbandry and devoid of proper roads. The buildings upon it and drainage were equally bad. Mr. Loudon established upon it a sort of college for agricultural students, many of them sons of landowners, whom he took under his own personal supervision. Others intended for land-stewards and farm-bailiffs were placed under his bailiff. In 1809 he published another pamphlet concerning the college at Great Tew and the improvements effected upon the same.

A passage in this work refers to his favourite pursuit of landscape gardening and the unfortunate circumstance that prevented him from carrying it out or rather from pursuing it as his life work and entire means of subsistence. Memoranda which he left show, however, that he still continued the superintendence of landscape work of considerable importance in various parts of England, Wales and Ireland, till the end of 1812. Previous to this he had given up Great Tew, and finding that he had accumulated something like £15,000, he resolved to relax his labours somewhat, and go abroad in quest of knowledge. Before doing so he published a work on the laying out of pleasure grounds, the construction of plant houses, planting, &c.; and another on Scotch farming in England. The last named work contained many interesting particulars about Great Tew, rented by himself and the two farms, Wood Hall and Kenton Lane, rented by his father. The latter had only been in England from 1807 till his death in December 1809, when his farms were re-let at an advance of £300 on the previous rental. Loudon also recived a considerable sum for the lease, stock and improvements he had effected between 1808 and 1811.

(To be continued.)

Covert.—To form a dense, warm, and strong covert which will combine also beauty and neatness, we can recommend the common Laurel Cherry (Prunus Laurocerasus). It requires of course to be kept pruned.

The Orange Tree will mature as many as 20,000 fruits on a good sized tree. The Lemon can only ripen about 8,000 lemons.

Mr. James K. Meston, who has been head gardener for the last five years to Mr. Baird of Auchenbowie, Bannockburn, Stirlingshire, has been appointed in a similar capacity to E. J. Dickson, Esq., of Springbank, Stirlingshire. Mr. Meston takes up his duties immediately.—*D.M.*

The Gardeners' Royal Benevolent Institution.—His Majesty the King has been graciously pleased to continue his patronage of the Gardeners' Royal Benevolent Institution. We may remind our readers that the 62nd Festival Dinner in aid of the funds of this Institution will take place on May 22nd, the first day of the Temple Show, when Lord Llangattock will preside. The Secretary will gladly receive the names of any gentlemen who would kindly act as stewards, or who would like to attend the dinner. Offices, 175, Victoria Street, London, S.W.

Hamilton and District Gardeners' Association.—Dear Mr. Editor, I was not aware that I had committed an offence when I reported in your paper, p. 421, the Hamilton young gardeners' dance. Nevertheless they are members of the same association (*and their friends*). The secretary, Mr. D. M. Burns, is one of the members of committee of the H.and D.G. and F. Association. With regard to Innes being one of the M.C.'s instead of Jones, the mistake is a printers' error, not mine.—*J. M.* [Yes; a printers' error. Ed.]

Beckenham Horticultural Society.—On March 22nd, Mr. Mount, the well-known Rose grower of Canterbury, gave his experience to the members of the above society on growing Roses in pots. Mr. Mount dealt with his subject in a very interesting way, from the first potting of the Rose to their flowering; what soil best suited for the Rose; when to prune; what manures most suitable to give colour to the flower; temperature he finds most suitable to get the substance in foliage as well as the flower. Some splendid blooms of La France, Mrs. J Laing, Captain Hayward, and some Teas were exhibited by Mr. Mount. A very interesting discussion followed, after which a hearty vote of thanks was accorded to the lecturer.

"Thompson's Gardener's Assistant." — The Gresham Publishing Company informs us that the third volume of the new edition of "Thompson's Gardener's Assistant," which is coming out under the editorship of Mr. William Watson, Kew, and which has been considerably delayed in publication, will be ready next month. The delay that has taken place, Mr. Watson explains, has really arisen from the effort to have the work thoroughly up-to-date, to secure which the final revision of certain important articles was postponed until the last moment, when, unfortunately, it was found impossible to get these articles put through with sufficient expedition, owing to the illness of some of the contributors. The necessity of waiting for certain plants to be in condition for illustration has also caused delay. The editor does not anticipate that similar delays will occur in the case of the remaining volumes.

A National Sweet Pea Society.—At a well attended public meeting of persons interested in the cultivation and exhibition of the Sweet Pea, held at the Hotel Windsor, on the 26 b inst., Mr. George Gordon, V.M.H., in the chair, it was unanimously resolved on the recommendation of the general committee of the Sweet Pea Bicentenary Celebration, to then and there form a National Sweet Pea Society; and an executive committee of all classes of horticulturists was formed to prepare rules, nominate vice-presidents, &c., and draw up a draft schedule of prizes to be offered at an exhibition to be held during the coming summer. Mr. George Gordon was appointed chairman of the committee; Mr. N. N. Sherwood, treasurer; and Mr. R. Dean, secretary *pro tem.* In order that no time should be lost in perfecting the organisation the executive committee will meet at once and push on the work without loss of time. A considerable number of names were banded in as members and the minimum subscription was fixed at five shillings. Communications respecting the newly formed Sweet Pea Society may be addressed to Mr. R. Dean, 42, Ranelagh Road, Ealing.

Green Manuring—If the economy of using green manure for many crops was more fully understood it would be much more extensively resorted to. The result of green matter decomposing in the soil is to supply it with such useful ingredients as carbonic acid, ammonia, and other nitrogenous substances. Great advantage is gained by growing a leguminous crop after harvest and ploughing it in. All the Leguminoseae (Pea family) are very rich in nitrogen. They differ from other plants in having power to utilise the free nitrogen of the atmosphere through living in symbiosis with certain micro-organisms in the soil. By obtaining their nitrogenous supply in this manner they do not exhaust the soil, but when ploughed in greatly enrich it. In fact, one acre of Lucerne ploughed in would supply as much nitrogen to the soil as 12,000 lb. of farmyard manure.

Croydon and District Horticultural Mutual Improvement Society.—The usual fortnightly meeting was held in the society's room at the "Sunflower" Temperance Hotel, on Tuesday evening, the 19th inst. Mr. W. J. Simpson, who was in the chair, was supported by a good attendance, several new members being nominated. The evening was devoted to "Questions and Discussions," and proved both profitable and interesting. The subjects discussed were "The Shanking of Grapes," and "Fixed *v.* Movable Shading." There was a very beautiful display of Orchids on the tables. Mr. M. E. Mills, gardener to Frank Lloyd, Esq., Coombe House, exhibited a fine well-flowered plant of Cattleya Trianaei, with seventeen flowers, also a plant of Cypripedium rothschildianum, with a spike carrying three fine flowers. Mr. W. J. Simpson, gardener to C. H. Walker, Esq., Falkland Park, South Norwood Hill, brought six finely flowered plants of Dendrobium Ainsworthii. To Mr. Mills and Mr. Simpson the society's vote of thanks was awarded for their excellent exhibits.

Devon and Exeter Gardeners' Association.—To members of the Devon and Exeter Gardeners' Association, at the Exeter Guildhall, on March 16th, Mr. James Mayne, gardener to the Hon. Mark Rolle, Bicton, read an interesting paper on "Methods of Propagation." In the course of his remarks, he said that many and varied were the ways gardeners adopted to increase their stock, but seed was the most natural mode. Speaking generally, plants from seed were much more healthy and vigorous than those raised by any other method of propagation. On the other hand, they could not always depend upon their coming true, though at the present time, thanks to their energetic nurserymen, they were much nearer the goal than ever they could have hoped, owing to their selection and saving from the very best varieties only. In a great many instances the best time to sow the seed was as soon as it was ripe, but there could be no doubt that spring was the most natural time. After dealing at some length with the treatment of plants and seeds, Mr. Mayne referred to propagation by division. This was a most certain and safe way of increasing one's stock if it was carefully carried out at the proper time. It was best done in the autumn or spring, just as growth was starting. Propagation by runners was a very expeditious way of increase. Wet weather suited this method much the best, because if it was very dry few or no roots struck into the soil. Layering, too, was a convenient way of increase, and was usually performed on large shoots or branches by being bent down and brought into direct contact with the soil. This was generally best done about October. Ringing was another mode, practised by cutting an inch or so of bark clean away around the branch or stem, and placing soil over it or tying moss up and keeping it well moistened. Mr. Mayne touched upon several other methods, including "cutting," "grafting," and "budding," and in conclusion he said that while he did not claim to have brought forward anything new or sensational, yet something would have been achieved if only gardeners, especially the younger generation, would take a deeper interest in the reproduction of fruit, flowers, and vegetables. Mr. T. Slade, Poltimore Park Gardens, occupied the chair, and exhibited some very fine blooms of Amaryllis, measuring 10 in. and 11 in. across, and very gorgeously coloured. He also showed beautiful Cannas with handsomely blotched flowers, very gay for winter decoration of the conservatory.

Messrs. Barr & Sons' Hardy Perennials.—With the spring of the year comes the "Catalogue of Hardy Perennials, Alpines, Aquatics, &c." annually sent out by Messrs. Barr & Sons, King Street, Covent Garden, London. As usual it is full of all kinds of hardy plants for which they have been celebrated for many years, and contains some pages of novelties in this class of plants, which will be eagerly scanned by all collectors and lovers of hardy plants; and these it must be conceded are annually growing in number and importance. Hardy plants, from whatever point of view we look at them, are indispensable to the decoration of the cottage garden or the lordly mansion. The annual expenses attached to the upkeep of a collection of hardy plants is very small compared with those of plants kept under glass, and though the latter may be considered indispensable, especially during the winter months, yet the hardy plants in most parts of the country span the year in greater or less numbers, and afford the means or create the desire on the part of the owners to go into the grounds or garden to see the hardy and highly interesting subjects of each passing week or month; and in proportion to the quantity of them grown so will the place be adorned and their owners' interest be excited by the same. In taking a glance through the novelties on pages 1 to 4, we note Adonis amurensis, Alyssum saxatile fl. pl., several new varieties of Anemone japonica, Arabis alpina flore pleno, Aster Amellus Framfieldi, A. A. Riverslea, Campanula carpatica Riverslea, Conandron ramondioides, Eomecon chionantha, Hepatica angulosa alba, Heuchera micrantha rosea, Jankaea Heldreichii, many varieties of Lathyrus latifolius, Lithospermum Gastoni, Ononis rotundifolia splendens, Polemonium confertum melittum, Statice Fortunei, Schizocodon soldanelloides and many other interesting things, a good percentage of which have received Awards of Merit and First-class Certificates at the hands of the R.H.S. The rest of the catalogue is occupied with many interesting subjects not yet widely enough cultivated, with descriptive information of a valuable character to all plant lovers.

AZALEA INDICA.

The highly ornamental varieties of this superb genus are deservedly universal favourites, being invaluable for the decoration of the conservatory, house or dinner table; and for wreath or bouquet making they are unsurpassed. Few hard-wooded plants will stand so much cutting, provided they are well attended to afterwards, and encouraged to make young growths. As exhibition plants they are unequalled; anyone visiting our spring shows must have been struck with their gorgeous colours. They are plants of easy culture and may be had in bloom from Christmas to May, or even June. Of course, to manage this a fairly large collection and a forcing house are essential. Still, anyone possessing a small greenhouse may successfully cultivate them, and enjoy their flowers for many weeks every spring. As the flowers wither remove them and place the plants in a temperature from 50° to 60°, giving air when the weather is favourable, and using the syringe freely. A sprinkling of Thomson's Manure will greatly assist at this time, unless it is thought desirable to repot, which should only be done every second or third year—large specimens at much longer periods (exception, of course, being taken to plants that have become unhealthy through bad drainage or other causes). Have the pots thoroughly cleaned and carefully crocked. Pot them firmly, using three parts good peat, one part loam and leaf mould, with sand and charcoal freely added. Gradually harden off and stand them out of doors in summer.—*J. M., Market Drayton.*

CALANTHE VEITCHII.

This grand winter flowering Orchid now requires attention. It is deciduous, roots and foliage dying away, and requires repotting yearly. As soon as the new growth commences carefully remove the old soil from the pseudobulbs, shorten the old roots to within an inch, crock the pots a little over half full, always using clean pots and crocks. Fill the remainder of the pot with soil, using a compost consisting of turfy loam, good sound peat, leaf soil, and dry cow manure, chopped sphagnum moss, with coarse sand and charcoal to keep it sweet and open. Place the new bulb on the soil, burying it only sufficient to keep it steady. Pot moderatly firm, and

when finished the soil should be high in the centre of the pot. Three or four bulbs of an equal size may be potted together, using 6-in. or 7-in. pots according to their strength, keeping the new growths outward. When potted place in a temperature about 80°. They will require very little water until started well into growth. They will then take plenty. Keep the atmosphere moistened, air and shade lightly in bright weather. As soon as the flower spikes commence to show, water with weak manure water, but gradually withhold water as the foliage dies away and the flowers commence to open. When fully open they will keep better colour and last much longer if removed to a cooler and dryer house about 60°. Their graceful sprays are useful for decoration.—*E. Ireland, Aldergrove.*

CAMPANULAS.

Campanulas vary much in habit, and the quick growing annual kinds may be disposed of by saying that they only need be sown in the borders where they are to flower. But the Canterbury Bell, the Chimney Campanula (C. pyramidalis) and a few of the others require more careful cultivation. By sowing early in a gentle heat and nursing the plants with a little care, most of the biennial and some of the perennial kinds will flower the same season. It must be remembered, however, that hardy plants will not endure much heat, and therefore when the seedlings have made a little progress in comfortable quarters, they must have as much light and air as they can endure without giving them a check, and be planted out early, unless it is intended to flower them in pots, for which the Chimney Campanula is well adapted. A light rich soil and good drainage is essential at all times and they should never flag for want of water as this will not only impoverish them but render them a prey to green fly or red spider. To raise a stock of the varieties of Canterbury Bell sow at any time from April to July in a frame or border, and get them pricked out early to become strong and short. Transplant in August or September to stand the winter or bed them in a frame. In the spring plant them out with care in the place they are to flower.—*Albert Marks, 4, Orchard Terrace, Chichester, Sussex.*

DRILLS *v.* BROADCAST.

With regard to the growing of the seed there is perhaps little difference in the above methods, except that when once the beds are prepared, as much broadcasting can be done in an hour as drilling in a day. Drilling, however, makes up for this after, being much more easy to keep clean and thin out. But I see most of the large market gardens in this neighbourhood broadcast their seeds, and employ a small army of cheap labour to weed and thin out, &c. On the other hand farms rarely broadcast, and the large drills used make perfect work; the straight, regular drills adding much to the appearance of the fields in the spring.

There can be no doubt a small cheap hand drill would be of great use in the garden, saving time and seed; also improving the appearance of the work. Some twenty years ago I got one of those on sale then, but I did not find it answer. I have lately seen some American drills on sale. Perhaps some of your correspondents can give us their experience of such, it might be interesting as well as useful.—*R. Mullins, Bristol.*

CANNAS.

Thanks to the skill of the hybridist, the great diversity of fine coloured flowers and foliage has rendered the Cannas indispensable for the decoration of the flower and subtropical garden. Though few plants are more easily grown they will well repay the cultivator for liberal treatment and plenty of moisture. Seed should now be sown in heat; a Cucumber pit is a good place, and as the seeds are very hard, soak in water for two days before sowing to assist germination. Sow the seeds singly in 3-in. pots to avoid injuring the young brittle roots when pricking off. They should be grown on in a temperature of about 60°, and shifted into larger pots as required, the soil used being very rich and porous, equal parts, loam, rotted manure, peat and sand. By May they should be moved into 6-in. pots, and by the first week in June be filled with roots ready for planting out in a bed of rich soil in a rather sheltered position where they will flower throughout summer and autumn. Old plants may also be divided now, each bud with a portion of the root-stock will form a plant. Pot up into 4-in. pots, using a rich soil and the same temperature as before, but keep them well syringed to assist them to start into growth. Plants in 10-in. pots form suitable subjects for conservatory decoration; supply liberally with manure when the pots are filled with roots.—*C. F. B.*

FUCHSIAS.

Old plants that were placed in heat the beginning of the month, will now have put forth young growths freely. If these are taken off, inserted in moist pans of silver sand, and placed in a good brisk bottom heat; they will quickly strike. By frequent shiftings and growing on good plants can be had by the end of May. The Fuchsia is a gross feeder, and delights in a compost of loam, good manure, and leaf soil. During the time the young plants are making growth, if the weather be bright and sunny, they will benefit greatly if syringed overhead twice a day. This also tends to keep the foliage clean. The Fuchsia requires a great deal of water when growing vigorously. Some prefer to stand their plants out in the open air in summer where they can be shaded during the hottest part of the day. Then in late summer they will embellish the greenhouse until the Chrysanthemums show their flowers. As to the shape of the plants I prefer the pyramid, though by judicious pinching a cultivator can grow his plants into almost any shape he pleases. About the end of October, when the plants go out of flower, prune back, place in a house to winter and keep moderately dry.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

SEED TABLE.

This is the time of year when everyone is working in their garden, and sometimes one is not sure whether to use some of the previous year's seeds or not; but the following table shows the *latest* periods at which the seeds most generally in demand may be expected to grow freely:—

Cabbage tribe, 4 years.
Leguminous culinary vegetables, 1 year.

Esculent Roots.
Beet, 10 years
Turnip, 4 years
Carrot, 1 year
Parsnip, 1 year
Radish, 2 years
Salsify, 2 years
Skirret, 4 years.
Scorzonera, 2 years

Acetarious Plants
in general, 2 years
Lettuce, 3 years
Endive, 4 years
Mustard, 4 years
Taragon, 4 years
Sorrel, 7 years
Celery, 10 years

Pot Herbs
in general, 2 years, but Parsley will grow at 6 years
Dill and Fennel, 5 years
Chevril, 6 years
Borage, 7 years
Marigold, 3 years

Spinaceous Plants.
Spinach, 4 years
White Beet, 10 years
Purslane, 2 years

Alliaceous Plants,
2 years

Asparaginous Plants.
Asparagus, 4 years
Seakale, 3 years
Artichoke, 3 years
Cardoon, 2 years

Sweet Herbs,
generally, 2 years. but Rue and Rosemary, 3 years
Hyssop, 6 years

Sundry Seeds.
Rhubarb, 1 year
Gourd and Pompkin, 10 years
Tomato, Capsicum and Egg plant, 2 years
Annual and biennial flower seeds, generally, 2 years, but it is with difficulty with some the second year. Perennial seeds the same.

—*T. S. Dick, Castlemilk, Lockerbie.*

HYDRANGEAS.

I would like to supplement the article in last week's issue on the propagation of these as well as the after treatment. Cuttings can be taken off in July from outdoor bushes, placing four or five in a 4-in. pot of light sandy soil. Standing them under a frame or handglass under a north wall is the best, for here no shading will be required and the young shoots will not get drawn up. Syringe two or three times a day, keeping them close, of course; in four or five weeks they should be ready to pot up singly, still keeping them in the same position for ten days, when inure gradually to the air, finally standing outside in a sunny spot and housing before sharp frost occurs. Repot them into 4¾-in. and 5½-in. pots early in January and place the pots in a vinery or Peach-house just started. These should be in flower by the first week in April. We have them in flower now under this treatment. Thomas Hogg, the white one, is especially good for early work. Feed with weak guano water as soon as you can see the head of bloom. Dust with tobacco powder for green fly, as under early forcing the surroundings favour this aphis. Old plants after passing out of flower should be cut hard back, placed in a temperature of 60° and kept well syringed. When nicely started shift into a size larger pot, using good loam, a little bone meal and leaf soil. When growth is well advanced place outside, giving all the sun possible. These make a nice succession to the single stem plants and most of the shoots should carry a truss of bloom; any that do not can be taken off for cuttings and will flower early the following year.—*Experience.*

ANEMONE ST. BRIGID.

This I consider one of the most useful spring and autumn flowering, hardy perennials for cutting or for borders, the flowers being double, semi-double, and single, with a range of colours from the most brilliant scarlet to purple and white. At first I failed to grow them satisfactorily, but with perseverance have succeeded, and at the present time, March 22nd (although our thermometer has registered about 10° of frost each morning for the last week, with a biting east wind), we have a splendid display of these beautiful flowers on the open ground. The flowers naturally close at night, which saves them greatly from sharp frosts. To grow them well select a dry south border with deep rich soil, which should be trenched two spits deep the previous autumn, a liberal supply of farmyard manure being placed underneath the top spit. About the end of March the ground should be made fine, the drills drawn about 3 in. deep and filled with sand in which shallow drills are drawn for the seed, which should be prepared for sowing by being well mixed with sand to insure its being properly distributed in the drills. Then cover and firm with the back of a rake. The plants may either be transplanted in autumn on ground prepared as above or allowed to remain where sown, when good results are sure to follow.—*D. Buchanan, Ayrshire.*

STARTING BEGONIAS.

It is not my intention, by again writing a few remarks on the above subject, to denounce Mr. C. Blair's method of Begonia culture, but simply to give my idea of cow manure for potting purposes. As regards its fertilising properties it is slower in its action than other manures, but more lasting. Of equal weights of horse and cow dung the former is the more fertilising; but taking bulk for bulk of each it is inferior to cow dung. But not so much as a stimulant was my method of adding to the compost, as for its property of retaining moisture so long; thereby less watering is necessary, which, I said and consider still, is more beneficial in their flowering season. If crushed bones are used in the potting very little artificial manure is necessary; as in themselves they contain a vast amount of plant feeding. Of course, different men different ways all the world over; it would not do to be all of the same mind. But, for myself, I am not a believer in artificial manures when liquid manure can be obtained from horse, cow, or other urinaries; as in my estimation it seems to be more natural and cooling than forcing by artificial manures.—*Walter Hogarth, Norton Gardens, Ratho, Midlothian.*

ERANTHEMUM PULCHELLUM

Is a beautiful stove plant or shrub, bearing blue flowers in great profusion, which is so scarce in this department during the dull months of winter. I find this plant to succeed well and give finest effect in 4-in. or 5-in. pots when kept pinched to form good bushy plants, but if early bloom is wanted unpinched ones will answer well. Annually struck cuttings are more free in growth than old plants, and after this season's plants have done flowering, I cut them down to within 6 in. of their base, and keep on dry side for a couple or three weeks. Young shoots will soon make their appearance. The plants should be placed in a temperature of 50° by night, allowing a rise of 65° to 70° with sunheat, which will make the cuttings

sturdy, if kept near the glass before taking them off. Insert in small pans of sand, and place on hotbed or propagating pit. After rooting, pot into 4-in. pots, using a compost of two parts good loam, one part peat, and silver sand, to keep whole well open. Take care the pots are well drained, place in a cool position near glass; keep close, and shade from sun for a few days until established, after which moderate ventilation must be attended to. Promote slow growth, and use the syringe to keep insects at bay. By the end of September remove them to an airy position in a warm greenhouse, and you will be rewarded by a good display of blue flowers. Weak liquid manure given about thrice weekly (byre preferable), will aid them admirably after the pots are full of roots.—*Northern.*

LARGE *v.* SMALL PLACES.

UNDOUBTEDLY, many young men have been pondering in their minds, to find these grand old gardens referred to, by C. P. C. on page 477. Though I do not quite think they can be classed with the gardening establishments referred to in the discussion through your columns, I also fail to see how a man is to be completed from these grand old gardens, as one or two of our most important branches of gardening I do not think are touched upon at all. Be it so. He would before or after entering them have to come to a smaller place. Perhaps after a few years in these gardens, and a few in the grand old gardens in the same locality, one might be able to find a practical all round man.

If one subject alone is to be studied or one division in gardening, there is no gainsaying but that it could be learnt to perfection; at the same time the subject selected is just as likely to be learnt in a smaller place.

To prove this (if memory serves me right), the largest and heaviest bunch of grapes ever grown was by a single handed gardener. What a young man requires in my opinion is a thorough schooling, whether in nurseries or private gardens, large or small, before he is competent to take a head place, otherwise I cannot see how he is to know whether the work is being done right or wrong. Although I do not mean to say there are not places carried on under such conditions, and most gardeners make a speciality of some subject or the other. At the same time other things under his charge should not be allowed to disgrace him providing strength is maintained.

I do not think a young man's ambition when he takes a place should be the biggest shilling, but whether the work therein is to be to his advantage in the future. At the same time he should be paid sufficient or according to his capabilities.—*W. W., S.*

Gleanings from the World of Science.

THE subjects given below were brought before the Scientific Committee of the Royal Horticultural Society, on the 12th inst.

Double flowers, production of.—Mr. Douglas contributed the following additional observations on this subject. He said, "I can speak of the Carnation and Picotee only from my own experience, and from what I have seen of the garden or German Stock. I have worked upon the Carnation over thirty years, raising a considerable number annually, and always saving the seed from the best double flowers, and the very best varieties in the various classes. Taking the average of seasons I get five per cent. double flowers as good as the parents, twelve per cent. single flowers, of every shade of colour favoured by the Carnation. This would leave eighty-three per cent. of double flowers, but in no respect equal in form to the parents. The finest lot of choice varieties I ever had was in a hot, dry season. The plants were well supplied with water, and many one-year-old plants produced upwards of 200 blooms each. I remember discussing the production of Stock seed some ten years ago with Mr. John Ward, then, as now, a market grower at Leytonstone in Essex. Speaking from his own experience, he informed me that he always obtained the largest percentages of double-flowered Stocks when he saved the seed from plants grown in pots. Subsequently I was being shown over a large establishment in Germany, where enormous quantities of seed were saved, and I found that all the best Ten-week Stock seed was saved in Germany exactly as Mr. Ward saved his seed in Essex. Thousands of flower pots about 5 in. or 6 in. in diameter were arranged on a wooden staging fully exposed to the open air, and I was also informed that it was necessary to grow the plants in this way to make sure of the seed producing a large percentage of double flowers. The Poppy has a greater tendency to produce double flowers than any other plant known to me, and certainly the tendency is greater in rather exhausted soil, as can easily be proved by allowing a bed to sow itself from the previous year's bloom, and the plants to flower on the same ground without making an addition of soil or manure to the bed."

Abutilon Hybrids.—Professor Marcus Hartog sent the following communication with specimens from Queen's College, Cork:—"I send you herewith specimens of some of my new Abutilon hybrids. The male was Abutilon vexillare, and the mother-plant a hybrid of the Darwini Boule de Neige type, which we called 'Petticoat,' from its wide open habit. This plant is an exceptionally free seeder; its flowers are orange streaked with brown, and its leaves show very little trace of variegation. The hybrids all show a marked transverse depression at the insertion of the deltoid calyx-lobes on the tube, and most of them show colour in the calyx, like the male, and some sign of deep red or purple spotting in the depths of the corolla, which in most plants is elongated, like the sire. The one that I have called Blanche has a much more spreading corolla, of more substance than the rest, with a clear tendency to become pleiomerous—to double, in fact. Variegation is very irregular, even in the open ground, and becomes very slight in the winter quarters. It appears as a margination, gradually increasing till the only dark green parts lie along the greater veins. Again, in the open, some of the plants exhibit a marked purpling of the parenchyma on either side of the veins, which I have seen in no other Abutilons. All these hybrids agree in a much more free branching habit, with greater fulness of growth than any others that I know. The more erect ones send out more numerous lateral branches, and do not become leggy, while the spreading ones produce numerous branches that fill up the centre of the plant, and keep it from looking straggling. The summer flowers are at least half as large again as the winter ones that I send. The plants were raised from seed in the autumn of 1899, kept through the winter in a cold orangery, where they made no progress to speak of, and planted out at the end of May last year. In the autumn they were potted off, and have been kept in a greenhouse, far too crowded for them to do well. I may note, that among the Abutilon hybrids that we have the roots are almost always swollen with galls, produced by the nematode Heterodera radicicola, with which the mould Thielavia Hartogi (Butler) co-operates. These galls formed the subject of an interesting research by Dr. Butler, now cryptogamist to the Indian Government, and a preliminary abstract of it was published in the B.A. Report for 1900 (Dover). I have found the addition of soot to the soil useful in checking this disease, though I am not sure that it stops it. I take the opportunity to show an inflorescence of a hybrid Saraca (indica x tetrandra) raised by the late Wm. Crawford at Lakelands, Cork, and acquired by gift of his executors when the collection was broken up at his death. These hybrids, of which we have five distinct forms, are singularly ornamental shrubs for the stove, where they flower for nearly three months, beginning in February."

Though interesting from a scientific point of view, the flowers were not thought to be improvements upon existing plants in cultivation.

Kitchen Garden Calendar.

SEAKALE.—Those who have saved the thick roots of this excellent vegetable when lifting crowns for forcing will now have a good stock with which to make a new plantation. The thickest of the fleshy roots should be selected and cut into 3 in. or 4 in. lengths. To distinguish between the upper and lower end of these roots some cultivators make an oblique cut at the latter. In most cases, however, the two ends, that is, upper and lower are obvious. Some may even dispute whether it is necessary to be particular about the end that should be kept uppermost. The soil should have been deeply dug or even trenched in the autumn, and well manured at the same time. That of a rich and friable nature is well suited to the requirements of Seakale; but if at all inclined to be heavy, a good plan would be to introduce road scrapings and other gritty matter to improve it. If put on now it should be forked into the top spit. The roots may then be planted with a dibber, in lines 18 in. asunder, and about 12 in. from plant to plant. Go over the plantation after the Seakale has started to grow and remove all the weaker crowns, leaving only the best ones. By autumn this, under favourable conditions will be strong enough for forcing. The work may now be accomplished without further delay.

CELERY.—The earliest sowing of Celery should be ready for pricking off into boxes. This may be done as soon as the seedlings are fit to handle, and they will soon get established in the fresh soil if stood near the hot-water pipes in a vinery at work. On bright days the seedlings may be syringed lightly morning and afternoon, just sufficient to wet the foliage. Another sowing of seed may now be made for the main crop.

CABBAGES, BRUSSELS SPROUTS, &c.—No time should now be lost in sowing seeds of all the Cabbage tribe intended for late summer and autumn use. The east winds and the ground as well have been so cold for some weeks past that very little growth could have been made if the seeds had already been in the ground. In any case they will soon come away if the warmer weather, which we are all expecting, comes to the rescue. Prepare beds of friable or easily pulverised soil, which is more favourable to a good bed of seedlings than that of a lumpy or clayey nature. Avoid using ground that has recently been occupied with members of the Cabbage tribe, or even as the seed beds of last year, as the soil is often full of the spores of the Anbury disease which causes clubbing or it may even harbour the Cabbage-gall weevils.

BEET.—A sowing of this may be made for early work. The Turnip-rooted varieties are generally preferred for early work for various reasons. They may of course be sown upon a warm border, otherwise occupied with the roots of trees, where the ground must not be deeply dug. The shelter and warm exposure, as well as the early character of this type of Beet, will insure roots for the earliest supply required for salads during the forthcoming warm period.

CHICORY, SALSIFY AND SCORZONERA.—These plants are all closely allied and have tap roots that penetrate the ground deeply. A rather deep, rich, and by no means heavy soil should be selected for them. The first-named makes an excellent winter salad, and strong roots should be encouraged for lifting and forcing. With it may be included the newer variety known as Whitloof Chicory, which is well adapted for forcing and of excellent quality.

ASPARAGUS.—Sow seeds of this excellent vegetable in order to have young plants coming on for future plantations. The lines should be 9 in. apart, or 12 in. would be better if ground is plentiful. It gives the plants more room to develop and affords facilities for hoeing the ground and keeping the plants clean. The seedlings should also be thinned out so as to leave some inches between them; and in any case no two seedlings should be allowed to struggle together for existence. During April, whenever the weather becomes sufficiently mild and congenial for growth to become active, new plantations from the beds of two year old seedlings should be made. Two lines for 3 ft. beds, or four lines for 4 ft. beds should be sufficient. Choose a fine day and when the roots have been lifted keep them covered up with mats till ready for planting when they should at once be covered to prevent them from getting dried up as that is highly inimical to their welfare.

GLOBE ARTICHOKE.—Fresh plantations may now be made by dividing the old plants or taking off suckers that may easily be detached with roots. Deep rich soil in a sunny position is the best for the Globe Artichoke in order to secure plenty of heads. Sometimes this vegetable is planted in out of the way places shaded by walls or overhung by trees; but under those conditions a satisfactory crop of heads cannot be expected. The ground where it is intended to plant them should have been trenched and well manured in the autumn. Sow seeds if suckers are not sufficient for the requirements.

HINTS FOR AMATEURS.

PLANTS FOR BORDERS AND ROCKERIES.

THE weather has not been at all propitious for gardening in the open, and those who dislike damp soil will have been deterred from gardening. Presently, however, the necessary work will have to be brought up to time, and the planting of hardy herbaceous and alpine plants is a subject that demands immediate attention so that they may get established before summer advances with the possibility of dry times. Plants that are well established pass through those trying times much more easily than those which are newly planted and have had little time to take hold of the soil. Lovers of hardy plants are always picking up something new with which to enrich their collections, and the more enthusiastic will attend to the wants of their favourites no matter what the weather may be. The condition of the soil is the chief thing to take into consideration; but although the weather has been very unsettled and wet for a long time past, there are intervening days, windy they may be, when the soil becomes sufficiently dry to be perfectly workable, especially on borders and rockeries where there is no necessity for much treading in order to fill up what vacancies there may be with the new comers. Some fresh soil should be given where the new additions are to be planted, and the soil should be well loosened or dug up, unless this has been previously accomplished.

Arabis albida flore pleno.—The typical form of this plant is a popular favourite in many gardens, large and small. A. albida variegata is almost as well known and proves useful for the edging of flower beds as its foliage is bright and cheerful all the summer long after the flowers are gone. This applies more particularly to the open country, as in London and other large towns, the filthy deposit from the atmosphere in winter is very detrimental to the soft and hairy leaves which catch and hold the filth that falls upon them. The green form is more vigorous, and that holds good for the double form (A. albida flore pleno) which is yet comparatively new but is finding its way into many gardens all over the country. The double white flowers are produced in succession over a considerable period of time. This plant is admirably adapted for rockeries, falling over the ledges and making an attractive display. It is of the easiest culture and will thrive in the open borders of any garden where the soil is fairly passable

Alyssum saxatile.—Sweet Alyssum is a favourite in many gardens, particularly where summer bedding is carried out, but it is scarcely so hardy as A. saxatile away from dry and sandy places near the sea shore. The profusion of bright yellow flowers produced by it are very conspicuous from various points of view; and while it may be planted in beds or borders, it never looks more at home than on the rockery where its roots are kept dry in winter. The gray foliage also shows that it is a rock plant. Fresh stock may be obtained by taking cuttings and rooting them in sandy soil in a cold frame during summer. An easier and quicker method, if large quantities are required is to save seeds, which are produced in abundance, and sow them in boxes as soon as ripe. By placing the boxes in a cold frame the plants will make rapid progress and require to be pricked out into nursery beds during September or October. If the autumn is fairly mild and open the seedlings will make nice plants for putting into their permanent positions in spring. This may even be done in autumn if the ground is available. The new double variety A. saxatile flore pleno is more handsome and more durable than the type, the flowers being bright yellow and perfectly double.

Aubrietias.—A collection of spring flowering plants can never be complete nor even well represented without some of the beautiful varieties of Aubrietia now available. One of the most handsome of the newer kinds is A. deltoidea Leichtlini, often simply named A. Leichtlini. The flowers are of a rich rose, so bright that a sheet of it becomes conspicuous as far as the eye can see it. There are larger flowered varieties in cultivation, but the bright colour of this one more than compensates for any deficiency in that respect. The best way to keep it true to colour is to divide and replant the old specimens. Some of them come true from seeds, but many of the seedlings are inferior.

Cardamine pratensis flore pleno.—As the wild plant delights in wet meadows it follows that most satisfaction will be got from the double one if planted in a fairly moist position in the garden, not necessarily wet or marshy, but sufficiently moist all the year round to develop a healthy growth. Under such circumstances the beautiful variety under notice produces a wealth of flowers during April, May and June in different parts of the country. The flowers vary in the depth of their lilac colour, and are best or darkest during the earlier stages of their flowering. Double varieties spring up from seeds in the wild state, so that it is possible for finer varieties to be picked up. The Cuckoo Flower, as it is called, may be propagated by division of the pieces in autumn or early spring; but there is a more uncommon method of multiplying the plant. If it is covered with a bellglass or handlight so as to retain moisture about it, small plants are developed upon the leaves, and if the latter are pegged down upon the soil the little plants soon become established.

Dwarf Campanulas.—Every rockery should possess a number of the species and varieties of Campanula for the sake of the profusion of brightly coloured flowers which they bear, and the ease with which they may be managed. Indeed they require very little management at all when once established. except to keep them from encroaching upon their neighbours, or to keep the latter from spreading over the dwarfer Bellflowers. Weeding is another item that has to be reckoned with. One of the most common of the dwarf Campanulas is C. pumila alba about 4 in. to 6 in. high, with pure white flowers. The blue variety of the same species is not nearly so common. An admirable companion for this species is C. pulla, about 3 in. high, and bearing a solitary drooping dark purple flower. It is less conspicuous than the white one just mentioned when viewed from a distance, but on the rockery is exceedingly pretty whether seen by itself or in contrast with the white. Another handsome Campanula is C. turbinata, about 4 in. or 5 in. high, when obtained true, with large blue flowers rising singly from the dwarf tuft of leaves. All the three may be planted in select positions upon the rockery and fully exposed to the sun. The Bellflowers dislike much shading.

Heuchera sanguinea grandiflora.—It seems strange that some experience difficulty in growing this fine hardy plant, or even the ordinary form of it. Friable and fairly rich well drained soil should meet its requirements, and under such conditions it appears perfectly happy in various parts of the country. During a dry summer it should not be allowed to get dried up for want of moisture, as at that time all the Heucheras delight in a plentiful supply, or at least should not be allowed to flag in a dusty soil. The flowers of the variety under notice are much larger than the type, and of a rich crimson scarlet. If the ordinary form is well grown and the large variety badly grown there might be little apparent difference between them, but it pays to grow both of them well. A good friable loam might be liberally enriched with well rotted hotbed manure or leaf soil, either of which would serve to retain the moisture during the drier periods of summer. A border alongside of a path would generally prove more suitable for it than a rockery unless the roots could be sheltered and partly shaded by stones on the north side of the rockery. Several of the species seem to be fond of stones close by or over their roots.

Phlox subulata nivea.—There are two white flowered varieties of this dwarf Phlox, that just mentioned being very uncommon in collections. The flowers are wholly white, whereas those of the better known P. subulata Nelsoni have five violet or purple spots round the eye. Both are, however, very choice and desirable additions to rockery plants, and will thrive on fairly dry spots fully exposed to the sun. They may be increased by dividing the pieces, but it is much more profitable to take half ripened cuttings during July and insert them firmly in pots of very sandy soil. The pots may be stood in hand lights or in a cold frame kept close for a time, and shaded during the heat of the day. When rooted they should be potted off singly, and when re-established placed in an open frame where they may be allowed to finish their growth and ripen off. If protected in cold frames during the winter they make nice plants for the rockery where they may be planted about the end of March or the beginning of April, according to the weather.—*J.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Method of Writing on Zinc Labels.—*T. B. W.*: The method usually recommended by dealers is to write the name on the bare zinc with a pen, using the specially prepared "indelible ink." The labels employed are usually small so as to be as unobtrusive as possible; and if inserted close to the plants to which they belong or even behind the same they are practically concealed from view. This necessitates pulling out the label every time it is desired to ascertain the name of the plant; and if the face of the label is smeared over with mud, it will have to be wiped clean and wetted to enable you to read the name. Even this some people will do without a grumble. Another method of dealing with zinc labels is to paint them with white lead, as in the case of ordinary wooden labels, and to write upon them with a soft pencil while still wet. This will make the labels and names more conspicuous, and might please you better. Try both ways and see which you like best.

Underground Watering or Irrigation.—*Eastern* The system you speak of has not been much employed in this country, so far as we know. The plan is to lay pipes of some sort, generally of iron, perforated in places, at a certain depth below the surface of the ground to be planted and where much watering would be necessary in dry weather, particularly during the earlier stages of growth. The water is then introduced to the pipes by pouring it into a cistern above ground. The advantages are that the pipes distribute the water through the soil in the neighbourhood of the roots, and the moisture rises towards the surface by capillary attraction. The baking of the surface is also obviated, the bad effects of which are seen where much water has to be spread on the ground by means of the hose or watering pot.

Fishbone Thistle for Bedding.—*A. G. W.*: The plants are biennial and have to be raised from seeds annually to get fine foliage, as they run to seed the second year and spoil the beauty of the leaves. You should sow the seeds at once in pots of sandy soil and leaf mould in a warm greenhouse or hotbed of manure. As soon as the seedlings have made one rough leaf they may be pricked off into boxes of soil, using rougher material with less decayed leaves in the bottom. They will root into this and lift with balls of soil at planting time, about the beginning of June. The plants must be gradually prepared for this by gradually hardening them off by giving more air as the weather becomes warmer. For some days before putting them in the beds stand the boxes out of doors in a sheltered place.

Gladiolus The Bride in Pots.—*R. Napier*: You will be very late with this early flowering variety now, but if time is no object it need not matter. Use a compost of good, fibrous loam, a little leaf mould and some well decayed cow manure broken fine. Drain the pots well, using 32 size, as a considerable amount of water will be necessary during the growing period. About five bulbs should be quite sufficient for a pot if you like large flowers. When the pots are getting filled with roots, give weak liquid manure twice or thrice a week. The pots may be kept in frames till the growth is well advanced. As soon as the spikes commence to open their flowers transfer the plants to the greenhouse.

Sweet Peas in Pots.—*G. Gilbert*: They respond readily to pot culture, and you may use pots of various sizes according to your requirements. Very large ones would be unsightly and unnecessary, provided you attend well to their requirements in the way of watering and stimulating with weak liquid manure, both while growing and while flowering. Small pots will serve to restrict the height of the plants, which need not necessarily be tall for conservatory or similar methods of decoration. Never allow the plants

to be bear seed, but remove the flowers as soon as they fade. When the plants have finished flowering cut the stems down to 18 in. in height or thereby and they will throw out side shoots and flower well a second time.

Cold Frame for Raising Tomatos.—*W. K.*: Seeds would take a long time to germinate in a cold frame with the sunless condition of the weather which we have been getting for some time past. You might be able to get a gardener friend to put a pot or two of seeds in one of his warm houses to germinate and make a few rough leaves. By that time the weather should be warmer, but even then you would find it advantageous to make up a heap of fermenting manure, or fill a large box with the same. Tread it down firmly and cover it with a few inches of soil. Then pot off your Tomatos singly in small 60 size pots or long Toms. Plunge the pots in the soil over this fermenting manure and the Tomatos will make perfectly satisfactory progress. A barrow load or two of manure is really all that you want.

Cup Exhibit at Exeter.

TWO CUPS FOR CHRYSANTHEMUMS.

It must be very easy for good growers to take prizes for Chrysanthemums, when they have plenty of time to attend to their plants personally, or superintend others who have the immediate charge of them, if they have at the same time practically any amount of space for their accommodation. The accompanying illustration represents the stand of thirty-six blooms which took the first prize and the Cup, out of ten entries at Exeter on November 8th and 9th last, when want of space prevented us from reproducing the photograph. Mr. Alex. McDonald, gardener to H. St. Maur, Esq., Stover Park, Newton Abbot, was the winner; and independently of the keenness of the competition, we must take into account the fact that the exhibitor had only 105 plants at the beginning of the season from which to cut his blooms. He took prizes at Torquay, Chudleigh and Exeter. The stand also shows a portion of the same blooms which took the first prize and Cup at Chudleigh. That accounts for the two cups seen in the picture, which was taken at Stover Park near the celebrated Juniperus sabina, seen towards the left in the background of the illustration, and after a portion of the blooms had done two double journeys and stood out two shows. Mr. McDonald is handicapped in the matter of time, having charge of the home farm as well as the garden, and did not intend exhibiting until encouraged by Mrs. St. Maur, the lady of the estate, who is passionately fond of flowers and gardening. The exhibitor also received a N.C.S. Award of Merit, besides a number of prizes for Grapes, which he also grows well.

GARDENERS' GRIEVANCES.

I've read with interest the discussion going on under the above heading in the pages of The Gardening World.

Though rather resenting the title when applied to the finest profession in God's creation, I grant there may be some room for discussion when the grievances are caused by the practitioners themselves or their employers.

As a young gardener and one who (I suppose a good many gardeners would say) had been a lucky one, I may not have much room to speak; but at the same time, for the benefits of my young brothers in the profession, I would most earnestly protest against the tone of many of your correspondents' notes *re* "All-round Gardeners."

How many of these are wanted, and how seldom are they found? (You may modify that statement if you think I am wrong.) I believe I am safe in saying that in three-quarters of the moderate sized and large establishments in England the gardeners are men who have got all their training in two or perhaps only one branch of their profession, while the younger men seem in the great majority of cases to be following the same routine. Now, I ask, how can men thus trained expect to manage and control a garden staff in three or four departments in the most economical and best manner?

It would be as well to say that a general could command an army to good effect if he only knew the use and duty of one branch of the service. One of your correspondents says, or at least quotes a friend's statement, though, I suppose, he agrees with it or he would not give it publicity, that an "all-round gardener is an all-round messer."

Now, can anything be more misleading to a young man on the first steps of the profession? There is room, of course, for a few specialists, but the great majority of young gardeners are aiming at being head gardeners one day.

Now in most places of any size vegetables, fruit, and flowers, both inside and out, have to be attended to; so it is surely very backward progress to advise anyone to do one thing well when he is aiming at securing the management of a place where three or four have to be equally well done. It is not necessary for a head gardener to be an expert at the actual performance of every operation, but it is very essential that he should know the routine of work in each and every department under his charge, and also very necessary that he should manage and control such work, so that all the departments may work in harmony to one another; and though the actual carrying out of the details of the work will be left to the foreman in each department. A continuity of purpose is thus secured, a beautiful picture is thus unfolded, which may take many years to form, but the result will be a masterpiece worthy of the designer, be he employer or gardener, and worthy of imitation by everyone, who may have the privilege of doing a small part of such a work.

This may appear a vain dream to such of your readers as Mr. Botley quotes, who refuse to learn their profession because they will only get £1 a week, and have to be generally useful, etc. If that is what they aspire to they may probably get it.

But to my young ambitious friends let me say: "Get a good knowledge of your profession all round if possible. Let one of your references bear testimony to your work in the kitchen garden, another in the pleasure grounds and flower garden, another in the fruit department under glass, and a fourth in plants, etc.; while these should be backed up with enough technical education to teach you, why, each part of your practical work is done.

Now all this is not going to be done in a day, but to the young man just starting his profession, let

him remember it is his life work he is starting, and waste none of the golden years. Circumstances may lead him to start his profession in a garden near his home, but after that let every move he considered—no haphazard shifting for the mere love of change. Let everyone have the prospect of a new experience some way or other, though you may have to wait a little, and possibly have to shift a long way to get it; but neither should be allowed to stand in the way if success is desired. In this way a wide, all round experience will be acquired in the shortest time possible.

In this way the young gardeners of to-day will become the worthy head gardeners of to-morrow Just one word in conclusion. Though the supply may be in excess of the demand, all the head gardeners do not have to work for £1 a week; and although Britain may be the home for training gardeners, do not forget that there is a Greater Britain beyond the seas, where some of you may find your first charge like your correspondent.—*Jim Good, Mount Nelson, Cape Town.*

INSECTIVOROUS PLANTS.

Many strange tales are told of this interesting class of plants. Many people are so credulous as to believe there are plants growing in the tropics that really capture and devour such delicate morsels as dogs, negro guides, unwary hunters, etc. These people often cause endless amusement amongst the gardeners at large botanic gardens by asking to be shown a young specimen if they have one. Fortunately these vegetable terrors exist in name only, but nevertheless many plants do capture their food and exhibit many wonderful pieces of mechanism in doing so. It is not necessary to go into far off countries to see these in their native habitats, for several very wonderful species may be found growing on our British commons.

Perhaps the most common is the Sundew (Drosera). It has a fancy for small flies and a weakness for dining on ants in variety. The plan forms a rosette of leaves which lay close on the ground. The leaves are borne on long stalks and present the appearance of tiny pincushions thickly studded with minute red pins with silver heads, which sparkle in the sunshine, from which feature the plant takes its name. These heads are composed of a sticky secretion, and flies and other small insects alighting on them are held there by the secretion adhering to their feet. Their struggles to extricate themselves only augment the exudation and irritate the other pins which slowly curl over, and in about ten minutes the whole of the pins on the leaf converge on their prey which is soon overcome. The secretion has the peculiar property of causing quick decomposition and as soon as this is complete the meal is ready and the glands of the leaf absorb the food thus ingeniously prepared; and the plant prepares itself for further captures.

The Butterwort (Pinguicula vulgaris) is another plant possessing this power, but its *modus operandi* is quite different. It is often found growing close by the Sundew and like it rejoices in damp surroundings, generally choosing the neighbourhood of springs. Its leaves are flat and slightly turned up at the margins forming small troughs besmeared with a sticky colourless secretion. This plant is more remarkable than the last as it picks and chooses its food, and any object not containing the ingredients required is rejected. Whether it does this through a tendency to dyspepsia has not been told. If a grain of sand or cinder or any substance not containing nitrogen is placed on the leaf no effect is produced; but if a fly settles on the treacherous surface it is fixed there and the liquid rapidly increases, dissolving it and absorbing the product in the same manner as the Sundew. If the insect is caught on the margin of the leaf, where the number of glands are insufficient to accomplish the end in view, the margin turns inward and pushes its victim with it to where there is a more profuse elimination of the digestive fluid.

Venus' Fly-trap (Dionaea) is another of our carnivorous plants. It can be watched with more interest as it closes on its prey in about two seconds. The leaf is divided down the centre by a midrib. The margin is armed with a row of spines. When anything touches some hairs on the surface of the leaf the two halves immediately close together and the spines interlock. Like the last mentioned it picks its food and if the object inclosed is unsuitable the leaf soon releases it again; but if it is a nitrogeneous substance it immediately pours out a substance on it which acts in the same manner as the fluids of those above-mentioned.—*F. C.*

THE APIARY.

Foul brood, or Bacillus Alvei, is one of the principal checks to bee keeping in this country. Once it has obtained a foothold in an apiary it is only by taking the greatest care and using the most rigid methods and cleanliness that the bee keeper can hope to eradicate it. Prevention is at all times better than cure, and by keeping the bees strong in numbers on clean fresh combs, together with healthy prolific young queens and medicating all food supplied we can do a lot to keep the wolf from the door. At one time it was thought that it was only the brood that was affected, "hence the name foul brood"; but recent investigations have proved beyond doubt that both the worker bees and queen may be affected, hence the difficulty of curing. Bacillus Alvei is of itself easily killed when in active state, that is, before all the juices in the affected insect are used up. It has the power to form spores representing seeds and it is these spores that are so difficult to deal with.

The bee keeper may carry these spores from one hive to another when manipulating them, thereby affecting the whole apiary. Honey is another medium whereby the disease is spread for miles around through bees robbing one another. A great many beginners have a difficulty in detecting the disease. Where this is the case they should call in a bee keeper of some standing when a hive shows signs of getting weaker or a sort of listlessness in working when plenty of honey is coming in. Failing one of this kind, he should cut out a piece of comb with brood, place it in a tin or wooden box (to prevent it being crushed), and post it to the Editor, *British Bee Journal*, 17, King William Street, Strand, London, along with a stamped addressed envelope, who will be pleased to give a true decision in regard to it; or it may be sent to the office of this paper when I will be only too pleased to settle the matter.

Healthy larvae have a plump appearance and are of a pearly whiteness, curled up in the form of a C at the bottom of the cell. When attacked by disease it assumes a washed out flabby aspect and straightens out in the cell, the colour changing to a pale yellow and then brown. If the end of a piece of stick is inserted into one of the cells and the mass adheres to it much the same as a thick spittle, you may make up your mind that you have got foul brood. Where the cell is sealed the cappings are slightly sunken in appearance and are perforated by small holes; on removing the capping you find the brown coffee-coloured mass before mentioned.

The sooner measures are taken to cure, the better. Where the bees are weak in numbers and the time not of much account consign the whole lot to the flames at once; but if the bees are strong and the hive good, shake all the bees from frames into an empty skep confining them in a cool dark place for twenty-four hours, giving plenty of ventilation. Burn all combs, frames, and quilts connected with hive, wash inside of hive with boiling water and soda, and when dry give a good coat of paint all over, working it well into the corners inside and out. Shake the bees out in front of the hive, giving them strips of fat foundation, along with a young fertile queen, from a healthy source. Feed with medicated syrup as long as they will take it. Burn all minor appliances, and disinfect others together with your person with a weak solution of carbolic acid.—*Doonfoot.*

LIMING STONE FRUIT.

It has been said that "Chalk, that is, lime, is the chief basis of fertility in the soil." That is a golden rule to remember. It is very evident that what all our agricultural chemists up and down the country from Lands End, to John o'Groats—what they are telling us and having been most emphatically of late years, about the value and necessity of liming the land, is not said without some proof of the goodness of lime at the back of it all. But without the scientists the practical man in his labours both in field and garden, has again and again proved the great worth of lime. Coming to stone fruits, it is well known that to them lime is essential even more than to other kinds of fruit crops. They require lime for the making of the stones. Many an orchard of Damsons stands in need of a dressing of lime to-day. The trees cannot go on bearing year after year, decade following decade, if there is no lime added. Manure is good, but lime is equally so. Indeed, if the soil is heavy, it will unlock much of its closely held plant food; and besides being directly valuable, it will also increase the present fertility of the land.

To apply lime to orchards of stone fruit, cart in the chalk direct from the kiln, leaving it in heaps beneath the trees so that it may become air slaked. It should not be spread over just at once. When it has become thoroughly pulverised take a shovel one damp morning and fling the lime among the branches of the trees. The lime must not be lumpy else the buds would be injured. The lime will do the trees good, and will help to clean them. Much of it will of course fall down, but the roots will take up this as they require it. A lime dressing has been known to have a good effect in securing a good "set" at the flowering period. Sometimes trees are smothered with blossoms and yet they do not set well. One of the reasons for this undoubtedly is the lack of lime whereby the organs of fructification are starved of an essential element.

From forty-five up to ninety bushels an acre may be used. Plum trees on walls will mostly have been root pruned or otherwise treated, but a thin top-dressing may be spread over the soil. Some lime should always be mixed with the soil when planting. It would pay the commercial grower to spend a pound or two on lime for his orchards.—*C.*

LAYING OUT FEUS.

I have been favoured in laying out three feus at Barnton Gate about three miles from Edinburgh. There is a private drive extending several miles in extent on the south side. On the north of the feus is the famous golf course. The park is beautifully wooded, and the scenery is charming with Dalmeny Woods, the breezy Firth of Forth and the Fife Hills in the distance. A new idea struck me that instead of dividing the feus as is usually done by stone or brick walls, or wire or wooden fences, I went to Cunningham and Fraser at Comley Bank Nurseries. I just saw what I wanted, Mackenzie's Holly, from 6 ft. to 7 ft. high. The price charged was 5s. per plant, but as I told them that I should require several thousands, they reduced them to 3s. 6d., including planting and a guarantee for making good any deaths that might occur for twelve months. Everyone who sees them is struck with the appearance, such a beautiful green. It works out at two plants to the yard, and no one could get through them or sheep or cattle, and if required they may be allowed to grow 20 ft. to hide any object not wanted.

No. 1 feu is one acre in extent; No. 2, 1½ acre; and No. 3, 2 acres. In each feu I have made open three roods in extent. In No. 3 feu I have planted a rosery, botanically arranged, of 23 beds. A number of the beds are 5 ft. in width, and a number of them much larger and of different designs for stronger growing roots, such as rugosa and polyantha and Sweet Briers, which are now very handsome. Every family of the Rose is represented. There is one bed of each of some kinds, and large beds of hybrid perpetual and hybrid Teas. In No. 3 garden I have got one espalier, 6 ft. in height, planted with choice Pear and Apple cordon trees. The cordon trees make by far the best system, as they bear at once by planting three year old trees The old fashioned system of fan and horizontally training takes four or five years to produce fruit, and cutting back every year to form the trees; besides, the cordons produce triple the fruit and required only summer pinching, the leader not to be shortened till they reach the allotted space. By planting the trees 18 in. apart the roots get all in a mat, and they seldom fail to produce good crops.

In No. 2 feu I have had erected an arch 7 ft. in height by 10 ft. in width. I have given the order to the Messrs. Cheal, of Crawley, who are famous for their cordons. It will require six dozen Pears and six dozen Apples, 18 in. apart, as the trees were 4 ft. or 5 ft. in height, and furnished with fruit buds from the base to the top. At each end of the arch I will plant Turner's Rambler Rose which will be very effective. If all goes on well I will send you a list of the choice selection which I have made, some three or four trees of each. A few of the sorts of Pears will be double worked, such as Jargonelle and Seckle, as they fruit there freely.

I may add that the soil at Barton is a very fine loam—in digging up a sod the ammonia from it is very refreshing. It must have been pastured with sheep for many years.—*William Carmichael*, 14, *Pitt Street, Edinburgh.*

FRUIT AND VEGETABLE PRODUCTS FROM OTHER LANDS.

I THINK it will be agreed that even those who spend their whole lives in cultivating ornamental exotic plants, would find a very great difficulty in answering the most common or simple questions put to them about any of our everyday commercial fruits and grocery products, although it ought reasonably to be expected that they (*i.e.* gardeners), should know a good deal about them. I do not pose as an oracle, nor do I know nearly so much as I would like to about such essentials of our present day existence as Tea, Coffee, Cacao or Cocoa, Arrowroot, "Allspice," Nutmegs, and other well-known articles. Still the following notes may have a certain value and interest to those who look at broad Nature as their garden, and do not merely confine themselves to the limited acreage of an English garden.

ALLSPICE OR PIMENTO.—The name Allspice is merely a trade conventionality and is applied to the dried berries of a West Indian shrub botanically named Pimenta officinalis, Lindl. These berries as sold by the grocers are globular, and the common name of Allspice is said to be derived from the curious compound flavour of them, representing that of Cloves, Cinnamon and Nutmeg. The tree is very beautiful, growing often 30 ft. high and may be conveniently described as closely resembling a Myrtle, in which genus Linnaeus indeed, placed it. Since the decline of the sugar industry in Jamaica, this tree or shrub, has, in common with other tropical allies, received a great deal of attention, and is at the present day largely cultivated (10,000 acres) in Jamaica and other West Indian islands. The racemes of green berries are picked before they are ripe and are dried in the sun; a practice which is resorted to in order to preserve the essential oil, which chiefly resides in the shell. The smaller and most fragrant berries are most esteemed.

ALMONDS of several varieties are imported from the littoral of the Mediterranean chiefly, though our own colonies in South Africa and Australia have successfully attempted their culture.

The Sweet Almond (Amygdalus communis var. dulcis, L. or Prunus Amygdalus dulcis); the Jordan (corrupted from the French word jardin, garden, that is, cultivated), Valencia, Italian, Barbery, and the two kinds of Bitter Almonds—the French and the Barbery—are the most commonly grown. The Bitter Almond is merely a variety of the common species, the same as the Sweet Almond is, and can usually be distinguished from the latter by the odour they emit. Barbery Sweet Almonds are the first to arrive, usually in September.

ARROWROOT.—This farinaceous material is obtained by an elaborate mechanical process from the rhizomes or thick fleshy roots of several species of West Indian Aroids. The most common are Maranta arundinacea (L.) Canna indica, also a species of Tacca (or Atacca) and Manihot utilissima, Pohl, the latter being a Euphorbiaceous plant. The warm and beautiful regions of Natal also grow this plant, but the product is inferior.

CANARY SEEDS are furnished by the Canary grass (Phalaris canariensis), which may be grown in our own gardens as an ornamental grass. The seeds were originally imported from the Canary Islands where the natives use them as flour. It is now largely cultivated in Europe for birds; the new season's crop arriving about October.

CARAWAY SEED or "Carvies" as they say in the south of Scotland, is the produce of a biennial plant that is largely cultivated in Suffolk and Essex; also Holland. It is an umbelliferous plant (Carum Carui, L.), to which order also belongs the Coriander whose Mustard-like seeds are used in making chutneys. Angelica (A. officinalis), also Umbelliferous, furnishes the stalks that are made into a candied sweetmeat.

COCOA or rather (as I have been informed it *should* be pronounced) Cacao, must not be confounded with the Cocoa-nut, for they are products of altogether different trees. The latter of course is the fruit of a Palm (Cocos nucifera L.), and is largely in vogue for barter at country fairs. The Cocoa (Cacao) is enormously grown in the West Indies, especially in Barbados since the decline of sugar cane culture. Trinidad, Mexico, Central America, and the northern parts of South America also yield large supplies of the Cocoa fruits whose seeds we grind to a powder and use as a liquid refreshment or as confectionary. The seeds are very rich in oil; in the shelled state they yield about fifty per cent. of a thick buttery oil which is sold as cocoa butter. These seeds are contained in large oval fleshy fruits. There are many varieties of the Cocoa tree, hence, no doubt, the primary differences in the commercial article.

COFFEE (Coffea arabica) is the seed of a shrub that attains a height of 15 ft. to 20 ft., growing in the form of a pyramid, with pure white flowers resembling a Jasmine. The Coffee tree is generally raised from seeds sown in drills a foot and a half apart. In about ten weeks they germinate, and after awhile they are thinned out. Coolies, Chinamen or the native labour at command in the regions where they are cultivated, are kept constantly at work hoeing between the drills. Shade plants, which grow about the Coffee trees, are now employed as they have been found efficacious in preventing much of the Coffee disease. The Coffee begins to yield fruit in three years; and plantations have been made in most of the tropical or warm parts of the world. In Arabia the fruit is never picked, but is shaken off the trees on to clothes spread beneath them. This practice however, is not followed elsewhere. A pulp surrounds the nuts or seeds, and this is got rid of by machinery, or by drying.

(To be continued.)

PLANTING UNDER TREES.

ONE of the sorest trials that many gardeners have is that of endeavouring to keep the shrubberies presentable where the subjects have to grow under the drip and shade of trees. A good deal can be done by keeping the trees overhead as well pruned and as open as possible. It is far easier, and much less costly, to preserve the first crop than to raise a second crop on the same ground. There are some trees, of course, so dense above that nothing will grow in the shade of them. All evergreen trees are more or less deleterious. They are dense, as stated, and they are surface-rooting trees to a large extent. Furthermore, they drop a tremendous quantity of "needles" and pinnules which coat the surface of the ground around them and smother out anything that may be growing beneath them. Among deciduous trees the Beech and Horse Chestnut are the most injurious to vegetation growing under them. Under most other kinds of trees, however, ligneous growth can be got to succeed fairly well. Holly and Yew, Rhododendron ponticum, Berberis Aquifolium, and Box are amongst the best evergreens for general shady and dry places. Even these, however, feel the pinch of very dry situations. Rhododendrons do very well, indeed, beneath trees if the ground is cool and moist. Soils containing calcareous matter are quite unsuitable for the growth of Rhododendrons. Saline matter, in like manner, is very injurious to the health of the Box tree or shrub. The Mahonia (Berberis Aquifolium) is as easily suited as any shrub we possess, and is very useful and ornamental indeed. The Yew will not stand either a very dry nor a damp root area. Hollies, or rather the Common Holly, does well on dry soils, so long as they are deep and not impure.

The Common Bay Laurel, the Portugal Laurel, Aucuba japonica, Evergreen Privet, Arbutus, and Laurustinus are excellent shrubs, and do well under moderate shade. They are liable to attack from rabbits; and frost sometimes tries the durability of the Aucuba, though the others are quite hardy. Of smaller shrubs one might name Euonymus radicans variegata, Periwinkle (Vincas), the large flowered St. John's Wort, and other species of Hypericum, Ivies, Common and Butcher's Broom, Furze (Ulex), Spurge Laurel, and Cotoneasters. These are all useful in this connection in various soils and situations. In all cases, where it is desired to get up a good undergrowth, it is necessary to thoroughly prepare the soil in the first instance. This will give the shrubs a start, and when they have developed somewhat they should be kept in vigour by heavy top-dressings. During the first summer after planting it may be necessary to water the shrubs frequently.—*D. F. M.*

Wheat, Rye, and Turnip crops are decreasing in England; Barley, Oats, and Potatos increasing.

GARDENING MISCELLANY.

MOSCHOSMA RIPARIUM.

IN the above we have a beautiful new introduction from the highlands of British Central Africa. Several plants are in flower in the greenhouse at Kew at the present time. The inflorescences remind one of some of the Spiraeas. They are about 1 ft. in length, and lilac pink in colour. The plants have a nice branching habit, with leaves almost like those of stinging Nettles. The plant strikes readily from cuttings; but before long it will be as well known as the new Coleus thrysoideus.

THE CONGO PLATYCERIUM.

AMONGST the most remarkable Ferns that travellers meet with in the Congo region are several species of Platycerium, whose strange foliage adorns the trunks of the beautiful forest trees which grow by the sides of rivers. To Professor Laurent, of Gembloux, belongs the honour of having first introduced to Europe that beautiful variety of P. aethopicum named angolense, and of having re-introduced the type. He brought them back after his second journey to the Congo in 1896. There is an admirable specimen of P. ae. angolense at Kew which has been often admired. It is of great beauty with its large fertile leaves which hang gracefully downward, while the sterile fronds hold themselves erect. These latter are of a beautiful pale green colour, and charmingly veined. In point of culture, it is an error in practice not to expose Platyceriums to the sun. It is said by those competent to give an opinion, that they are never found growing in the depths or shaded parts of the forests, and never on either bushy or very old trees. The reverse to other Ferns, such as Polypodium, Nephrolepis, and Asplenium, which develop marvellously on aged trees in the most humid places, the Platyceriums fix themselves on the most vigorous trees. Nevertheless grand specimens are found on dead trees. Further more they seem to prefer young leguminous trees, with light foliage and very hard wood. Curiously too, the natives of the Congo never cut down trees on which these Ferns grow. "It is a tree that shall not fall" they say.

TOMATO CANAPES.

DIP slices of bread, from which the crust has been cut, into batter, and fry in butter or oil. Drain well. Put half the contents of a tin of Tomatos through a sieve, add six beaten eggs, and bring slowly to boiling point. Serve on bread croutons.

SEMI-DOUBLE ZONAL PELARGONIUMS.

I FREELY admit that during the dull months of the year the single Zonals make a better display than these, but at the same time are not of the same value for cutting because they drop their petals so readily. It is quite true that by gumming the flowers they will hold on well. At the same time double and semi-double varieties do not require this attention. They can be cut and handled with the utmost freedom. In looking over a limited but good selection the other day I noted the following as being among the best:—Gustave Emich, Le Constable, Amy Henriot, Dorothy Smith, Mdme. Leon Dalloy, Mdme. Vaudry, King of Denmark and General Dodds.—*W.B.G.*

THE SILVER BIRCH.

THERE is much to be said respecting the beauty of this tree, but my present purpose is to point out a use which can be made of it, which is, I take it, generally overlooked. In traversing commons and roads through woods, I frequently notice various devices to guide those who may be traversing them in the dark—for instance posts painted white, heaps of chalk at stated intervals; and it occurs to me that if silver barked Birch were planted at intervals along carriage drives, which pass through wooded plantations, they would serve as landmarks alike to coachmen and pedestrians, and would incur no expenses in either painting or renewing. They would also add to the beauty of their surroundings. This tree, plentiful as it is in some places, is scarcely represented in others. There need be no formality resembling an avenue of Birch, but just one here and there introduced to guide the wanderer from getting out of the beaten track.—*W. B. G.*

SOCIETIES.

TORQUAY.—*March 20th.*

THE Torquay District Gardeners' Association held their annual spring show on the above date, but the weather proved most unpropitious, raining or snowing all day, which greatly interfered with the attendance. The exhibition was a most excellent one, and was opened at 12.30 by Lady Hibbert in a few well chosen words.

In Class I. for six flowering plants distinct, Dr. Edgelow was first, and Mrs. Hassall second. For six foliage plants, Ferns excluded, the last named lady was first; Mr. J. Quick second. Class III. was for three flowering or foliage. Here Miss Lavers came first, as well as for six Ferns. Mrs. Hassall won for a specimen Azalea, which was good. She also took first honours for three specimens, which were all trained plants. Dr. Edgelow took the lead for a specimen flowering plant in Clivia miniata, though a densely flowered Deutzia gracilis ran it very close.

For a circle group of miscellaneous plants only one entered, this being Dr. Edgelow, who was awarded the prize. It was tastefully arranged, and included Crotons, Dracaenas, Gloxinias, Dendrobiums, Lilium Harrisi, &c. Miss Lavers was the only exhibitor for a group of Orchids and foliage, and well deserved the prize for fine pans of Coelogyne, Dendrobium Ainsworthi and wardianum. This lady was also first for three Orchids. The Primulas were exceedingly good fine plants and profusely flowered that took first honours. Mr. Kimber was first for three doubles. For six singles, Mrs. Fordyce won, J. Quick closely following. The three Deutzias that won the first for Mrs. Hassall were well flowered examples. Dr. Edgelow was first for six table plants in flower. For six foliage plants, P. W. Bushby was first. For six Lilies in pots not less than four varieties, Mrs. Hassall was the only exhibitor, showing Amaryllis, Richardias, Imantophyllums. Mr. J. W. Kimber took the lead for twelve Hyacinths, fine in spike; Mr. J. Quick coming second, which were also good; while in the class for six, Mr. Fenton Wingate led. Dr. Edgelow took honours for six pots of trumpet Narcissus.

The Freesias were exceptionally well done, in fact, we go the length of saying we never saw better culture of these down in Devon. Mr. Fenton Wingate was placed first, but closely followed by Dr. Edgelow. Lilies of the Valley in pots were also good. P. W. Bushby won first honours. Dr. Edgelow was first for six Tulips distinct, six in a pot. The Cinerarias were likewise well shown, flowers rich and large in size, and the plants the picture of health. Mr. J. W. Kimber won for six as well as for a single specimen. Mr. Fordyce had the best three pots of Mignonette in 5-in. pots, showing Machet. Table decorations, epergnes, sprays, and buttonholes, made a nice show, and were greatly admired.

Single Daffodils largely figured in table decorations. Several nurserymen added a brightness to the whole, Mr. Curtis Sandford staging a showy bank of miscellaneous stuff; and so did Mr. W. Allford, Messrs. Robert Veitch & Son, of Exeter; Smale, of Torquay; and Heath, of Paignton. The last named confined his exhibit to plucked flowers; also pots of Violets in all the leading kinds.—*J. M.*

GRASSENDALE HORTICULTURAL SOCIETY.—*March 23rd.*

THE eleventh spring meeting was held in the Parish Rooms in charming weather. The number of entries showed a slight falling off, especially in stove and greenhouse plants. The bulbs and forced plants were most creditable. Mr. W. Evans, gardener to Mrs. Lockett, secured Messrs. Rowland's prize for twelve varieties of Hyacinths with good spikes. Other first prizes included six pots of Hyacinths, three bulbs in a pot, one greenhouse Rhododendron, four pots Lily of the Valley, three Spiraeas and four pots herbaceous plants.

Mr. G. Leadheater, gardener to W. J. Davey, Esq., led with six distinct Hyacinths and one Palm with Kentia fosteriana.

Mr. F. C. Keightley, gardener to Mrs. Duncan, was successful with six pots of Narcissus, with good examples; six pots single and six pots double Tulips, one Azalea, one stove plant and four Cinerarias.

Mr. T. Johnson, gardener to Mrs. G. W. Moss, had the premier four Amaryllis with splendid varieties. (Prizes given by Messrs. R. P. Ker & Son.)

Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., had the best greenhouse plant in bloom with Imantophyllum miniatum, one Orchid with good type of Dendrobium thyrsiflorum, and one bouquet.

Mr. Bustard won with a single pot Rose and one Fern.

Mr. C. Duke, gardener to F. R. Cross, Esq., won with two Orchids. (Prizes given by Messrs. J. Cowan & Co.)

Mr. T. Ankers scored with six pots very fine Cyclamen and three Azaleas. Mr. P. McKivitt won with good pots of Callas.

Messrs. W. Tunnington and B. Cromwell were the judges; Mr. E. Evans, chairman; and Mr. T. Johnson, secretary; and carried out their respective duties in a satisfactory manner.

ROYAL HORTICULTURAL.—*March 26th.*

THE tables were well filled and the Drill Hall crowded with visitors at times on Tuesday last; yet some exhibits were kept at home on account of the sharp frost in the early morning. Amaryllis, Hyacinths, Cyclamens, forced trees and shrubs, and Daffodils occupied the larger areas or table space. Orchids were also well represented, notwithstanding the frost and bitterly cold wind.

Orchid Committee.

Messrs. J. Veitch & Sons, Ltd., Chelsea, staged a showy group of Orchids, including a fine lot of Laeliocattleya Pallas. Conspicuous and handsome were Dendrobium wardianum, D. wardiano-japonicum, D. Wiganiae, D. Alcippe, Oncidium sarcodes, Cymbidium eburneo-lowianum, C. lowianum, and a pan of different varieties of Epidendrum Clarissa. Very handsome was Laeliocattleya highburyensis Veitch's var. (Silver Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, near Enfield, staged a group of Orchids, amongst which Dendrobium wardianum, D. w. Lowii, D. brymerianum giganteum, D. findlayanum, D. nobile, D. crassinode, D. fimbriatum oculatum, and D. primulinum were conspicuous. Very chaste was D. nobile virginale under a bell-glass; and D. barbatulum and Cypripedium rothschildianum were very choice. (Silver Banksian Medal.)

H. F. Simonds, Esq. (gardener, Mr. G. E. Day), Woodthorpe, Beckenham, received a Cultural Commendation for four large plants of Dendrobium jamesianum, bearing in the aggregate about 170 flowers. The plants were larger than we often see them.

Some plants of Phalaenopsis grandiflora, bearing enormous flowers, were shown by M. Lucien Linden, Brussels, Belgium.

Messrs. F. Sander & Co., St. Albans, exhibited Dendrobium nobile wardianum, Odontoglossum crispum Sunshine, O. excellens, and a basket of hybrid forms of Phaius, to which no name has yet been given. The flowers are large and the lip open.

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking, exhibited a magnificent spike of Odontoglossum crispum purpurascens. Mrs. Haywood (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, staged a grand plant of Dendrobium splendidissimum Mrs. Haywood, and a spike of D. Ainsworthii Virgil. M. Lucien Linden, Brussels, exhibited Phalaenopsis grandiflora borneensis rosea and P. g. borneensis citrata. Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, exhibited Laeliocattleya digbyano-Trianaei and Cattleya Cecilia.

M. Jules Hye, Ghent, Belgium, was accorded a Silver Gilt Flora Medal for a plant, in bloom, of the magnificent Odontoglossum crispum Souvenir Franz Masereel. The plant of Scuticaria Hadweni, exhibited by A. H. Smee, Esq. (gardener, Mr. W. E. Humphreys), The Grange, Carshalton, Surrey, was splendidly flowered. He also had Laeliocattleya Pallas, originating from Laella crispa × Cattleya aurea, and notable in reverting partly to both parents on the same flower spike.

John Bradshaw, Esq. (gardener, Mr. G. Whitelegge), The Grange, Southgate, exhibited Cattleya Trianaei Empress of India and C. T. Mafeking. Walter Cobb, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells, staged Odontoglossum triumphans dulcotense and O. crispum Elamii. Mr. Ed. Kromer, Roraima Nursery, Bandon Hill, Croydon, exhibited Laelia jongheana Kromeri.

Floral Committee.

Captain Holford, C.I.E (gardener, Mr. Chapman), Westonbirt, Tetbury, Gloucester, exhibited a very large group of his Amaryllis, or Hippeastrums, occupying one-half the width and the whole length of a table. Fine varieties were Clovelly and Lord Boringdon, which received Awards of Merit. Other choice varieties were Perdita, Stromboli, Ruby, Mrs. J. G. Menzies, Goldfish, Crown Princess, Princess Xenia, Mephistopheles, Sir Thos. Moore, Og, Quadroon, Splendour, Princess Helene, Cuban, Vesuvius, Dorothy, Gertrude, Lord Dalhousie, The Sultan, Apollo, Hecla, Snowflake and others. (Silver Gilt Flora Medal.)

Messrs. Wm. Cuthush & Son, Highgate, staged a large collection of Hyacinths, four pots of each variety. Handsome and well grown varieties were Yellow Hammer, King of the Blues, Enchantress, Roi des Belges, Johan, Jaynes, General Havelock, Captain Boyton, La Grandesse, Grand Maitre, Obelisque and others. (Silver Flora Medal.)

The St. George's Nursery Company, Hanwell, set up a very fine exhibit of Cyclamens in pots of small size, yet each plant was profusely flowered. The varieties ranged from pure white to the deepest crimson. The company also had the Papilio section of Cyclamen, as well as the strain with fringed leaves. (Silver Flora Medal.)

Messrs. H. Cannell & Son, Swanley, Kent, exhibited a group of cut flowers of Primula obconica done up in bunches on a groundwork of Ferns. Very handsome was the variety named Rose Queen with large, rosy flowers.

M. Lucien Linden, Brussels, exhibited a highly attractive lot of Haemanthus mirabilis from the Congo. The plants had orange-scarlet flowers of various shades in huge umbels. They were also notable for their dwarf habit, and the fact that the flowers were accompanied by large, well developed and fully grown leaves of a rich dark green colour. (Silver Flora Medal.)

Mr. John Odell, Hillingdon, Middlesex, exhibited a small group of well flowered Cyclamen.

Mr. John Russell, Richmond, Surrey, exhibited a large group of forced flowering trees and shrubs, including many grand varieties of Azalea mollis, also hybrids between it and A. sinensis, A. rustica fl. pl. Norma, A. Daviesi, Prunus triloba. Wistarias, double Cherries, Forsythia suspensa, Guelder Roses, Rhododendrons, Lilacs and various other subjects. (Silver Gilt Flora Medal.)

Messrs. B. S. Williams & Son, Upper Holloway, London, N., set up a group of forced Lilacs with a background of Negundo aceroides variegata. In front of them were well flowered bushes of Azalea mollis, Pyrus floribunda, Japan Maples, Staphylea colchica, Spiraea confusa, &c. (Silver Banksian Medal.)

Messrs. Geo. Jackman & Son, Woking Nursery, Woking, Surrey, exhibited a group of Daffodils in pots, also hardy alpines, including Androsace carnea Polygala Chamaebuxus, Adonis amurensis, Primula denticulata, Iris sindjarensis, Primula frondosa and others. (Silver Banksian Medal.)

Messrs. J. Veitch & Sons, Ltd., exhibited a large and very varied group of Cineraria polyantha (cruenta hybrids). All had small flowers, starry in character, and varying in all shades of colour between white, purple, blue and violet. The plants were mixed with Palms and Maidenhair Ferns. (Silver Banksian Medal.)

Messrs. J. Peed & Son, Roupell Park Nurseries, West Norwood, London, S.E., exhibited a group of Azalea mollis, forced Guelder Roses, Lilacs, Lily of the Valley, Palms, Ferns, &c.

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, exhibited a very interesting collection of hardy flowering bulbous plants, including a well grown lot of Lachenalia Nelsoni, Tulipa Korolkowi bicolor, Fritillaria pudica, F. pluriflora, F. aurea, Iris tubergeniana, I. Tauri, I. sindjarensis, I. reticulata, I. persica, Puschkinia scilloides, &c. Interesting also was Shortia galacifolia. (Silver Flora Medal.)

Messrs. Isaac House & Son, Coombe Nurseries, Westbury-on-Trym, Bristol, exhibited a collection of Violets, including all the leading varieties. Very distinct is Mrs. J. J. Astor with double purple flowers.

THEODORE TURNER, F.R.H.S.,

Begonia Nurseries, GT. SUTTON, CHESTER.

THE PROGRESSIVE AGE.—The past century has been unique in its development. Among others is the success attained by T. Turner. With the new century I have better value than ever. 2/6 orders carriage paid. My Spring Catalogue a 20th Century wonder.

Do you want 12 Roses for the Garden? Send me 4/-. I will send you 12 different sorts, carriage paid. Do you want 12 climbing Roses for outside? I will send you 12 for 4/-. 12 Monthly Roses for 4/-. 12 Moss Roses for 4/-. All named. I have a lot, names lost, 6, 1/6; 12, 3/-.

TEA ROSES.—6, 2/6; 12, 4/6; 100, 30/-; picked.

Niphetos	Maréchal Niel	Mdme. Berard
Paul Nabonnand	Climbing Niphetos	The Bride
Devoniensis	Mdme. Camille	S. de la Malmaison
Belle Sesbright	H. E. Gifford	S. de S. A. Prince
Bardou Job	Mdme. Hoste	Ernest Metz
A. Vibert	Amazon	Mdme. P. Guillott
Sunset	Mdme. Cusin	L'Ideal
C. Testout	B. Heurette d'Law	S. de Pres. Carnot
Mdme P. Ducher	Mdme. H Jamain	C. Kuster
Francis Kruger	La France	Reine M. Henriette
Rêve d'Or	Elise Finger	Marie d'Orleans
Mdme. Tiller	Irene Watts	T. de Pernet Pere
Hermosa	C'tsse R. du Parc	Duchess of Albany
Mamou Cochet	M. C. Guinoisseau	A. Olivier
Coquette de Lyon	The Homère	Ly. M. Fitzwilliam
Chestnut Hybrid	Mdme. Falcot	Leo XIII.
Souv. de C. Guillott	C. Mermet	A. M. Immacula
Euphrosine	Aglaia	Etoile de Lyon
Papa Gontier	G. Nabonnand	Mdme. Welsh
H. Majesty	Souv. d'un Ami	C'tsse de Frigneuse
Gustave Regis	Kaiser A. Victoria	A. Guinoisseau
S. de Paul Neyron	Marie Guillott	J. Ducher
Bouquet d'Or.	Grace Darling	Marie V. Houtte
Dr. Grill	Ophirie	Mdme. A. Chatenay
Perle des Jardins		

12, picked, our selection, for 5/-.

A large assortment of Tea Roses.—Large stuff. F. Kruger, A. Guinosseau, Mr. W. J. Graut, H. E Gifford, Rêve d'Or, W. A. Richardson, Maréchal Niel, White Maréchal, Mdme. Berard, and about 40 more sorts extra, 1/- each, 9/- per doz.

New Roses.—Turner's Rambler, 3 to 7 ft., strong; Turner's Crimson Rambler, Aglaia (Yellow Rambler), Thalia (White Rambler), Euphrosine (Pink Rambler), 1/6 each; 4, 1 of each, for 5/-.

5 large Climbers for 6/-, or 1/3 each, 3 to 7 ft. —Gloire de Dijon. Reine Marie Henriette, Rêve d'Or, Mdme. Berard, W. A. Richardson. Any one can be placed by another.

Gloire de Dijon, 3 to 7 ft., strong, 1/3 each; 12, 12/-.

H.P. ROSES.—6, 2/6; 12 for 4/6; 100, 30/-; large.

A few of names enclosed.

Thos. Mills	Cheshunt Hybrid	C. Forestier
Pierre Notting	Chas. Lefebvre	Crimson Bedder
S. M. Rodocanachi	C. Tretrahoff	Xavier Olibo
A. Carriere	C. of Oxford	Violet Bouyer
Sir R. Hill	A. K. Williams	Mrs Baker
M. de St Amand	B. Rothschild	Senateur Vaisse
Maurice Bernardin	Bessie Johnson	Paul's Pillar
Magna Charta	A. Vibert	Marie Rady
Gen. Jacqueminot	Marie Beaumann	Mdme. Chas. Wood
Perle des Blanche	D. of Connaught	M. of Londonderry
Lord F. Cavendish	P. C. de Rohan	Victor Hugo
Jean Liabaud	Dr. Andry	Emperor de Marc
Duchesse de Morny	A. Wood	Merveille de Lyon
Lord Bacon	D. of Albany	D. of Bedford
Le Havre	Reynolds Hole	Mrs. Harkness
A. O. Rigotard	Gustave	Duke of Teck
Wm. H. Turner	Prince Arthur	Sir G. Wolseley
U. Brunner	Princess Beatrice	Rd. Wallace
Rd. Caxton	White Baroness	Mrs. J. Laing
Paul Neyron	Crown Prince	W. W. Saunders
Black Prince	Gloire de Margottin	Mabel Morrison
Emily Hausburg	Lord Herbert	J. Cherpin

Our selection, 5/- doz.

6 Tea Roses, 2/6; 12, 4/6—Aug. Guinosseau, white, tinted pale rose, fine for button-holes; 2, Caroline Testout, light salmon-pink; 3, La France, bright silvery-rose, bright pink; 4, Mrs. W. Grant, bright salmon-pink; 5, Perles des Jardins, deep straw-yellow; 6, Sunset, deep apricot-yellow; 6, 2/6; 12, 4/6.

6 Tea Roses, 3/-; 12, 5/—Catherine Mermet, light rosy-flesh; 2, The Bride, nearly pure white; 3, Souv. d'un Ami, salmon and rose shaded; 4, Souv. de Catherine Guillott, coppery-carmine shaded orange, good for coat flower; 5, Kaiser Aug. Victoria, cream, shaded lemon; 6, Marie d'Orleans, terra-cotta, one of the best. 6, 3/-; 12, 5/-.

6 Tea Roses, 3/6: 12, 6/- — Homère, rosy-salmon centre; 2, Ernest Metz Tendre Carnation Rose; 3, Francisca Kruger, copper-yellow shaded peach; 4, Papa Gontier, rose-carmine, fine long buds; 5, Souv. de Pres. Carnot, rosy-flesh 6, G. Nabonnand pale rose, shaded with yellow. 6, 3/6; 12, 6/- (the very best).

Turner's New Hybrid Delphiniums, all colours, 6, 1/6; 12 2/6. Turner's Lychnis chalcedonica, large. 6, 1 6; 12, 2/6. Wallflowers, Double German 12, 1/6. Ruby Gem 25, 1/6. Crimson Dame, 25, 1/6. English Iris, 50, 1/6; 100, 2/6.

6 Climbing Roses for 2/6; 12, 4/6—L'Ideal, yellow and metallic-red, streaked and tinted golden-yellow; 2, Maréchal Niel, rich golden-yellow; 3, Climbing Devoniensis, cream-white, blush centre. 4, Reine Marie Henriette, deep cherry-red, large and full; 5, Mdme. Berard, fawn-yellow tinted, rose-yellow; 6, Aglaia (Turner's Yellow Rambler). 6, 2/6; 12, 4/6.

Moss Roses, 6d. each; 6, 2/3; 12, 4/- — Light crimson, white, crested, rich crimson, pale rose, all the latest and newest. 6d. each; 6 2/3; 12, 4/-. All named.

Dielytra spectabilis (the Bleeding Heart-tree), very pretty, large roots, 3, 1/3; 6, 2/3; 12, 4/-.

Extra Large Trees (standards).—Snowball Trees, standards, bush, 1/6 each; 15/- dozen. Acers, variegated Maples, extra large standards, 2/6 each, worth 7/6; 5 for 10/-. Acers, pyramids, 1/6 each; 15/- dozen. Standard Prunus nobilis, double flowered Plum, 2/6 each; 5 for 10/-. Extra large standard Lilacs, 2/6; 5 for 10/. Standard Hydrangea paniculata, 2/- each.

Viola Kitty Hay, yellow, 12, 1/6, Wallflower Ruby Gem, 25, 1/6. Primrose Dame, 25, 1 3 Double German, 12, 1/3. Delphiniums, large stuff, 6, 1/6; 12 2/6. Canterbury Bells, Dean's strain, 12, 1/3; Canterbury Bells, mixed, 25, 1/6; 100, 5/-. Gaillardias, extra fine, 6, 1 3; 12, 2/-. Grenadin Carnation, 6 for 1/6; 12, 2/6. Margarita Carnations, 6, 1/6; 12, 2/6. Lychnis chalcedonica, 6, 1/6; 12, 2/6. These are all extra large stuff.

Potatos.—British Queen, Challenger, Up-to-Date, Duke of York, 6 lbs., 1/3; 12 lbs., 2/-. Free in 10/- orders; otherwise, carriage forward.

CANNAS.—Large roots. Exhibition size.

	6	12	100
	s. d.	s. d.	s. d.
Crozy's Cannas, dwarf, in fine mixtures ...	1 6	2 6	16 0
Cannas, all sorts, mixed	1 3	2 0	12 0
Crozy's Cannas, all yellow flowers	1 6	2 6	16 0
Crozy's Cannas, all red flowers	1 6	2 6	16 0
Crozy's Cannas, all red leaves...	1 6	2 6	16 0
Cannas, variegated leaves, mixed	1 6	2 6	16 0
Named Cannas, Gladiolus flowered	2 6	4 6	32 0
Named Cannas, red-striped and spotted ...	2 6	4 6	32 0
Named Cannas, green leaves, red flowers ..	2 6	4 6	32 0
Named Cannas, red leaves, red-flowered ...	2 6	4 6	32 0
Orchid-flow'rd Cannas, named 8s. doz mxd.	3 0	5 0	40 0

See Catalogue for description.

Turner's Clearance Offer of Lilies. Special offer.

Lilium auratum (Golden-rayed Lily of Japan), nice solid bulbs, 7 in. to 8 in....	6 s. d. 1 3	12 s. d. 2 3	50 s. d. 7 6	100 s. d 14 0	Case. s. d. 26 0	200
Lilium auratum 8in. to 9in.	1 9	3 0	11 0	21 0	26 0	140
Lilium auratum 9 in. ...	2 0	3 9	14 0	—	26 0	100
Lilium auratum, 9in. to 10in.	2 6	4 6	17 0	32 0	———	

Lilium auratum, exhibition bulbs, 1/3 each; 12/- doz.

Lilium longiflorum (Hardy Harrisi). Sale price.

	6	12	50	100
Large bulbs, 7 to 8in. to clear them out	1 6	2 6	9 0	17 6
A few exhibition, 9 in. to 10 in.	2 6	4 6	—	—

Sale price Lilies.—Umbellatum grandiflorum, 6, 1/3; 12, 2/-; 50, 7/6; 100, 12/-.

Tiger Lilies, single and double, 25, 1/6.

Tigrinum splendens, 12, 1 6. Sale price.

Iris Kaempferi, true Japanese varieties in extra fine mixtures, brilliant colours, sale price, 25, 1/6; 50, 2/6; 100, 4/6.

Iris germanica (the Flag Iris), in extra fine mixtures, clear them out, 50, 1/6; 100, 2/6.

Shrubs, all at clearance prices —Laurels (Portugal), 12, 1/9. Aucuba japonica (variegated), 12, 2/-. Mahonia (Holly-leaved), large plants, 12, 2/6. Retinospora plumosa, 12, 3/6. Thuja Lobbi, 1½ ft., 12, 2/6. Laurestinus (large-leaved), 6, 1/6; 12 2/6. Assorted Shrubs for pots and boxes and gardens at 2/6 and 3/6 per doz.

Monthly Roses, 6, 2/6; 12, 4/6. Cramoisie-Superieure, velvety-crimson flowers in large clusters; Ducher, pure white, good form, very free; Irene Watts, new '96, tinted salmon pink, long bud, very pretty and distinct. 3, 1/6; 6, 2/6; 12, 4/6.

Hardy Climbers, 6, 2/6; 12, 4/6; 3 ft. to 10 ft.—Leopold de Orleans, white, tipped red, rosette-shaped flowers; Ruga, pale flesh, double, very sweet-scented, glossy foliage; The Garland, pankeen and pink, changing to white clusters; Climbing Pet, white clusters; Félicité-Perpetue, creamy-white; Gracilis, bright pink (13 varieties). 6, 2/6; 12, 4/6; 3 ft. to 10 ft. Picked, 6, 3/6; 12, 6/-.

Tritoma Uvaria (Red-hot Pokers), 6, 2/-; 12, 3/6.

Gaillardia grandiflora, 6, 1/6; 12, 2/6. Large Canterbury Bells, 12, 1/6; Wallflowers, 25, 1/6; Coreopsis grandiflora, 6, 1/6; 12, 2/6.

Palm-Seed, Kentia Belmoreana, sale price, 25, 1/-; 50, 1/9; 100, 3/-.

Gloxinia erecta grandiflora, large 2-year-old tubers, 6, 2/6; 12, 4/6; 24, 7/6; 50, 14/-; 100 25/-. 2-year-old, selected, 12, 2/6; 100, 16/-.

Gloxinia erecta, 1-year old, grandiflora. 12, 1/6; 100, 8/-. Named Gloxinias, 6d. each; 6, 2/6; 12, 4/6 Turner's Tigridia, Turner's Scarlet Defiance, Emperor Frederick, Kaiser Wilhelm, Firefly, Mont Blanc, Snow Queen, Blue Celestial, Turner's white and blue bordered, 6d. each; 6, 2/6; 12, 4/6. A few extra large, 1/- each; 12, 10/-. 1-year-old, named, 12, 2/-; 100, 16/-.

Azalea indica, large bushes, all named, full of buds, 1/3 each, 6, 6/-; a few smaller, well set, 2, 1/6. Azalea mollis, extra large plants 1/- each. 10/- doz. Azalea mollis, smaller, full of buds, 5/- doz., 6d. each.

Deutzia gracilis.—For forcing, well set, 6, 1/6; 12, 2/6.

Wistaria sinensis, 3, 1/3; 6, 2/-; 12, 3/6.

Carnations, large plants, 6d. each; 6, 2/6; 12 4/6.—La Villette, Miss A. Campbell, Pride of Garten, Mrs. Fred, Sir George White, G H. Sage, Lady Houghton Raby Castle, Salamander Improved, Clove. All large stuff, 6d. each; 6, 2/6; 12, 4/6.

Japanese Wineberries, 6 ft., 1/6 each. Strawberry-Raspberry, 1/ each.

Geraniums, 6 1/3; 12, 2/-.—Vesuvius, H. Jacoby, J. Gibbons, West Brighton Gem, Crystal Palace Gem, Queen of Whites, Happy Thoughts, Flower of Spring. 6 1/3; 12, 2/-; 100. 15/-. Mrs. Pollock, 6, 1/6; 12. 2/6. Calceolarias, 12, 1/6.

A 20th Century Marvel in Sweet Peas.—All leading sorts, 21 varieties, 50 seeds of each, 1,050 seeds for 1/3, all guaranteed new seeds; or 100 each, 21 varieties, for 2/-; mixed, 1/6 per lb. Primrose, Princess May, Senator, Countess of Radnor, Dorothy Tennant, Emily Henderson, Mrs. J. Camberlain, Mrs. Eckford Mrs. Sankey, Mrs. Gladstone, Blanche Burpee, Princess Beatrice, Purple Prince, Splendour, The Queen, Boreatton, Captain of the Blues, Cardinal, Lottie Eckford, Invincible (white), Invincible (scarlet). These 21 choice varieties, 50 seeds each, 1/3; 100 seeds each, 2/-.

Tiger Lilies, splendens, 6, 1/6; 12, 2/6.

Crocosmia (Orange Lilies), 6 2/-; 12 3/6.

A 20th Century Wonder.—Montbretias, in 10 named sorts (see Catalogue for names) 50, 1/3; 100, 2/6. Montbretia Pottsi, 100, 1/6; picked, 50, 1/-. Montbretia crocosmiaeflora, 50, 1/3; 100, 2/-. Mixed seedlings, 100, 1/6.

1/6. Special Cheap Collection Gladiolus. 1/6.—6 Brench. (Sword Lilies), 6 Lemoine's Hardy, 6 Hybrid Gandavensis, 6 Psittacinus, gold striped, 6 French Hybrids, 6 Brides 3 doz. for 1/6; double lot, 2/6.

Hyacinthus candicans, very pretty, 3 ft. spikes, white Bellflowers, goes well with Gladiolus, 12, 1/, 50, 3/6; 100. 6/-.

Tigridias (Mexican Lilies), very pretty, Canariensis grandiflora alba, speciosa, violacea, 1/- per doz.

Lobelia cardinalis Queen Victoria, 6 1/6; 12, 2/6. Gaillardia grandiflora, 6, 1/6; 12, 2/6. Auriculas, fine strain, 6, 1/6; 12, 2/6. Hydrangeas pontica and japonica, 6, 1/6; 12. 2/6.

Trees.—Poplars, 9 to 10 ft., 2/6 each; smaller, 6d. each; Limes, Beech, Wych Elms, Sycamores 6d. each; 12, 4/6; Hornbeam Beech, 25, 1/6. Privet ovalifolium, large, 12, 1/6; 100, 8/-; smaller, 50, 2/6. Variegated Ivy. 12, 4/6. Honeysuckles, 12, 2/6. Aucuba japonica, 12, 2/-.

Gladiolus, one of our Specialities.—Brenchleyensis, the well-known Scarlet or Sword Lilies, so much called for Harvest Decorations:—

	Doz. s.d.	50 s.d.	100 s.d.	500 s.d.	1,000 s.d.
Immense specimen Bulbs	1 3	4 6	8 0	35 0	60 0
Extra large first size Bulbs ...	1 0	3 0	5 6	25 0	40 0
Very large second size Bulbs ...	0 9	2 0	3 6	15 0	27 6
Third size good flowering Bulbs	0 6	1 6	2 6	10 0	17 6
Colvillei alba, The Bride, picked	0 4	1 3	2 0	9 0	17 6
Bride, good flowering Bulbs ...	0 3	0 9	1 3	5 6	10 0
Colvillei Red Brides	0 4	1 3	2 0	9 0	17 6
Lemoine's new hardy Gladiolus	0 9	2 6	4 0	18 0	32 6
Lemoine's large exhibition Bulbs	1 0	3 6	6 0	27 6	—
Gandavensis Hybrids, extra fine, mixed	0 9	2 6	4 0	18 0	32
Gandavensis, large exhibition roots	1 0	3 6	6 0	27 6	—
French Hybrids, fine, mixed ...	1 0	3 6	6 0	27 6	
Marie Lemoines, very striking ...	1 0	3 6	6 0	27 6	—
Kelway's best mixed	1 6	5 0	9 0	—	80

Named Gladiolus, 3d. each; 6, 1/3; 12, 2/3; 100, 16/-.

Lily of Valley, large Dutch crowns, the large flowers, 50, 1/6; 100, 2/6. Large clumps, 9d. each, 8/- doz. Berlin crowns, 50, 2/6; 100, 4/6.

Climbers.—Clematis Jackmani, montana, and named sorts, 4 to 7 ft., bushy, 1/3 each; 6 for 6/-. Names see Catalogue. Ampelopsis Veitchi, large, 3 to 6 branches, 2, 1/6; 12, 7/6. Ampelopsis, the old sort, about 3 yds. long, 1/6 each. Aristolochia sipho (Dutchman's Pipe), 7 to 10 ft., 1/6 each. Wistaria sinensis, 7 to 10 ft., 1/6 each. W. alba, 7 to 10 ft., 1/6 each. Bignonia radicans, 7 to 10 ft., 1/6 each.

Hybrid Rhododendrons, choice named sorts, well set with bud, including large specimens Cunningham's White, 1/6 each; 15/- per doz.

Cactus, extra large plants, 1/- each; 10/- doz., named. Cactus, smaller, nice plants, 2, 1/6. Hedgehog Cactus, 2, 1/6. Cactus Ball of Snow, quite round, covered with white, each 2/6

Dracaenas indivisa, 2, 1/6. Palms, 3, 1/3 Asparagus Ferns, 2, 1/6. Japanese Honeysuckles, 3, 1/3. Fuchsias, 6, 2/6. Pentstemon, Kelway's, 6, 2/6 Marguerites, 12, 2/6.

Plants.—Pansies, large-flowered, black, white, cat's-eye, blue, marine blue, mahogany, silver-lined, bronze, all at, 25, 1/6; 100, 4/-. Viola Pansies, or Tufted, white, blue, yellow, 25, 1/6; 100, 4/-. Pansies, mixed large giant flowered, 25, 1/6; 100, 4/-. Viola Pansies, mixed, 50, 1/6; 100, 2/6. Canterbury Bells, 25, 1/6. Auriculas, 6, 1/6; 12, 2/6. Named Phlox, 6, 2/6; 12, 4/6. Michaelmas Daisies, white and red, 6, 2/6; 12, 4/6. Polyanthus, large, 12, 1/6. Single Pyrethrum, 6, 1/6; 12, 2/6. Forget-me-nots, 25, 1/6. Daisies, 50, 1/6; 100, 2/6. Hollyhocks, 12, 1/6. Chrysanthemum maximum, 6, 1/6; 12, 2/6.

2/6 Collection of Climbers.—2 Pyracanthas (Fire Thorns), 2 Jessamines, white; 2 Jessamines, yellow; 2 Irish Ivies, 2 Ampelopsis Veitchi, 2 Honeysuckles; lot, 2/6.

Helleborus niger, 6, 1/6; 12, 2/6; 100, 16/-.

Pyracanthas (Fire Thorns), 6, 1/6; 12. 2/6. Jessamines, white, 3, 1/3. Jessamines, yellow, 6, 1/6; 12, 2/6 Ampelopsis Veitchi. 12, 1/6.

Plants for Forcing.—Spiraea japonica, large clumps, 3, 1/-; 6, 1/9; 12, 3/-. Spiraea japonica compacta, 6, 2/-; 12, 3/6. Spiraea elegans (Pink Spiraea), 6, 1/6; 12, 2/6.

Syringas, Hybrids, all colours for forcing or garden, 6, 1/6; 12, 2/6 Philadelphus (Mock Orange), named, 6, 1/6 12, 2/6.

Turner's Prize Strain Begonias are the very best obtainable.—Double Begonias, grown from seed. These produce flowers like double Camellias, and about 80 per cent. come true. We have them in 5 colours—white, yellow, orange, rose, scarlet. 5, extra picked, for 5/-; 12 for 10/-. Double Begonias, 2-year-old tubers for exhibition, fine tubers, 5 for 2/6; 10, 4/-; 20 7/6; 50, 17/-; 100, 30/-. Double Begonias, 1-year-old, in 5 colours, 5 1/3; 10, 2/-; 20, 3/6; 50, 7/-; 100, 12/-. (For named ones see Catalogue.)

Turner's Prize Strain Single Begonias.—These have been a great success during the past 10 years for pots, showing and bedding.

Single Prize Strain Begonias for pots or showing. —White, yellow, orange, rose, scarlet, take prizes anywhere, 5, in 5 colours, 2/6; 10, 4/-; 20, 7/6; 50, 17/6; 100, 32/6.

Bedding Begonias.—For the last six years I have made a specialty in these. 5 colours, at 12/- 100; 50, 7/-; 1,000 for £5.

Prize Strain Begonias.

	Extra large Selected tubers Spleudid for pots. Per doz. s. d.	100. s. d.	Very fine selected tubers Also for pots. Doz. s. d.	100. s. d.	Good certain flowering tubers Fine for bedding. Doz. s. d.	100. s. d.
Crimson	3 0	20 0	2 0	12 0	1 3	8 0
Scarlet	3 0	20 0	2 0	12 0	1 3	8 0
Rose	3 0	20 0	2 0	12 0	1 3	8 0
Orange	3 0	20 0	2 0	12 0	1 3	8 0
White	3 0	20 0	2 0	12 0	1 3	8 0
Yellow	3 0	20 0	2 0	12 0	1 3	8 0

5/-.—The Great Sutton Collection of Vegetable and Flower Seeds contains 6 ½ pints of Peas, 4 ½ pints Beans; 1 oz. each Onion, Parsnip, Carrot, Radish, Mustard, Cress, Spinach; 1 pkt. each Extra Curled Parsley, Aighurth Brussels Sprouts, Savoy, Lyon Leek, Autumn Giant Cauliflower, Silver King Turnip, Cabbage and Cos Lettuce, Covent Garden Beet, Celery, Cabbage, Broccoli, Marrow, Kale, choice Paeony-flowered Aster, Double Ten-week Stocks; and 12 pkts. various Annual Flower Seeds. All new seeds guaranteed. A Twentieth Century wonder.

3-year-old Currant Trees, 6, 2/-; 12, 3/6; named, Red, Black, White, all choice stuff; smaller, Black and Red, 6, 1/-; 12, 1/-.

Gooseberries, all leading sorts, 6, 2/-; 12, 3/6; smaller, 6, 1/6; 12, 2/6; all fruiting trees.

Plums, all leading sorts, 1/- each; 12, 10/-; large standards, 2/6 each, 5 for 10/-; dwarf trained, 2/6 each, 5, 10/-; also large standard Victorias, 2/6 each, 5 for 10/-.

Cherries, May Duke and Morello, 1/6 each.

Apples, large, unnamed, 2/- each, 5 for 10/-; large, 3-year standards, 2/6 each, 5 for 10/-; Ecklinville, Frogmore, Cox's Orange, etc., maiden Apples, 1/- each, 10/- doz. Pears, Jargonelle, maidens, 1/- each. All leading sorts. Pears, 1/- each 10/- doz. Raspberry Canes, 25, 1/6.

New Century Pinks.—Flowers like a large double Camellia, big as 5/- piece—Mrs. Theodore Turner, Mrs. Hall, Mrs. Trichard, Mrs. Nash, May Queen, Lady Falmouth, White Gem, Mr. Ed. Ferris, 6d. each; 6, 2/6; 12, 3/6. The flowers are as full as a Carnation, only larger. Splendid for cutting, wreaths, &c.

Messrs Barr & Sons, King Street, Covent Garden, staged a splendid exhibit of Daffodils, both pot plants and cut flowers. Very choice were C. J. Backhouse, Sir Watkin, obvallaris, Leedsii amabilis, Empress, Golden Spur, Coronatus, Maximus, Cynosure, Telamonius plenus and many others. They also had Saxifraga ligulata rubra, Galanthus Ikariae, Fritillaria pudica, Scillas, &c. (Silver Flora Medal.)

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, Middlesex, set up a very extensive exhibit of Daffodils, hardy alpines and herbaceous subjects of various kinds. They had Shortia galacifolia, Saxifraga Boydi alba, a rare hybrid; Erythronium Smithii, E giganteum, E. Johnstoni (pink), Anemone vernalis, Soldanella alpina, Primula Sieboldii in many fine varieties, Primula frondosa, Saxifraga oppositifolia superba, Androsace carnea, &c. (Silver Flora Medal.)

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to "Grower," for his article on "Salvia azurea grandiflora," p. 473.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Six distinct Species of Flowering Plants.—*East Devon*: The exhibitor you specify was perfectly justified in exhibiting two Dendrobiums, such as D. nobile and D. thyrsiflorum, if the wording of the schedule was "six flowering plants, distinct species." The two Dendrobiums just named are not only good and distinct species, but they belong to different sections of the genus. If the schedule had said "six distinct kinds of plants" the exhibitor would have been in error, though there might have been an error of judgment here as to what the word "kind" might imply. No doubt the framers of the schedule meant six plants belonging to different genera, and if so it might have been written "six flowering plants, distinct genera," and no one could have exhibited two Dendrobiums of any sort without being justly liable to disqualification. The words, "kind and genus" mean the same thing, though the former is liable to mislead, owing to the loose way in which it is employed. Clearly there is still something left for mutual improvement societies to teach or demonstrate at their meetings.

Setting Grapes with the Syringe.—*N. B.*: We have heard of this being done successfully, but we think the varieties upon which the operation was performed must have been free setting varieties, naturally, and that the syringe merely accomplished the knocking off of the caps of the flowers, without really distributing the pollen. In all probability the young fruits or ovaries were already fertilised before the caps were knocked off. A better plan would be to go through the vinery once or twice every day, between eleven and twelve when the atmosphere is warmest and driest, and tap the rods gently but sharply with the hand. This will cause the caps (really the corollas) of the flowers to fall off, at the same time causing little clouds of pollen to fly, thus insuring its distribution, and the setting of the berries. Another plan is to use a rabbit's tail, tied on the end of a stick, by gently rubbing it over each bunch of flowers about the above mentioned time of day. A plumey spike or two of Arundo conspicua or of the Pampas Grass might be employed for the same purpose, if you like it better. We think syringing is more likely to make the pollen adhere in lumps than to cause its proper distribution. About ten or twelve bunches for a rod 15 ft. long ought to be ample. You can best determine this after you have seen the Vines ripen one crop, as you can then see their present capabilities.

Book on Vine Culture by Mr. Sanders.—*W. F. Self*: This was so long ago that we really doubt whether the book in question is yet in print. We fear it is not, but shall try and ascertain for you. Please consult this column for the next week or two, and if we can get the necessary information we shall publish the same for you. There are now other books on Vines and Vine culture if you want a really good modern handbook on the subject. One by A. F. Barron, late superintendent of the R.H.S. Gardens, may be obtained from the office of THE GARDENING WORLD.

The Best Varieties of Strawberry Tree to Plant. *A S.*: The more common ones are not only hardier but prettier than the rarer ones, so that you cannot do better than get them to begin with, after which you can get the less common ones, if you feel so inclined. These are Arbutus Unedo, A. U. rubra (red flowers), A. U. microphylla (small leaved), A. Andrachne, and A. hybrida, the latter being a garden hybrid between A. Unedo and A. Andrachne. The latter is valued on account of its large clusters of white flowers and curious looking stems, which appear as if the bark had been taken off. The old bark does really fall off in scales or layers, but there is always good young bark beneath, before this takes place. Any ordinary soil will suit them if not too sandy nor too heavy and clayey. In either of those cases you could mix the natural soil with a half of peat or peat and leaf mould together.

Shrubs for the Seaside.—*J. Greene*: You may safely plant all the evergreen species of Euonymus, including E japonicus, E. j. aureus, E. j. latifolius albo-variegatus, E. radicans, E. r. foliis pictis, E. r. foliis roseo-argenteis and others. Many species and varieties of shrubby Veronica also do well, such as V. Traversi, V. parviflora, V. salicifolia, V. ligustrifolia, V. buxifolia, V. pinguifolia, V. speciosa and others. Ivies also do well upon walls, and tree varieties would no doubt make good bushes. Escallonia macrantha does splendidly, and others would, no doubt, succeed equally well. The Tamarisk succeeds better by the seaside than it does further inland. You might also add Fuchsia Riccartoni and Lycium barbarum.

When to Plant out Maize.—*T. W.*: Put the plants out in rich, friable soil about the same time as you would put out bedding plants. When that class of plants can be put out with safety, so can the Maize, provided you have hardened off the plants before exposing them to cold nights or the sun by day.

Names of Plants.—*D. C.*: 1, Daphne Mezereum; 2, D. Mezereum alba; 3, Exochorda grandiflora; 4, Spiraea Thunbergii; 5, Nuttallia cerasiformis; 6, Cornus mas.—*R. M.*: 1, Saxifraga oppositifolia; 2, S. sancta; 3, Puschkinia scilloides; 4, Chionodoxa sardensis; 5, Iris reticulata.—*J. H.*: 1, Gaultheria procumbens; 2, Eranthis hyemalis; 3, Sisyrinchium grandiflorum; 4, Acacia riceana.—*W. M.*: 1, Begonia Rex var.; 2, B. metallica; 3, Dendrobium crassinode; 4, Cattleya Trianaei var.; 5, Dendrobium primulinum.—*W. E. D*: 1, Rhododendron praecox; 2, R. daburicum; 3, R. (Azalea) indicum narcissiflorum; 4, Primula verticillata.—*R. Greig*: 1, Dendrobium thyrsiflorum: 2, Dendrobium nobile, a fine variety with large flowers approaching D. n. statterianum; 3, Dendrobium wardianum.—*F. G. Brewer*: The correct name is Sprekelia formosissima (formerly it was called Amaryllis formosissima).—*J. Mc'D.*: Coelogyne flaccida.

Communications Received. — J. Mayne. — A. Hope.—F. J. C.—Doonfoot.—J. M. (next week).—G. Douglas.—E. J. Ireland.—D. M.—A. C.—E. L.

TRADE CATALOGUES RECEIVED.

WM. C. G. LUDFORD, F.R.H.S., Fern Lea, Four Oaks, Sutton Coldfield, near Birmingham.—List of Rare, Curious and Beautiful Cacti, and Succulent Plants.

L'HORTICOLE COLONIALE, Société Anonyme, Parc Léopold, Brussels, Belgium.—Special Illustrated Catalogue of New Plants from the Congo and Other Countries.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

APRIL.

3.—Royal Caledonian Horticultural Society Show, Edinburgh (2 days).
4.—Linnean Society Meeting.
6.—Royal Botanical Society Meeting; Société Francaise d'Horticulture de Londres Meeting.
9.—R.H.S. Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society Spring Show (2 days).
10.—Shropshire Horticultural Society Show at Shrewsbury; East Anglian Daffodil Show, Corn Exchange, Ipswich.
22.—Chesterfield Spring Show.
23.—R.H.S Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

MAY.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting
7.—R.H.S. Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S Counties Society and Somerset County Agricultural Association at Croydon (5 days).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days).
11.—Bath Floral Fete and Rose Show.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S, Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days).
24.—Strabane Hort. Exhibition (2 days).
25.—Prescot Exhibition; Selby Exhibition.
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts. Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldcarn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition.
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.
21.—Banffshire Exhibition; Eastbourne Exhibition; Hastings Flower Show.
27.—R.H.S. Committees.
28.—Henley-on-Thames Exhibition; Hinckley Exhibition.
29.—Dundee Exhibition; Thame Exhibition.

SEPTEMBER.

3.—Bicester Horticultural Society.
4.—Milton and Sittingbourne (2 days).
6.—National Dahlia Society (2 days).
10.—R.H.S. Committees; Durham Flower Show (2 days).
18.—Botley Show.
24.—R.H.S. Committees.

OCTOBER.

8.—N.C.S. Exhibition (3 days).
10.—Fruit Exhibition, Crystal Palace (3 days).
15.—R.H.S. Committees.
29.—Croydon Exhibition (2 days).
30.—Exmouth Exhibition (2 days).

NOVEMBER.

1.—Newport (Isle of Wight) 2 days; Cowes (2 days).

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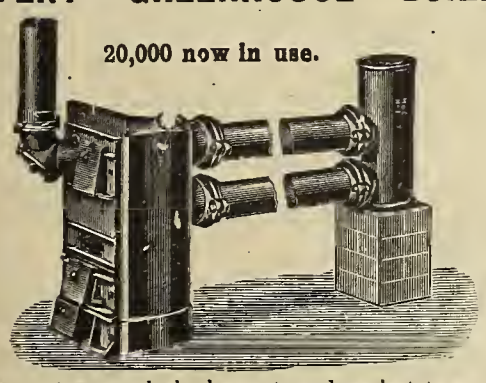

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The Gardening World

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, APRIL 6th, 1901.

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HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, April 9th.—Royal Horticultural Society's Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society's Spring Show (2 days).

WEDNESDAY, April 10th.—Shropshire Horticultural Society's Spring Show at Shrewsbury; East Anglian Daffodil Show, Corn Exchange, Ipswich.

SPRING FLOWERS AWAKING AT LAST.—Away back in January, though the weather was only of average mildness, the lover of hardy flowers could fairly anticipate that the hardy alpines and other early spring flowers would be fairly plentiful in February and March as usual. The naked yellow-flowered Jasmine and the fragrant Chimonanthus fragans and its large flowered variety enjoyed a fairly mild and congenial season for blooming; and at that early period Polyanthuses, garden Primroses, Daisies, Snowdrops and early Crocuses gave promise of even better things to come; but it is useless to prophesy in the absence of a definite and well established weather chart. February became positively cold and raw, the early days being ushered in with a snowstorm of greater severity than had occurred since the winter of 1895. The bulk of the snow disappeared in a night, the rest much more tardily, and though the frost was never particularly severe during the remainder of the month, the temperature continued very low, with a considerable amount of a raw cold rainfall and sunless days. The cold greatly increased in March with a continuance of the sunless condition till clear and frosty nights gave place to sunshine by day, but whose influence was greatly negatived by the bitterly cold east winds. March went out with boisterous wind and rain, but the atmosphere was positively milder, and plants are now waking up from their long winter rest. Those who are much concerned in the fruit prospects were pleased rather than otherwise that the fruit trees were being retarded till more settled and certain times; yet even in the case of Apricots, we hear of rather blighted prospects on account of the severely frosty nights and mornings. Other fruit trees are still greatly retarded.

Lovers of hardy plants have had to be satisfied with a scanty harvest of flowers in the open, though those who make a speciality of alpine plants and spring flowers generally, having provided themselves with frames or even unheated houses in some cases, have been rewarded for their trouble. Those who have been attending the R.H.S. meetings during the past two months have feasted their eyes on a fair abundance of hardy flowers, considering how unpropitious the season has been. Many of these flowers have actually been forced, particularly Daffodils, Hyacinths and Tulips; but independently of these, hardy flowers that readily respond to the shelter of a cold frame have been plentiful. Cyclamen Coum, but particularly its near ally C. ibericum and hybrids between the two have been in evidence for several weeks past. More recently Irises have been abundant, including forced specimens of the German Flag. No one will deny the beauty of I. reticulata and its varieties, with I. persica, I. Tauri and I. tubergeniana, the two last being recent introductions, and very pretty or interesting in their way. Even the last named has been in bloom for some time past in sheltered situations, facing the south. Crocuses according to their custom have been throwing up flowers from time to time whenever a day's sunshine invited them forth, or a few mild days without the more potential influence. In beds and borders the driving rain has sadly sullied their clean and bright condition, while those on the grass have presented a much happier appearance. Indeed, we think that Crocuses never look better than when rising out of a close green carpet of grass; so that lovers of hardy plants might well extend this aspect of gardening with advantage. Wherever a rising mound is available (and if already thinly occupied with large, deciduous trees so much the better) this might be planted with masses of Crocuses in few varieties, with decided colours. The flowers may not be so large as those flowered in pots or even in open beds and borders the first year after receiving them from the Dutch growers, yet the cheerful appearance of a mass of such in the early days of spring on a sloping grassy mound is more than sufficient recompense for the initial trouble and expense of planting them. The southern slopes being the first to receive the awakening influence of the sunshine, when there is any, would be slightly in advance of the rest, but particularly if sheltered from the north and east. In the relative absence of sunshine, such as has prevailed during the past winter, the differences are not so obvious, and the plants on various aspects come into bloom together.

Glory of the Snow, but particularly Chionodoxa sardensis and C. Luciliae, have been struggling to keep their appointed time, on the edge of the disappearing snow, or in this country with the departure of the low temperature. Even in the native habitats of hardy plants their time of blooming varies, being dependent upon the same influences that regulate their movements at lowland elevations. They (or at least C. Luciliae) are practically accompanied by Scilla bifolia, a slender though cheerful, early flower, and the Siberian Squill follows soon after. For a week or more it has been in full beauty in the southern counties, and though of a rich and handsome shade of blue it has the fault of not holding its head erect like the Chionodoxas. The Winter aconite has been in bloom for some time past, though it should have been in the height of its glory in February. We have seen it rise above the ground, even on a northern aspect as soon as the ground was sufficiently thawed to permit of its piercing the same. This year hardy plant lovers will be able to see it in fairly good condition in April, though most will agree that it might have come and gone earlier much to the satisfaction of its admirers. Anemone Hepatica and its numerous beautiful varieties bear on their face the struggle they have had to maintain their appointed season, and the battered and sullied flowers will hardly acquire their wonted brightness even if the weather should presently prove all that could be desired, because only the late flowers could assume a fresh and sprightly appearance. Leucojum vernum and its variety L. v. carpaticum (the Spring Snowflakes) like the real snowflakes have had their day, and both may go together. Foremost amongst the Daffodils comes the slender Narcissus cyclamineus, which has

stood the March winds bravely, though much behind its wonted time. Remarkably few of the others put in an appearance during that month, the exceptions being such early bloomers as N. obvallaris, N. pallidus praecox and a few others, chiefly garden forms.

The hardy Heaths such as E. carnea and its allies have been handsome; indeed it takes very severe weather to stay their progress. Daphne Mezereum in various colours has been gay for some time, to be followed by D. blagayana of more sober hue and dwarfer habit. The Flowering Currant, Nuttallia cerasiformis, Spiraea Thunbergii and Exochorda grandiflora have had a very trying time, but can hardly yet be considered in bloom. The Goat Willow or Sallow is practically a fortnight behind its time; but that and others though scarcely more than half expanded, have had their usual unauthorised pruning by those who smash them about in gathering what they term Palms. Adonis amurensis is earlier than the European species and a welcome addition to hardy spring flowers.

Specimens of British Plants.—M. Buysman, of Middleburg, exhibited specimens of British species of plants, at the meeting of the Linnean Society on the 4th inst., to show the character of a proposed issue to include the whole of the British flora.

Plants from the high Andes.—At the meeting of the Linnean Society of London on the 4th inst. a paper was read by Messrs. W. B. Hemsley, F.R.S., F.L.S., and H. H. W. Pearson, F.L.S., on "Plants from the High Andes." Mr. Hemsley also exhibited the species of Hevea found in British Guiana.

A Gardener as Parish Councillor.—As an instance of what a gardener may aspire to, we may state that we have just heard that Mr. Alex Wright, gardener to A. W. Sutton, Esq., Bucklebury Place, Woolhampton, Berks, has entered the Parish Council of Bucklebury, at the top of the poll. We wish him a successful innings.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, April 9th, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 p.m. Special prizes will be offered for Daffodils. At 3 o'clock a lecture on "Some of the Plants Exhibited" will be given by the Rev. Prof. G. Henslow, M.A., V.M.H., &c.

The Southern Counties Carnation Society.—The third annual report of this society shows that the receipts and payments for the twelve months ending December 31st, 1900, leave the society in a very satisfactory position financially. The prize money paid away last year was £68 5s. 6d. Printing, advertising, stationery, &c., and the hire of the pavilion with other necessary appendages also made two heavy items in the bill of expenses; yet the society has a balance on the credit side of £93 6s. 5d. with which to face the responsibilities of the next show. The subscribers alone bring a very substantial income to the society. Following in the same lines as the National Carnation Society, this body prints the names of the winners of prizes together with the names of the winning varieties of Carnations in their respective classes. About two-thirds of the pamphlet, which runs to sixty-four pages, is taken up with articles on Carnations, written by various pens in different parts of England and Scotland. Some of the titles of these articles are Carnations in Scotland; Carnation gossip; the Carnation season of 1900; Thrip in the Carnation; the Carnation and Picotee; bizarre, flake, and Picotee in 1900; Carnations in the Midlands; and premier flowers,—1895-1900. The writers are all, more or less, specialists in the culture of this popular flower, so that the pamphlet takes the character of a year book on the subject, as well as being a report of last year's show. Special prizes for Sweet Peas are offered at the forthcoming show, in addition to those for Carnations. The event is fixed for July 24th, next.

The Thistle Plague.—This nuisance is assuming such serious proportions that immediate steps ought to be taken to eradicate the pestilential weeds. It is a subject that ought to engage the early attention of the Board of Agriculture, for often where one man uses every means to exterminate them, a man owning the next field allows them to seed and blow over on to the well tilled field where they find a desirable seed bed, much to the mortification of the unhappy cultivator.

Dutch Horticultural and Botanical Society.—At a meeting of the Floral Committee of this society on March 13th, First-class Certificates were awarded to Mr. P. W. Voet, of Overveen, for Hyacinth Madame Borski and Iris persica Heldreichi (stenophylla). A Certificate of Merit was awarded to Messrs. Dieuwenhuys & Son, of Lisse, for Narcissus poeticus King Edward VII. A Botanical Certificate was awarded to Mr. H. D. Willink Van Collen, of Breukelen, for Greya Sutherlandi. A Silver Medal was awarded to Mr. H. C. Hacke, of Baarn, for Vriesia hieroglyphica.

Transactions of the Scottish Horticultural Association.—From a copy of this publication before us we learn that this association has a membership of 1,017, surely one of the strongest of its kind in the country. In addition to these figures there are one honorary life member and thirty-two life members. The association meets on the first Tuesday of each month, and a paper is read by one of the members, or by some other expert, after which a discussion takes place. The paper in February was by Mr. W. Kelway, Langport, preceded by the president's address; March, by Mr. M. Temple, Carron House; April, by Mr. John Cumming, Grantully Castle. In May, Mr. Forbes, Hawick, will read a paper; June, Mr. J. Cunnison, Glencorse Nursery, Edinburgh; July, Mr. D. Kidd, Carberry Tower; August, Mr. James Bird, Raehills, Lockerbie; September, Mr. George Gordon, V.M.H., Kew; October, Mr. James Dobbie, Starbank, Trinity; November, Mr. C. Blair, Binny. Uphall; and December, Mr. George Wood, Oswald House, Edinburgh. The annual general meeting is in January. The transactions and exhibits of each meeting are here recorded. Abstracts of the various papers read at the meetings of last year are also published here, so that the publication is useful for reference in all time coming. The receipt and expenditure account shows that £1,075 0s. 3d. was received from all sources on account of the Chrysanthemum show. The balance sheet for the past year shows that the association has a reserve of £840 16s. Here we have another proof of the strength of the association.

Bristol and District Gardeners' Mutual Improvement Association.—The last meeting for the session was held at St. John's Parish Room, Redland, on Thursday, March 28th, the chair being taken by Mr. A. J. Hancock. The lecture was given by Mr. G. Brook, of Messrs. Garaway & Co., on "Flowering Shrubs." At the outset he assured his audience that on account of their general usefulness, he held a brief for flowering shrubs, an assertion fully justified by his subsequent deliverance. He said that for cutting purposes they could not be surpassed, and claimed that it was possible to have flower in this way during eleven months of the year. For what we usually term "summer bedding" Mr. Brook urged that more attention should be paid to this section of plants, which by their hardy character and decorative value were worth being used in this direction much more frequently. He suggested some methods of arrangement and planting to secure the best effects and gave a long list of varieties always likely to bring good results, urging that in this neglected branch of the gardener's work, more attention should be paid to the soils for planting and treatment of the subjects afterwards, especially in the matter of pruning. A brisk discussion followed and Mr. Brook was heartily thanked for his lecture. Prizes offered for spray for lady's dress, and two buttonhole bouquets, were secured by—first, The Lord Mayor, Mr. C. Colthurst Godwin (gardener, Mr. McCulloch); second, Mr. F. Tagart (gardener, Mr. Binfield); equal thirds, Mr. W. Howell Davies (gardener, Mr. Curtis), and Mr. H. Kitley. Certificates of Merit went to Mr. Spry for a display of Cineraria blooms; Mr. W. M. Wills (gardener, Mr. Frampton), for Cattleya Trianaei; and Mr. Jennings for Dendrobium nobile.

Correction.—At p. 494, in the forty-fourth line from the top of the third column, for "Mackenzie's Holly," read "maderensis Holly," or in other words Ilex Aquifolium maderensis.

Royal Horticultural Society.—At a general meeting of the Royal Horticultural Society held on Tuesday, March 26th, forty-two new Fellows were elected, amongst them being Lady Rosamund Christie, Lady R. Gipps, Gen. Sir R. Gipps, K.C.B., Rev. Henry Swann, Chas. J. Billson, M.A., Mrs. Gore Langton and W. H. Myers, M.P.

Orange within an Orange.—At the meeting of the Linnean Society of London, on the 7th inst., Dr. J. Murie, F.L.S., on behalf Mr. H. Doubleday, exhibited an Orange within an Orange, the enclosed fruit having a complete rind; in which respect it differed from one previously shown by Dr. Rendle (*Proc. Linn. Soc.*, 1890-91, p. 7).

Models of Plants.—At the meeting of the Linnean Society of London, on March 7th, Mr. H. E. Smedley, F.L.S., exhibited and made remarks on a collection of models of Fungi, *Nepenthes*, *Sarracenia*, and Aroids, as also several models of sections of flowers, in wax and composition. Observations thereon were made by the president.

Beckenham Horticultural Society.—On Friday, March 29th, at the Beckenham Horticultural Society, Mr. Galley gave his experience on growing the Cinerarla, he having been a large grower for seventeen years. He had tried several ways of growing the plants, as by cuttings, seed, &c., but preferred sowing seed unless any special variety was wanted to be kept true, if so he raised them from cuttings. He generally sowed seed in June, placing the pan in which the seed is sown in a cold frame or the coolest part of the greenhouse, pricking them off as soon as plants could be handled, and keeping them growing in as cool a place as possible. The soil for final potting should consist of two parts of fibrous loam, one well rotted manure, with leaf mould and sand. In feeding the plants he never used any artificial manures, only drainings from the manure heap. A box of very fine blooms was exhibited by the lecturer. A good discussion followed, after which a hearty vote of thanks was accorded to Mr. Galley for his able paper.

Reading and District Gardeners.—A very interesting evening was spent by the members of the Reading and District Gardeners' Mutual Improvement Association on the occasion of the visit of the Rev. G. H. Engleheart, of Appleshaw, to speak upon "The Narcissus." The attendance was exceedingly large, and the meeting was presided over by the president, Mr. L. G. Sutton. The lecturer, in introducing his subject, drew attention to the great industry that had sprung up in connection with the Daffodil, mentioning that he had himself seen at Plymouth as much as £1,200 worth of bloom in one train for the London markets. The Narcissus had attained its present position as a market flower owing to its coming into bloom in the open air when other outdoor flowers were at a discount, for it could be put on the market sometimes in March and always in April. It travelled well, as the blooms would keep fresh for days if they had been placed in water a few hours previous to packing. Then followed interesting remarks as to the homes of the wild varieties and consideration of the soils in which they grew, after which the garden history of the plant was touched upon, reference being made to the work done in the days of the past by such men as Dean Herbert, Leeds, Backhouse, &c. The features of the leading varieties were then explained, also the modes of crossing, and a few hints on culture given. A discussion followed in which the president, Dr. Stansfield, Messrs. Townsend, Powell, Lever, Dore, Fry, House, Stanton, Tufnail, Exler, Bryant, Cretchley and A. W. Sutton took part, the latter proposing that a hearty vote of thanks should be tendered to the reverend gentleman for his excellent lecture. This was seconded by Mr. R. Atter and unanimously adopted. Owing to the lateness of the season only a few Narcissus were staged. The chief exhibit was a group of splendidly grown Cineraria stellata, shown by Mr. C. P. Cretchley, The Honeys Gardens, Twyford, who was awarded the association's certificate. Four new members were elected.

Begonia Caledonia at the Edinburgh Spring Show—Mr. John Forbes, nurseryman, Hawick, N.B., staged the prettiest and most effective exhibit yet seen of his renowned novelty, Begonia "Caledonia," which interspersed, as it was, with its type, Begonia "Gloire de Lorraine," brought into prominent relief the practical utility of this superb novelty which is doubtless a grand acquisition. The effect produced by the judicious blending of the pure ivory-white flowers of "Caledonia" and the lovely rose carmine-coloured flowers of "Gloire de Lorraine," as seen in the exhibit, was a never to be forgotten feast, both being alike in height, habit, floriferousness, and in fact every respect except colour; and being shown in good form, each by contrast enhancing if possible, the beauty of the other, clearly demonstrated the advantage and indispensable necessity of a combination of these deservedly popular plants for decorative purposes. For a background to this unique exhibit, Mr. Forbes had a most interesting and choice collection of Tree Paeonies in beautiful varieties, well grown, and in full flower, testifying to their value as attractive subjects for conservatory decoration. The exhibit was displayed in Mr. Forbes' best style, and was throughout a continuous centre of admiration to crowds of visitors.

Ealing Gardeners' Society.—On the 26th ult. the sessional meetings of this society were brought to a successful close by a paper on "Planting," by Mr. Jas. Hawkes, of Osterley Park Gardens, Isleworth. Mr. C. B. Green occupied the chair, and presided over a very good attendance. Mr. Hawkes prefaced his paper with some excellent remarks on the principles of planting, and laid great stress on the preparation of the soil. In the case of choice subjects he advocated the entire removal of unsuitable soil. Staking, mulching, watering, and even protection, must be given in many cases. Mr. Hawkes recommended that small or medium-sized trees and shrubs should be selected for this work. Conifers received a large amount of attention, as did also deciduous and evergreen shrubs; in fact, the material now at the planter's disposal is enormous, the difficulty being rather one of selection than otherwise. A very large number of ornamental trees, shrubs, and climbing plants, were commented on, and many useful hints imparted. On the proposition of Mr. W. Farr, Mr. Hawkes received a very hearty vote of thanks for his valuable and exhaustive paper. Mr. W. B. Gingell supported the vote, and regretted that time would not permit him to do full justice to this interesting subject. Six Hyacinths brought out three competitors, Messrs. Styles, Long, and Woods; while three Shamrocks resulted in an interesting display of these "Hibernian" plants. There were five entries, mostly exotic. Mr. Newell was first for three well grown pots of Oxalis Acetosella (variety), and Mr. Long, second, with Trifolium minus.

Mr. Peter Barr in the New Hebrides.—There has been a considerable amount of discussion about the destiny of the New Hebrides lately and who ought to possess them. While in Australia, Mr. Peter Barr felt interested in these islands and paid them a visit. He is described in *The Age* of Melbourne as an eminent botanist, and that he is known throughout the world as the "Daffodil King," but our contemporary has got his name wrongly put down as Robert. Amongst other things Mr. Barr says:—"While I was at the islands I heard a great deal about French transactions with the natives. I can say nothing about cruelty, because I saw no instances myself, and I do not wish to misjudge anyone. With regard to the land transactions of which Mr. Paton spoke, there is no doubt that the French get all the best of these. The British residents impeach Captain Rich, of the Ringaroema, and say he was influenced in some way or another because he gave judgments which were just the opposite of what would have been expected from the facts. Could anything have been more ridiculous than to ask the natives, as Captain Rich did, to show their title deeds to the land? The thing was preposterous, seeing that these lands were held by savages before title deeds were thought of. What happens is this:—A steamer goes up to the islands, and they get hold of a native and say to him, 'We want to buy a bit of land from there to there, and there to there.' The man says 'Oh yes,' and he gets a gun or something. Then it may be that the Frenchman will occupy the land from one end of the island to the other. They have even taken land belonging to white men. If any retaliation takes place the French have been known to come in a body and shoot the natives down. These New Hebrides will be a source of great wealth. You can grow copra there and Cotton, and Tea and Coffee, and the time may come when it will be advisable to make use of these islands as a means of livelihood. Just now they are slipping out of your hands. There should be no question of exchange or alienation, because these islands belong by right to Australia, and she ought to have them.

Hanley Horticultural Fete.—The statement of accounts of the horticultural fête, held by the County Borough of Hanley, on the 4th and 5th July last, is now published and shows that the finances are in a phenomenally flourishing condition. The financial year extends from April 1st, 1900, to March 31st, 1901. From this account we glean that the balance in hand last April was £971 5s. 9d. As a result of the fête this has now increased to £1,675 9s. 4d. Some of the principal items of this handsome revenue were: from subscriptions, £170 8s.; ground lettings, £534 4s. 2d.; gate receipts £1,363 15s. 10d.: and sale of tickets prior to fête, £323 4s. 11d. The expenditure was £1,956 16s. 6d., leaving the splendid balance in hand above mentioned. The statement of account was rendered at a special meeting on the 25th ult., when the Town Council met to confer with the General Committee, under the presidency of the Mayor (Mr. G. Ellis). Mr. W. Poulson, the newly appointed general secretary, read the minutes of the various sub-committees who are making arrangements for the next fête in July. Mr. Joseph Kent read the minutes of the Horticultural Committee, and Mr. A. Kent dealt with the children's section. The first annual dinner of the Horticultural Fête Committee took place at the Grand Hotel, on Wednesday evening, when the Mayor (Mr. G. Ellis) presided, and the committee took the opportunity of showing their appreciation of the valuable services rendered to the society by Mr. James Dodd and Mr. J. B. Barrow, the retiring general secretary. There were present Alderman J. Shirley, E. J. Hammersley, Councillors A. B. Jones, W. Foster, W. A. Adderley, Elphinstone, Goodson, and Taylor; Messrs. G. Bowering, J. Broster, A. Chew, C. A. Cowell, C. Dean, W. H. Dodd, A. Ellis, G. Jacober, Edmund Jones, F. Hancock, F. Godwin, W. Heath, T. W. Heath, T. Holdcroft, M. Nuttall, J. Pennington, G. Slater, J. H. Weatherby, F. Groom, H. W. Figgins, A. Lumsdale, A. Hodgkins, G. Barlow (treasurer), W. Poulson (general secretary), J. Kent (horticultural secretary), and A. Kent (assistant secretary). An excellent dinner was well served by Mr. and Mrs. Logan, and the room had an exceedingly cheerful appearance. The tables were splendidly decorated with plants from the Park conservatory, and beautiful flowers sent by gentlemen who have acted as judges at the shows in the Park. After dinner the toast of "The King, Queen, and Royal Family" was honoured, after which Mr. A. Lumsdale proposed "The President, Vice-president, Chairman, and Vice-chairmen of Committees." The Mayor, in responding, was pleased to announce that the Duchess of Sutherland had promised to open the fête on the 3rd July. When the balance at the bankers had increased to £2,000, he hoped something would be contributed in reduction of the rates. After some others had spoken on the subject, the Mayor said that Mr. James Dodd had been an indefatigable worker in connection with the horticultural fête, and had some time ago been made a Fellow of the Royal Horticultural Society. It was decided that he should be entertained to dinner and presented with an address. He had great pleasure in presenting Mr. Dodd with an illuminated address which was really a magnificent work of art executed in the town. The Mayor then presented a similar address to Mr. Barrow, acknowledging his energy and ability as general secretary. Both recipients replied. Mr. Kent was called upon to speak, and said that the feature of the next show would be prizes for British garden produce, consisting of fruits, flowers, and vegetables.

"TORENIAS."

Unsurpassed tender annuals for the decoration of our intermediate houses from early in May until the autumn, are with us. Seed may still be sown with every hope of success of a most brilliant display during the months named. Prepare a light finely sifted soil, and fill a 5-in. pot nearly to the rim, pressing fairly firm and watering with a fine rose-can a few hours previous to sowing, which should be done thinly, barely covering the seeds with the same soil. Cover with a piece of glass or slate and place in a night temperature of about 60°. As soon as germination has taken place remove the covering, place near the glass and not over water. Prick half a dozen of the little seedlings into 5-in. pots as soon as fit to handle, still keeping near the glass to prevent elongation of growth. Pinch the point out of each at the second joint, and before crowding takes place pot off singly into the same sized pots mentioned, or repot the lot as they are into 7-in. pots. Keep close and shaded for a day or two if divided, and the latter is also beneficial to them in all stages of growth. Stake neatly with a few strands of matting around before the growth falls about, keeping the syringe from them when coming into bloom. Bailloni has golden flowers with a purple throat, and Fournieri grandiflora, sky blue with darker spots, and a yellow throat.—*J. Mayne, Bicton.*

REASONS FOR ROOT-PRUNING.

As root pruning has been one of many interesting articles in The Gardening World lately, little or no reasons have been given for doing so (for the sake of the younger readers of our valuable paper). The Apple tree is a less deep-rooting tree than the Pear, but both strike roots straight down in loose soils, producing few fibres, and consequently the trees are unfruitful. Root-pruning is intended to bring too gross growing trees into a bearing state by checking growth. It is less needed when Apples are worked on the Paradise stock, or Pears on the Quince, but all in most soils require root-pruning during their earlier stages. When the trees are over luxuriant uncover the roots, see where the strongest and most straight down are, and sever these within a foot to a yard of the stem of the tree, according to its size and strength, or age. Any long bare roots growing horizontally should be cut back a bit also. If the trees are very vigorous and the roots are large and few, it is a safe plan to operate on one side only one year, and defer the other until the next, for root-pruning should never be carried to excess. Some judgment must be exercised, not forgetting that root-pruning lowers the growing powers of a tree, and that stunted growths are undesirable. I think this should always be done in November.—*T. S. Dick, Castlemilk, Lockerbie, N.B.*

CELSIA ARCTURUS.

Judging by its conspicuous absence in most private places it has been the writer's privilege to look over, the above plant is not nearly so much grown as its merits deserve. Its showy yellow flowers, borne on slender upright growths, similar to the hardy Verbascum of the herbaceous border, to which plant it is closely allied, form a desirable plant for our greenhouse or conservatory during July and the two succeeding months, although we have it nicely in flower now in 6-in. pots, carrying nine spikes of flowers. Seed sown now and well cared for in pricking off, eventually potted on into 5-in. pots, and placed in a cold frame without being pinched, will be in flower at the date first mentioned. It is by stopping the plants once, and, soon after, shifting into 6-in. or 7-in. pots, that supply spring flowering plants; and though the spikes may not be quite so robust as in summer the plants have been greatly admired in our show house this spring. To one barrowful of loam add half a bushel of leaf soil with a dash of sand and soot, which will grow the plant well. No shade is required when once established until in bloom, when a light shade proves beneficial to its flowering properties. This is a plant that seems to keep free of insect life, and what a boon to us poor domestic gardeners as the census papers term us.—*Experience.*

GRAPE THINNING.

To acquire the art of thinning Grapes properly one must be acquainted with the different varieties and their peculiarities. The best time to thin is directly the free setting kinds are out of flower, and the berries are about the size of No. 1 shot. Muscats and other shy setting kinds should be a little more advanced

before being thinned. When properly thinned a bunch of Grapes should have even sized berries that will form a compact cluster, close enough to retain its form when cut and laid on the dish or stand. If they fall about and show the stalk it is over-thinned; if they force each other out of place it is under-thinned. The Grapes should never be touched by the hair or flesh, or rust is produced and the bloom destroyed. Always begin at the point and work upwards, steadying the bunch with a small peg or stick, removing the smallest and plenty of the inside berries first. Sometimes a few of the berries left at the first thinning may not be perfectly fertilised; these can readily be distinguished by their being small and weak in the footstalk, and should be taken out at the second thinning. Lady Downes, Gros Colmar, and other late kinds, should be thinned freely, so that there is no danger of binding, otherwise they will not keep any length of time. Always thin in the early morning and late in the evening when the fingers are free from perspiration.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

TOM THUMB ANTIRRHINUM.

The decidedly dwarf habit of this strain of Antirrhinum is as marked as in the case of the Cupid Sweet Peas, with this distinction that the varieties of Tom Thumb Antirrhinum may be flowered by any one having a rood of ground, or even less provided that sunshine can reach it. The accompanying illustration put at our service by Messrs. Sutton & Sons, Reading, shows a field of this strain in different colours. At least ten distinct colour varieties are in existence, and in all probability the strain is capable of taking up all the colours that are known to occur in the garden forms of Antirrhinum majus which is the parent of all the florists' strains of the genus in gardens. The plants attain a height of only 6 in., and branch as freely as the ordinary types, each shoot ending in a raceme of flowers, closely arranged so that the whole plant is dwarf and floriferous.

For bedding purposes it will be recognised by cultivators generally that the self colours are best for bedding purposes, being the most definite, effective and attractive. Three varieties are put forward by the Messrs. Sutton as peculiarly suitable for bedding purposes. White Queen is pure white, and offers a hue that is in frequent request whether used in isolated beds by itself or in combinations of effective colour arrangements of beds. Yellow Prince affords a fine contrast, and is another colour much in request. Crimson King has bright crimson flowers and makes a bold contrast with the white variety. The three colours just named are practically the best that we have hitherto noticed amongst the various strains of Antirrhinum majus in gardens. Others there are in great plenty but not to surpass the general attractiveness of crimson, yellow and white; though where a collection is the object many other hues are indispensable. The colours come true from seed and also the dwarf habit of the plant.

DOUBLE PETUNIAS FOR EXHIBITION.

Obtain cuttings from side growths in June, insert in pots or pans of sandy soil. When rooted pot singly into small pots; growing on into fives, thereby obtaining nice sized plants for wintering. Pinch out the centres in spring whenever growth appears, and before potting; as the two operations should not be performed together. After good foundations have been secured, pot on into rich open compost, never allowing the plants to become pot bound; and keep growing in a greenhouse until June, when they may be plunged in ashes, in a cold frame, shading from bright sunshine, and returning to the greenhouse about the middle of July. Pinching and tying throughout the growing season is at all times necessary, to obtain proportionate plants. The last general pinching should take place seven weeks before being required in bloom, enabling all the flowers to come more equal. Shading and watering throughout is an all important matter to ensure success. No feeding should be given after the flowers begin to expand. Specimens exhibited in 9-in. pots will be found a suitable size if well grown. Should mildew appear, dust over and underneath the leaves with powdered sulphur. The two specimens exhibited at our Edinburgh show in September last were grown under treatment similar to the above. I hope these few remarks may cause a more general interest in the cultivation of the above mentioned flowers.—*Walter Hogarth, Norton Gardens, Ratho, Midlothian.*

ANOMATHECA GRANDIFLORA.

This is a bulbous perennial, coming where the numerous bulb section comes from, the Cape. In warm districts they will be found quite hardy; but removing the bulbs into a frost proof shelter in winter is safer. They will give more satisfaction if grown in pots to embellish the conservatory, with their brilliant bell-shaped flowers. If to be grown in pots, shake the bulbs out of their soil and repot in a compost of loam, leaf mould and sand. Grow in a frame or cool house in summer. The bulbs increase very rapidly, so division must be resorted to every second year. It also comes very freely from seed, which can be sown whenever ripe in seed pans. They are all worthy of cultivation; their dwarf habit, with grass like foliage, and bright flowers, which invariably are produced, for at least two months in autumn, renders them valuable subjects for pot work. After flowering dry off till spring. There are but a few species, Anomatheca cruenta (bloody), is a general one, and A. juncea another. I do not think grandiflora is much in cultivation as yet. Enclosed are a few roots, which constitute another mode of propagation.—*A. V. M., Coltness Gardens, N.B.*

[The specimens sent are really underground rhizomes, not unlike those of Couch grass, but much stouter with shorter internodes and swollen joints. It is customary to speak of Anomatheca and allied members of the Iris family as bulbous plants, but botanically they are herbaceous perennials with a rootstock consisting of underground rhizomes.—Ed.]

Sutton's Tom Thumb Antirrhinum.

LENTEN ROSES.

The Lenten Roses (Helleborus orientalis) are most valuable plants for garden decoration and producing cut flowers at the present time. They have been vastly improved these past years by cross fertilising, which has resulted in finer and larger flowers, as well as a greater variety of colour, ranging from pure white through various shades of rose and purple, many of them beautifully spotted. They are easily cultivated, and thrive well in ordinary garden soil; but for choice kinds, or a beginning, a prepared site is preferable. A moist sheltered situation, where they will obtain partial shade, suits them, making sure that the drainage is good, as stagnant moisture is most injurious. If the ground is well trenched and mixed with well decomposed manure they will thrive without transplanting for many years, a good top dressing being given annually. In early summer, when making their foliage, they are greatly benefited by frequent soakings of weak liquid manure, as the size and vigour of the leaves has a great influence on the size and substance of the flowers. Treated thus fine specimens are obtained with leaves 1½ ft. to 2 ft. long, and the flowers rising on forked stems above the foliage has a most imposing effect.—"*Brightspade.*"

A LARGE HELIOTROPE.

We have on the back wall of the conservatory here the largest plant of Heliotrope I have ever seen. I herewith append the dimensions of the plant: height, 14 ft.; width, 9 ft., while the stem measures 19 in. in circumference 4 in. from the soil. It is in most vigorous health, and annually supplies large quantities of cut flowers, from the middle of March to the end of September. I cut it hard back at the latter date, and it soon starts to grow again and its fresh green foliage all winter is very pleasing. It is planted in a shallow border, only about 12 in. wide; but the roots, doubtless, have long ere this made their way under the path, and found congenial soil elsewhere. All the "feeding" it receives is an annual topdressing of finely ground bones, and a good sprinkle of Thomson's Plant Manure. This, with copious supplies of water, is all the attention it requires. Curiously enough, although growing beside Roses and other plants liable to attacks of greenfly and red spider, this plant is never affected with these pests. This is the more curious, seeing how troublesome greenfly especially is, when Heliotrope is grown in pots. I send this in the hope that it may interest my fellow-readers, and should any of them have larger plants I would be glad to hear of it.—*Chas. Blair, Binny, Uphall, N. B.*

CHRYSANTHEMUMS FOR LATE USE.

The value of these for late cutting cannot be overestimated, and this especially where glass accommodation is limited. In these places often it is very difficult to find material for cutting the last two and first six weeks in the year. But with a supply of Chrysanthemums, Roman Hyacinths, Violets, Freesias, Marguerites, and things that do not need a lot of heat, the very scarce season is bridged over.

From my own standpoint I consider late Chrysanthemums by far the most useful, that is, to come in from the first of December onward. Their not being grown in warm temperatures makes them fitted for many uses, that material grown in high temperatures are not.

To illustrate this I may say that we have a very large, fine place of the old English style, about 8 ft. wide and correspondingly high. In this we have to keep a group of plants when the family are in residence (and this is during the last three and first four months in the year). It can readily be understood that such a situation is draughty, and not fitted for many things. In this position we find Chrysanthemums very useful, and now (January 8th) we have nice plants of Golden Gem, Dibbens, W. H. Lincoln, and to follow these we have Mrs. Chas. Carey, Princess Victoria and its yellow sport.

Another use we find these valuable for, namely, as pot plants for big vases. Lincoln struck late three plants in a pot, and potted into 7-in. pots and not stopped are now a mass of bloom. It is unnecessary to speak of their value in a cut state, but I may instance one, namely, long sprays of Mrs. Chas. Carey and long berried shoots of the Common Dog Rose, with shoots of Phillyrea angustifolia, make a bright and durable vase for a dark corner, or can be cut for low vases.

When looking through gardens in summer, all observing people must be impressed with the effort to grow big blooms or to have a big display during October and November. While in the same garden little attention is given to late blooming kinds, and this is when they would be most useful. It cannot be said this is from lack of kinds. I can remember seeing these in fine condition in January and February in a Norfolk garden a dozen years ago.—*J. C., F., Chard.*

HARDY FRUIT GARDEN.

Apricots.—The frosty nights so regular of late have hit the Apricot blossom rather severely, so that except where green Spruce branches or boughs of the Cherry Laurel have been fixed above the blossom, the prospects of a good harvest are anything but good. The wind on several occasions has been too boisterous for the success of tiffany as a means of protection. To add to the difficulties, heavy showers of flaky snow have fallen at times, wetting the blossoms, and unless this has dried up at night, the tender blossoms, where expanded, stood a poor chance.

Peaches and Nectarines.—The blossoms in this case are not so far advanced at the time of writing (29th March) in the midland and more northern counties, though I learn that in the earlier southern counties the statement does not apply. No such severe weather has occurred at this period for several years past. The surest plan of protecting the Peach blossom on walls is to fix some leafy branches of Laurels just over the blossoms. Some gardeners stick them in behind the stronger branches of the trees, but that will not shelter the flowering shoots on the outer edges of the trees where the branches or shoots are too slender for fixing leafy boughs over them. In the lower reaches of the trees some large boughs could be stuck in the ground to lean against the trees. Others might be suspended from the top of the walls by means which the grower can best devise on the spot. In any case they must be secured to prevent their swaying to and fro by the wind, as that alone would destroy all the blossoms within their reach. Wide copings on the top of fruit walls are very valuable in keeping off frost, but these should be put up on purpose, and be movable after their services are no longer required.

Cherries and Plums.—In the case of wall trees some means of protecting all the more valuable varieties at least should be taken. They are, if anything, more tender, and liable to damage than Peaches and Nectarines. Similar methods might be adopted as above recommended; and in certain cases it would be worth while getting long Spruce branches, cut fresh, and tying them on to the main limbs of the trees in such a way that they would extend over the slender flowering shoots at the extremities of the trees. The early morning sun striking upon the blossom does more damage than several degrees of frost. The use of the evergreen branches should, therefore, be apparent to those who have not yet used them.

Figs.—The severe weather of the past few weeks is not likely to injure the prospects of a good crop in the case of Figs upon outside walls, except in the case of badly ripened wood, which is useless for the production of fruit. Where the trees have been growing too rampantly in previous years, the present is a good time to remedy or check the evil. Those who are situated in chalky districts will have no difficulty in this respect, for the Fig likes a chalky subsoil, or in other words gives an excellent return. Fertile soils with a free root run are unfavourable to the production of fruit. In such cases the cultivator should lift the trees and root prune them. Still better would it be to concrete the bottom of the border, or take out the soil to the depth of 2½ ft., and put about a foot of chalk rubble in the bottom, ramming it hard. The root system could still further be restricted with advantage by surrounding an area of 1½ to 2 square yards with a brick wall, one brick in thickness. These precautions will restrain rampant and useless growth for a much longer period than merely root pruning the trees. This may yet be done without injury to the trees.—*M. I.*

Gleanings from the World of Science.

The subjects given below were brought before the Scientific Committee of the Royal Horticultural Society, on the 12th ult.

Carnation, leaves decayed.—Mr. W. B. Vernon, of Oswestry, sent some leaves decayed at the tips of a pink Malmaison, observing that the browning of the apex of the leaves occurs almost every year about this time. They were sent to Dr. W. G. Smith for examination and report.

Late flowering Chrysanthemum.—Mr. Holmes sent a blossom of L. Canning, with the following observation:—"I have never seen a flower so late as this before. It was in a pot in a cold house, and has been in blossom since the week before Christmas. I also send a fasciated stem of Daphne Cneorum."

Snowdrops, diseased.—Dr. W. G. Smith sent the following report upon specimens submitted to him:—"I regard the Snowdrops sent from last meeting of the Scientific Committee as attacked by the Botrytis stage of the fungus Sclerotinia Galanthi. This was described and figured by Worthington G. Smith (*Gardeners' Chronicle*, 1889); George Massee describes it in the *Kew Bulletin*, No. 124, and in his latest text-book of plant diseases. There is no need for me to submit a formal report, the name and above references should be enough to mention in the R.H.S. Journal report. I found the Botrytis form of spore working its way up the green parts of plants sent; now these are a shapeless mass with the Sclerotium stage present in numbers. As to remedy, I can suggest nothing better than the measures mentioned about a year ago in a report to the committee on Daffodils attacked by same disease. I have not the Journal by me now, so cannot give you the page where above is."

Mistleto in the Oxford Botanic Gardens.—Inquiries having been made as to the origin of the numerous plants and varieties of Viscum album now on various trees in these gardens, the following observations have been received from Mr. J. E. Jefferies, Oxford:—"I understood from the late Mr. W. H. Baxter that his father established the plant on Apple trees growing in a slip of ground outside the garden western boundary wall many years ago. Now it is met with in, or adjacent to, the gardens on perhaps a greater number of different kinds of trees than could be seen in a similar area anywhere, and probably the diversity of their forms is equally exceptional. On fresh specimens the size of the fruits vary considerably, the largest fruited plants being rendered far more striking as regards their whiteness, or, as may be said, their effective translucent appearance, more especially where they aggregate in clusters and become distinguished by being so prolific." Mr. Burbidge records the fact of Viscum growing on the following trees in the O.B. Gardens: "Ostrya vulgaris, Horse Chestnut, Pavia flava, Lime, Maple, Hawthorn, Apple, Willow, Beech, and Viburnum sp., but very weakly on the last two. Outside the gardens it grows on two Poplars."

Cattleya monstrous.—Mr. Coleman exhibited a form of Cattleya, which Dr. Masters undertook to examine.

Leopard Moth.—Mr. Gordon referred to the damage done by the caterpillars of this moth in boring up branches of the Spanish Chestnut, Apple trees, &c. He asked for information as to how long the caterpillar lived. Mr. McLachlan observed that the general misconception as to this was that it really bored upwards through the pith and not downwards, as is usually supposed. The only remedy was to insert a wire and kill it by probing. The fumes of cyanide of potassium was another remedy, if it could effectually reach the caterpillar. As to the duration, two seasons were required to complete the transformation, while the Goat Moth caterpillars took three years.

Apple, rotten.—Mr. Houston exhibited a remarkable case of decay, in that it had begun in the centre and spread uniformly outwards; so that the sound part came away like a hollow shell, leaving the perfectly spherical decayed central mass. There was no apparent fungus or other cause to account for it.

Crinum sp.—Mr. Worsley exhibited some stolons of a species of Crinum known as jamaicense. It is found in Jamaica, on the N.E. coast, near the sea, exposed to the N.E. trade winds. It is an unrecorded species, and since the peculiar method of propagation by fleshy stolens, one joint of which swells into the bulb, are characteristics of N. America, it was Mr. Worsley's opinion that it was derived from that country by ocean currents floating the seeds or perhaps bulbs to the shore of Jamaica.

Specimens from Botanic Gardens, Dublin.—The following interesting plants, &c., were received from Mr. Burbidge, with the following remarks:—"1, Herewith I send two or three sheets of Birch-bark paper, from Betula utilis, *D. Don* (= β Bhjopattra, *Wall*). It is written that paper was first invented and made by the Chinese; but I suppose the Birch trees of both East and West (*vide* Longfellow's poem of 'Hiawatha'), to say nothing of the wasps, made paper long before even the Chinese! Note how sensitive it is to heat and moisture. It is difficult to prevent its becoming a natural scroll. Was it the origin of all scrolls of bark, and afterwards of animal skins, used as a writing surface or paper? We have three trees, the largest 20 ft. high, and we value them very highly, not only for their silver-stemmed beauty, especially during winter, but especially because they were born and raised here from seeds, which Sir J. D. Hooker, K.C.S.I., &c., sent to the gardens eighteen years ago. In the same packet came seeds of the Himalayan Bird Cherry, Prunus (Padus) cornutus, with its old bronze-coloured bark, now 25 ft. high, and it flowers and fruits freely every year. 2, Flowers of the old greenhouse plant, Canarina campanulata, of the Canary Islands (1696), *vide* 'Bot. Mag.,' t. 444. 3, Salvinia natans. As to this, note its waterproof coating of short hairs, which carries down an air film if the plant be temporarily submerged; note also its lifeboat-like habit of 'righting' itself when placed into a vessel of water. Like 'Duckweed' (Lemna), Azolla, and other aquatics, it robs all submerged plants of light, &c., by its (and their) habit of forming a dense green mosaic on the surface of the water. Azolla kills or crowds out Lemna minor here in sheltered open-air tanks! 4, Acacia sphaerocephala (? = A. cornigera), 'Buffalo-horn Acacia,' myrmecophilous (*vide* Belt, T., 'Naturalist in Nicaragua,' 8vo, London, 1874). Note the big hollow spines, in which ants live; and also the yellow waxy secretion and exudation at tips or apices of young leaflets. I do not think this substance has received any chemical study. This 'ant-manna' seems to be of no actual or direct service or relief to the Acacia, as are some secretions; the resinous secretions that at times close the absorptive and secretive glands on the leaves of the Rosa alpina for example. In any case it would be a step forward to know exactly what this yellow wax-like leaf product really is. 5, An Indian 'Dodder,' growing on Ivy in cool greenhouse here, Cuscuta reflexa: Hooker, in 'Himalayan Journals,' Minerva Library, 1891 edition, page 27, says:—'Dodders (Cuscuta) covered even tall trees with a golden web.' This species is so rampant that it might have been one of them. It will grow on Ivy, Pelargonium, Cotoneaster, Calceolaria, Carex, Jasmine, Forsythia, Cytisus, Fuchsia—indeed, nothing seems to come amiss, and it is even self-parasitic (like the Mistleto), this phase of its life history having been discovered by Dr. Henry H. Dixon, of the Physiological Laboratory, Trinity College, Dublin, a few years ago, and described in the 'Proceedings of the Royal Irish Academy,' as also in 'Notes from the Botanical School of Trinity College, Dublin,' No. 4, January, 1901, chap. xvii. page 146. The plant flowers freely late in summer or autumn, the flowers being white, and not unlike a small Lily of the Valley (Convallaria) bells, having a honey-like perfume, which is very attractive to flies of many kinds. Azolla filaculoides, on water in muddy outdoor tanks here, is now a lovely copper-red colour. I see Hooker (loc. cit. supra), page 255, mentions Lake Catsuperri, alt. 7,150 ft., bordered by a broad marsh of bog moss, in which was abundance of Azolla, colouring the waters red."

HINTS FOR AMATEURS.

THE FLOWER GARDEN.

To a great extent the flower garden is ruled by fashion, and, following her dictation, it has been through a great many varying phases during the past fifty years. At one time there was a rage for straight lines and violent contrasts, and some people were so enthusiastic in their art (?) that they went so far as to insert coloured stones, &c., in the beds to heighten the effects. Fortunately, this extreme did not last long, and gave place to mass-bedding and carpet designs, both of which at the present day are beginning to be looked upon as vulgar. The method fashion chooses now is the natural style of arrangement. The master of art she has set herself to copy is certain never to lead her astray, and if she copies with any degree of accuracy, the effect in the garden is bound to be charming, and the eyes are not likely to be again wearied with masses of scarlet Pelargoniums bordered by a band of yellow Pyrethrum, with a fringe of blue Lobelia to set it off.

Herbaceous Plants and Annuals are the class of plants called upon now to fill our flower gardens generally, and for an effective display from early spring to late autumn cannot be surpassed. It is with the latter that I am going to deal this week, as it is from these that the amateur generally makes his selection for his garden. The term annual denotes that the plants produce their flowers and seeds but once and then die. Many plants do not produce their flowers until the second year and then die. These are known as biennials, and are very liable to get confused with annuals as they often produce their flowers the first year when grown under cultivation; but this should never be encouraged as the flowers are never so good as when produced on the fully matured two-year-old growth. The great fault found by most people with annuals is the shortness of their flowering period, but this can be greatly lengthened by judicious treatment. On no account must they be crowded together, as they are thus weakened by the struggle for life. Another thing that tends to exhaust the plants is allowing the seed vessels to remain on after the flower is dead, as it is into these that the plant will throw all its energy when allowed to remain. If the ground on which they are to bloom has not been prepared during the winter, it should have immediate attention. If the soil is of a heavy, retentive nature it should have a good dressing of dung. If it is not desirable to add more dung, the sweepings from roads serve well to open the soil and make it better adapted for plant culture. The ground in which annuals are grown should be, if possible, very friable, as their roots are fibrous and, in the case of many plants, very delicate.

Frequent Waterings, also, will be found to be beneficial, as they are mostly surface rooting and soon feel the effects of drought. It is in watering that the greatest errors in the flower garden are to be found. Too often a few minutes are spent in damping the surface, which is a waste of time; for if the ground is examined, it will be seen that not a drain of the water has reached the roots and only serves to cake the surface. What is required in dry weather is a thoroughly good soaking about twice a week. Even in very small flower gardens this takes more time to do properly than is at first thought. The aid of a small hose-pipe where the water is laid on is invaluable, but great care must be exercised in its manipulation or damage from swilling will be the result.

Hoeing.—If the surface of the soil is gently moved with a Dutch hoe at intervals, it will prove a great check to evaporation and give a very tidy appearance. The Dutch hoe must be used very carefully though or the damage done will eclipse the good gained.

Slugs, Snails, Earwigs.—Another thing that must never be neglected, if a good display of plants is required, is to diligently hunt for slugs and snails. The best time to find them is in the evening after watering. Wherever there are signs of their having paid a plant a visit during the night, a flower-pot with a wisp of hay in it should be placed on the spot; then it is very probable it will take refuge in this the next night, if not previously caught. Another good remedy is to scatter soot on the soil amongst the plants. This is a very effective remedy, but proves somewhat unsightly. An insect that often causes wholesale devastation in the garden is the earwig. There are many ways of trapping them. The best is by laying about Bean haulms or Bamboo canes in the vicinity of plants which they attack; in the morning these should all be gone over and blown through into a pail.

In Sowing and Planting care should be taken that there is no crowding, or the whole effect will be lost. Each plant must be allowed room and not be crowded by the next. Care must be exercised in asigning the plants to their proper position in the bed, so that a small growing plant is not choked by its larger growing neighbour. When sowing the seeds in the places where they are to bloom, always sow a good few more than will be required, as this allows the weak plants to be thinned out and only the strongest retained. It is a good plan when small seeds are to be sown direct into the bed or border, to have some prepared soil, and in the patches where the sowings are to take place have a shovelful pitched in with a fork. It is a great saving of time when the seeds can thus be sown direct into their permanent quarters; but it is not always conducive to the production of the best plants, for if the weather is cold and wet many damp off, and the others remain for a long time in that small state in which they so readily fall victims to vermin.

Frames for Seeds and Plants.—If anyone has a small frame he should raise as many as possible of his plants in shallow boxes. It is much better to have two frames, one for raising the seedling and the other for hardening them off. The temperature of the seed frame should be about 60° at night, rising to 70° or 75° in the day. Sufficient heat to maintain this temperature at this time of the year is easily obtained from a small hotbed of stable dung. Care must be taken that the steam from the dung does not get into the frame, or the result will be fatal to the plants. When the frame is stood on the heap it is best to put a layer of soil inside about 3 in. deep, and on this sprinkle a few handfuls of lime and soot to keep down the worms, &c. The soil for the boxes should be well sifted and of a very light nature The boxes should be very shallow—about 2½ in. is quite sufficient. In the bottom should be put a thin layer of crocks or small gravel to act as drainage. The seeds should not be sown in drills as is often done, but thinly scattered over the surface, and then just enough soil sifted over to cover them. As soon as the plants are large enough to handle they must be pricked off into other boxes and taken to the cool frame where they must be kept close to the glass to prevent them becoming drawn. As they harden off abundance of air may be given, and if the weather is favourable many may be put outside altogether, and afforded protection at night by a piece of canvas or any other available substance. By the middle of May most of them may be put into their final positions; but this depends on the season, the aspect of the garden, and in what part of the country it is situated.

Gourds.—A very good effect may be produced by several Eastern Gourds growing up poles. They are easily grown if a little well decayed manure is put round their roots. The Cucurbita genus is best, and if raised easily produce an artistic display of fruits.

Sundry Annuals and Perennials.—Antirrhinums (Snapdragons) produce a very good show of flowers if sown early, though this is not an annual. A dwarf plant that produces abundance of striking flowers all through the summer is Brachycome iberidifolia. For a depth of blue no flower can surpass Centaurea Cyanus, known commonly as the Cornflower. It is perfectly hardy, and can be sown at intervals so as to keep up a succession. Gaillardia picta is not an annual, but if sown in a little heat it flowers the first year.

The Gilias are a pretty genus of plants, which do not require to be raised in heat. Grammanthes is a genus of dwarf plants with scarlet and yellow flowers, and very suitable for a rockery. Lobelia cardinalis and others of that class require a gentle heat and great care in pricking off, or the plants will damp. Lupinus is a genus of plants that are easily cultivated, and do not require artificial heat to germinate. They have been hybridised largely, and present a great diversity of colours. Space will not allow me to give more genera, but a nursery catalogue will supply all that is required in that direction.—*F. J. C.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Double Wallflowers.—*E. L.*: The old varieties in cultivation are usually propagated from cuttings in a cold frame or under a handlight during the summer. There is, however, a strain of double German Wallflowers which can be raised true to character from seeds, and may be sown thinly in boxes or seed pans, and transplanted into cold frames or into the open ground as soon as the seedlings have made a few leaves. If put directly into the open ground, the soil should be prepared by working some leaf mould into it or old potting bench soil to assist the young plants in taking a fresh hold. In showery weather this would be entirely unnecessary. On the other hand, if the plants are put into a friable soil and watered every other day till fresh roots are pushed out, the seedlings may then be left to their own care

Raising new Pyrethrums from Seed.—*A. C.*: By taking pollen from a variety which you admire and transferring it to the stigmas of the florets of another variety from which you expect to raise something good, you may succeed in obtaining seed which may be sown as soon as ripe in seed pans or pots stood under a handlight or in a frame kept close. The seedlings should be protected through the winter in the same way and frequently inspected for slugs, which are very fond of Pyrethrums. As a hobby this might furnish you with an interesting pastime; but as a commercial speculation there is nothing in it, unless you are fortunate enough to secure something strikingly new. You could, no doubt, raise many varieties fit for the decoration of your own garden, but so many have been raised that the difficulty of getting anything really new is very great.

Ivies for Covering a Low Wall.—*J. Wardley*: The small-leaved varieties would be most suitable for your purpose, as they grow more slowly than the broad-leaved types, and appear more refined and neat in consequence. Amongst green-leaves varieties, you could plant Hedera Helix palmata, H. H. digitata, H. H. donerallensis, H. H. cuspidata minor, H. H. Emerald Green, H. H. conglomerata, H. H. lucida and H. H. gracilis. Very pretty variegated Ivies are H. H. marginata, H. H. marginata aurea and H. H. marginata rubra. The last-named is a very pretty one, as the margins of the leaves assume a deep red hue in autumn and retain it till spring. You will be most likely to secure it by asking for H. H. elegantissima, under which it is grown in many nurseries and gardens.

Watercress in Ordinary Garden Soil.—*J. T. W.*: It is possible to get fairly passable pickings of the Watercress in ordinary garden soil provided you adopt some means to make the plants fairly happy. For instance, you could not get good leaves from plants in dry soil and in fully exposed positions. If the plants grow at all they would be tough and rank in flavour. Select a position shaded behind a north wall, if possible, but not under the shade, the drip nor the influence of tree roots. Failing a wall you could devise some cheap screen which would keep the sun from falling upon the plants. Then mark off a bed, take out a portion of the soil so that the surface of the bed will be a little below the level, as it will be easier to keep it moist. Then dig in some well rotted cow manure and leaf mould in the bed, as these materials will serve to retain moisture. Sow the seeds thinly and water the ground frequently during warm and dry weather.

A Carpet Bed of Hardy Plants.—*T. R.*: There are many subjects which, if neatly planted in well planned beds, would afford a considerable amount of satisfaction, not only during the summer, but practically all the year round. It is advisable to dig up and replant once a year, and spring is the best time. For making a dwarf green carpet you could use Herniaria glabra, Thymus Serpyllum, Leptinella dioica and Sedum lydium. The latter turns red in spring and more or less so at other times in cold weather. Gray or white plants for covering the ground would be Antennaria tomentosa

and Cerastium tomentosum (Snow in Summer), trimmed back now and again to keep it dwarf. It is best used for dividing lines, and the same holds good for Artemisia pontica, the Roman Wormwood. For clumps or patches of gray use Sempervivum arachnoideum and Laggerl. For red or purple panels or patches plant Oxalis corniculata rubra and Ajuga reptans rubra. Sedum glaucum supplies a fine glaucous hue. Crustaceous and mossy-leaved Saxifragas, Sedums, Sempervivums, &c., may all be utilised.

NOTICE OF BOOK.

ONE AND ALL GARDENING, 1901. A popular Annual for Amateurs, Allotment Holders, and Working Gardeners. Edited by Edward Owen Greening. The Agricultural and Horticultural Association, Ltd., 3 Agar Street, Strand, London, W.C.

THE aim of this "annual" of some 194 pages is to encourage the extension of gardening in all directions amongst the dwellers, in town and country, especially the former, where the dwellers in confined spaces are encouraged by example and instruction to better their surroundings by the introduction of gardening in one form or another, according to the nature of the place, and the plants that can be coaxed by care and attention to grow and brighten the shady corners, or take off the bareness of the environment of bricks and mortar of large towns in which so many human beings are huddled together. Under the circumstances it is remarkable what can be done with plants by the selection of those most suitable for any given position. The main thing is light, a ray of light, and the dark place can be rendered brighter by means of plants. People who love plants and devote attention to their welfare, will go a step further to brighten up their back gardens by clearing away the rubbish and accumulations of filth and decaying matter that always accompany carelessness, apathy, and neglect about human habitations.

The book is taken up with chapters on various subjects by different writers. The Editor deals with "The Garden of Good Fortune." Mr. W. Iggulden, F.R.H.S., takes as his theme, "How to grow Tomatos"; Mr. T. W. Sanders, F.R.H.S., F.N.C.S., deals with "Shady Nooks and Corners"; "A Century's Work on the Improvement of Vegetables" comes from Mr. George Waugh, F.R.H.S.; "Hardy Perennials" also comes from Mr. T. W. Sanders; "Anne Beale as an Amateur Gardener" is taken in hand by Mr. Charles Peters; "One and All Greenhouse Calendar" comes from Mr. D. T. Fish, F.R.H.S.; and "The Delightful Literature of the Garden" from the pen of Mr. G. F. Watts, R.A. There are some other chapters, but the above will give some idea of the scope of the work aimed at in the book.

Some of the questions of the present day are voiced by the Editor when he says, "There is no reason why our towns and cities should be ugly and grim. The modern movements for the preservation of commons and the creation of parks; for the utilising of open spaces; for converting graveyards into gardens, and building land into temporary allotments; these and other recent developments have shown us something of what can be done."

In dealing with "Shady Nooks and Corners," Mr. T. W. Sanders shows what to avoid, what to aim at, dealing also with shady borders, the plants suitable for them, the management of the same, shady corners, plants for a shady rockery, grottoes, shady banks, gardening under trees, and a word about small gardens. About the latter he reiterates what is but too well known to dwellers in towns, that their small gardens do not get a fair share of genial sunshine. Lofty buildings, confined space, high brick or other walls and fences are responsible for this state of matters. Some of the plants recommended for small over shaded gardens are Night Scented Tobacco, Canterbury Bells, Calceolarias, Fuchsias, Nasturtiums, Love-lies-bleeding, Ten-week Stocks, London Pride, Periwinkles, Ivy, Solomon's Seal, Evening Primroses, and hardy Ferns. Some of the last named are recommended for situations under the shade of trees. For beds that get no sunshine he urges Pansies, Fuchsias, and Calceolarias for summer culture, and Snowdrops, Daffodils, Primroses, and Forget-me-Nots for spring flowering. The last four mentioned hardy subjects may be found thriving and perpetuating themselves quite naturally under hedges and the shade of deciduous trees, which fact would serve to corroborate his statement as to their suitability for cultivation under similar conditions.

A large number of illustrations are used throughout the book, including portraits of the various writers that contribute to its pages. Many gardens or views in them are reproduced, representing town and country cottage and other gardens. Fruits, flowers, and vegetables are also illustrated so that the book can hardly fail to be of service to whom it is intended. The accompanying illustration, placed at our disposal by Edward Owen Greening, Esq., shows "A Cottage Garden," with a glimpse into one or two others.

A COUNTRY COTTAGE GARDEN.

SEMIDOUBLE JAPANESE CHERRIES.

I AM sending a few blooms of Prunus Cerasus for your opinion of them. We had the plants sent from Japan, and they have flowered this spring for the first time. They make a beautiful pot plant, and have already been referred to in your valuable paper.

In my article on Prunus Persica, which was published in your issue of March 16th, I hope I made myself clear on the variety. What I referred to was the double flowering Peach, P. Persica fl. pl. (syn. Amygdalus Persica fl. pl.). The plants we have are all grafted on Plum stocks. The blooms are about 1 in. in diameter, thickly placed on shoots from 1 ft. to 2 ft. in length, in four colours, pied, pink, white, and pied and white.—*J. M., Market Drayton.*

[The records of the Japanese Cherries given in books lead to great uncertainty about the name or names that should be applied to them, and the same uncertainty prevails in gardens. Prunus Cerasus should properly belong to the common garden Cherry, or at least be a synonym of the wild form which is said to be the parent or one of the parents of the Common Cherry. The appropriateness of the latter name is a little doubtful. A large number of names have been given to the Japanese Cherry, of which three quite distinct varieties have been sent us by our correspondent. These names are Cerasus Pseudo-cerasus (adopted in Nicholson's *Dictionary of Gardening*), C. serrulata, C. Sieboldi, and Prunus paniculata. The latter name is given as the correct one for all of them in the *Index Kewensis*. The description of Cerasus Pseudo-cerasus given in the above mentioned work agrees with the specimens sent us, inasmuch as the flowers are in racemes and the leaves obovate, acuminate, and serrated. The specimens agree even better with the description of C. serrulata in the *Dictionary of Gardening*, except that the double flowers are said to be *disposed in fascicles*.

The specimens sent us all belong to the same species, and are decidedly beautiful whether we label them Cerasus Pseudo-cerasus or Prunus paniculata. The leaves may be described as obovate, drawn out to a long slender point, very sharply and deeply serrated, the teeth being drawn out in the form of slender hair-like points. The flowers are in racemes; but this appearance is no doubt heightened by the elongation of the peduncle, owing to the fact that the trees have been forced more or less to bring them into bloom. Even the shelter of a glasshouse would have this effect, by comparison with those grown out of doors.

All the flowers were double, one variety having faint blush petals fading almost white in their final stage under glass, though they would no doubt be darker out of doors. Another variety which we regard as very pretty had pale greenish primrose flowers, changing almost to pure white with age. The third

variety had flowers of a lovely shade of shell pink, and would, no doubt, be darker if flowered in the open air. The broad, round and oval petals were emarginate at the apex, and toothed all round the edges, or even sharply serrated in the case of the shell-pink variety. All the varieties were perfectly smooth, the leaves, flower stalks, and calyxes, being perfectly glabrous, that is without hairs. In these respects they differ from the description given under Cerasus Pseudo-cerasus, in which the branches and peduncles are said to be pubescent; otherwise the plants agree with the descriptions given under the names Cerasus Pseudo-cerasus, C. serrulata, and Prunus paniculata. ED.]

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 26th ult.:—

Orchid Committee.

ODONTOGLOSSUM CRISPUM PURPURASCENS.—It is marvellous to note how Nature, in this particular species of Odontoglossum, by a little shifting of the kaleidoscope can produce such a variety of colours or more strictly so many different arrangements of the same thing. The variety exhibited under the above name by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking, had previously received an Award of Merit, but the fine spike shown on this occasion was deemed worthy of a First-class Certificate. Over the white ground is a lilac-purple shading, on which is arranged many reddish purple blotches more or less run together in masses. The lip had a large blotch in front of the yellow disc and crest.

LAELIA JONGHEANA KROMERI.—The flowers of this variety are moderate or average as to size, but they are beautifully formed, of excellent substance and the darkest in colour that has yet appeared amongst recent importations. The sepals and petals are deep rosy purple, and the lip also richly coloured. (Award of Merit.) Mr. Ed. Kromer, Roraima Nursery, Bandon Hill, Croydon.

ODONTOGLOSSUM CRISPUM SUNSHINE.—There are some who doubt the possibility of a yellow form being a true O. crispum; but the variety under notice has little to show beyond colour of any other parentage. The flowers are large with more or less deeply cut segments, somewhat tinted with purple on the back. The lip has a large brownish-purple blotch in front of the crest. (Award of Merit.) Messrs. F. Sander & Co., St. Albans.

Floral Committee.

PRIMULA MEGASEAEFOLIA.—This is a beautiful Primula of dwarf habit with a truss of large flowers of that shade of rose-purple seen in P. Poissoni, but not in whorls as in that species. The leaves are roundly cordate, of a dull metallic green and about 1½ in. in diameter. It is a native of Asia Minor, and in all probability will require to be grown in frames at least in winter. (Award of Merit.) Miss Willmott, Warley Lodge, Brentwood.

HAEMANTHUS MIRABILIS.—The ovate, stalked, nearly upright leaves of this species, from the Belgian Congo, are produced contemporaneously with the flowers to the great advantage of the latter. The segments of the flowers are elliptic-lanceolate, and of a rich orange scarlet. (Award of Merit.) M. Linden, Parc Leopold, Brussels.

HAEMANTHUS FASCINATOR.—This form produces a massive head of salmon-red flowers, the long, narrow or linear segments and the tube being of the same colour. The pedicels are red. The leaves are in all respects similar to those of H. mirabilis. (First-class Certificate.) M. Linden, Brussels.

HAEMANTHUS QUEEN ALEXANDRA.—The flowers of this form, which we should regard as a colour variety, have rather narrower segments than those of H. mirabilis, of a soft salmon-pink, and therefore strikingly distinct by comparison with either of the above. (Award of Merit.) M. Linden, Brussels.

LACHENALIA PHYLIS PAUL.—The hybridist has evidently been at work crossing in order to procure new forms. The flowers of this form are the largest we have seen in the genus, L. pendula not excepted. The flowers are golden-yellow with a narrow red edge to the long inner segments. The leaves are spotted with purple. (Award of Merit.) F. W. Moore, Esq. Royal Botanic Gardens, Glasnevin.

LACHENALIA KATHLEEN PAUL.—Here again the flowers are of the largest size and very handsome, especially the half developed flowers which are of a bright red, later on changing to yellow with a broad purple margin to the inner segments. The leaves are spotted with purple. (Award of Merit.) F. W. Moore, Esq.

RHODODENDRON GRANDE.—This may be described as one of the most handsome of the Himalayan Rhododendrons, producing immense terminal trusses of large, bell-shaped white flowers, having purple blotches internally. The large oblong leaves are silvery beneath, hence the species is sometimes named R. argenteum. (First-class Certificate.) F. D. Godman, Esq. (gardener, Mr. Moody), South Lodge, Horsham.

HIPPEASTRUM CLOVELLY.—The flowers in this instance are of fairly average size, but of handsome, well expanded form, and white with red lines on three of the upper segments. (Award of Merit.) Captain Holford (gardener, Mr. A. Chapman), Westonbirt, Tetbury, Gloucester.

HIPPEASTRUM LORD BORINGDON.—The flowers in this instance are rather larger than those of the last, and of an intense crimson colour, deeping at places in the throat to maroon. (Award of Merit). Captain Holford.

TULIPA KOROLKOWI BICOLOR.—Of the smaller Tulips we regard this one as a gem of the first water. The whole plant is only about 4 in. to 6 in. high, bearing a solitary, terminal flower rather wider than that of T. Clusii, but shorter in proportion. The segments are bright yellow with a large red central and basal area, the colour being shown on both surfaces, and therefore very showy, whether closed in the absence of sunshine or open under it. (Award of Merit.) Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester.

ODONTOGLOSSUMS.

HUMBOLDT, Bonpland, and Kunth, gave the name to this genus of Orchids. About the beginning of last century the first species of Odontoglossum was discovered by an illustrious German geographer or explorer, near by Jaen, in Peru. Since that time there have been many introductions of new species. If we do not know much of the species described by Humboldt under the name of Odontoglossum epidendroides, we have yet over eighty species and many varieties all of greater or less beauty. They are all natives of mountain regions, mostly of the mountains of tropical America, between the latitudes 20° N. and 15° S., at various altitudes, but always high, and attaining in some parts of Central America to 7,000 ft. and 8,000 ft. In the Sierra Madre range of mountains on the west coast of America between the 20th and 24th degree north latitude, and near by the little Mexican town of Colima, we find the northern limit of stations at which Odontoglossums are found. It was here that B. Roezl, in 1872, discovered Odontoglossun madrense, Rchb. (O. maxillare, Lindl.). Another Odontoglossum, to wit, O. citrosmum, whose aspect differs so much from all other species; also grows near by Colima, but at a much higher altitude. Like many other Orchids the Odontoglossums are dispersed over a limited area. Each species adopts a particular site where the conditions are favourable to its existence. Not many Odontoglossums are found on the plains; but chiefly between the altitudes of 5,000 ft. and 9,000 ft., where the air is constantly changing, the latter being a necessary factor to their existence. O. densiflorum, Lindl. grows at very high altitudes indeed—11,000ft, and 12,000 ft. Growing on these high mountains at such short distance from the Pacific Ocean and the Gulf of Mexico, they are bathed in a humid atmosphere maintained thus by the vapours which condense on the mountain crests. Like all other *Orchidées épidendrés*, that is to say, those that in their natural habitat suspend themselves on the branches of trees, Odontoglossums derive a great deal of their nourishment from the air, and an abundant and constant circulation of air is an essential of their existence. The application of this principle by our horticulturists, results in their obtaining luxuriant and well flowered plants, while the Odontoglossums that are grown in a humid, warm, stuffy atmosphere rarely flower well.

In the front rank of Orchids with brilliant flowers for a cool greenhouse is O. Rossii, Lindl., discovered by Barker in 1841. O. R. majus and O. R. rubescens are also fine varieties of this species. O. grande, discovered in the ravines of the mountains of Guatemala in 1839, is one of the finest even at the present day. O. Uro-Skinneri, O. Pescatorei, O. crispum, O. c. apiatum, O. c. fastuosum, and a dozen of other varieties of the latter, may be taken as amongst the best known, and most worthy to be grown at the present time.

MYOSOTIS ALPESTRIS VICTORIA.

MYOSOTIS ALPESTRIS VICTORIA.

WHETHER for bedding purposes or for planting on the rockery, few if any plants are prettier in their way than Myosotis alpestris in some of the numerous varieties in which it is now obtainable. That named M. a. Victoria is of remarkably dwarf habit when grown in an open situation, where it should be, to insure a dwarf sturdy habit with relatively large, bright azure-blue flowers. Another peculiarity of this variety is that it develops a flower in the centre of each cluster, having a greater number of segments than usual, and appearing at times to consist of two flowers grown together, and at other times to be double, as shown in the accompanying illustration put at our disposal by Messrs. J. Veitch & Sons, Ltd., Chelsea. This shows the habit of the plant admirably when seedlings have been planted out singly or thinned out so that each stands a few inches apart from its neighbour. When plants are desired for spring bedding seeds may be sown in lines in the reserve garden and planted out in autumn, when the beds are put in order for the winter. Crowding should not be tolerated, as that destroys the vigour of the seedlings and their sturdy, compact habit. The seeds should therefore be sown thinly, and the seedlings thinned out if necessary after they have made a

few leaves. These thinnings may be pricked out in other lines if they are likely to be required. Patches may be sown upon the rockery where they are to remain, after loosening up and breaking the soil with a fork. When the seeds are ripening upon the rockery the soil may be again loosened on the surface, and seedlings will spring up naturally when the autumn rains come to their assistance.

POPPY THE CARDINAL.

Poppies are notoriously fragile and fugitive, though less so than the flowers of Cistus. Nevertheless it has been abundantly proved that Poppies may be rendered highly serviceable for garden decoration and equally so for table decorations in the form of cut flowers. Double Poppies are more durable but are better adapted for garden decoration than for cut flower work. The accompanying illustration lent us by Messrs. J. Carter & Co., High Holborn, London, shows a double and at the same time a very remarkable form of Papaver somniferum. The myriads of stamens have become transformed into long, narrow, wedge-shaped or spathulate petals deeply cut or fringed at the apex. The whole form a large globular mass, suggestive of some of the double forms of Oriental Paeonies, but presenting a more refined appearance, and a brilliant scarlet colour that does not exist amongst the darkest red Paeonies we have. The base and reflex of the petals in this Poppy are white. Seeds may be sown in the open in April, for this Poppy is very hardy.

Poppy The Cardinal.

FRUIT AND VEGETABLE PRODUCTS FROM OTHER LANDS.

(*Continued from p. 495.*)

Cloves are the undeveloped flowers of the Clove tree (Caryophyllus aromaticus, L.) a slender Myrtaceous tree allied to the Pimento which yields Allspice. The buds of the Clove tree are not usually taken till the latter has reached its fifteenth year, and it continues to crop and furnish flower buds till about seventy-five years of age. The tree is a native of the Molucca Islands but, like the Rubber, Tea, Coffee and Cocoa plants it is now disseminated and cultivated in every part of the world having conditions suitable to its growth.

One tree yields from 5 lbs. to 20 lbs. of spice; the crops are dried under shade so as to preserve their fragrance; and the harvest is gathered in the tropical spring months of November and December. The best Cloves come from Aboyna.

Currants.—The fruit sold by grocers under the name of Currants has nothing whatever to do with Black Currants, although one might very easily mistake them for dried berries of the latter bush fruit. Instead, they are the fruit of a delicate species of Vine (Vitis vinifera var. corinthiaca) which requires a good deal of careful management and is grown largely in southern Greece. It will give some idea of the enormity of the crops when I state that 40,000 tons are imported, on an average, annually. Its sphere of successful culture seems to be very limited indeed, for it has been introduced to Malta, Sicily and Spain only to find that it degenerates to a useless wild Vine. The fruit is harvested during August and is at once conveyed to the drying ground, where, after being exposed to the sun for two or three days, the little Grapes fall from the stalks and are collected for shipment. As the Currant growing districts are subject to severe and sudden thunderstorms the period during which the Grapes are being dried is an anxious one, because the fruit would be deteriorated in quality by being wetted, and furthermore it might be washed from the bunch and become soiled. As a rule the first shipments arrive in this country about the middle of September.

Raisins are the Grapes of other varieties of the European Vine (V. vinifera). Raisins are of different kinds usually receiving their distinctive names from their special connection with some locality, or province, or country. Thus the grocers sell us Muscatels, Sultanas, Valencias and so on. They are all dried Grapes, that is, Raisins. Muscatels are chiefly grown in Spain on ridges sloping to the sun, and in the springtime when in flower, they are covered over every night. The berries are cured in from four to five days and the bunches are thinned out sufficiently to allow them to lie flat when packed. The thinned-out Grapes are the loose Muscatels. The dryness of the district in which the Grapes are cured has a marked effect on the quality of the Raisins. Valencias also come principally from Spain and are said to be prepared by the Grapes being dipped into a boiling lye made of ashes of the Vine and soda, and are then sun-dried. Sultanas are seedless Grapes whose dried fruit (Raisins) usually sells at a higher figure than other kinds. They are largely cultivated around Smyrna, though a few are also grown in Greece and Persia. The new season's stock arrives in the months of September and October.

Prepared Ginger (Zingiber officinalis, *Roscoe*) is of different sorts, but in any case ginger is the root of the plant I name, and which is a native of China and the East Indies, though its culture for commercial purposes has been successfully attempted in the West Indian Islands. Ginger is one of the best condiments one can employ, and the crystallised ginger of the confectioners ought to be eaten in preference to a great many of the other sweetmeats. Grocers sell "yellow" and "blue" ginger, though the "yellow" is the better root, being brittle and more pungent that the "blue," which is tough and fibrous. These again are subdivided into "plant" and "ratoon" ginger—the former is ginger planted each season; while the latter is a return crop secured by leaving a part of the rhizome in the ground at harvest time. The ginger that cooks use is prepared from green rhizomes (roots) which, after being scalded in hot and then cooled in cold water, are peeled. They are then placed for a while in a thin syrup, and are finally sealed up into jars along with some richer syrup. The dry ginger is of two sorts, white and black; the former being prepared with the greatest care from selected roots.

The Pulse tribe, or order, affords us Haricots, which are the beans of Phaseolus vulgaris. Broad Beans are not a grocer's commodity. The latter belong to the genus Faba, which is distinct from Phaseolus. Lentils are different from either, being the seeds of Lens esculenta, *Moench*. Considering that Lentils are of high nutritive value, and are richer in casein than either Peas or Beans, it is a wonder that English people do not consume more of them. There are three chief varieties of Lentils:—Egyptian, a red kind, imported from Syria and Egypt; French, and German, a brown kind, which is considered the best; while the third is a coarse sort whose seeds are mostly used for cattle food.

Linseed is the shiny seeds of the Flax (Linum usitatissimum, *L.*), and is largely imported from Russia. The Flax, of course, is a useful fibre plant. Linseed oil is obtained by hydraulic pressure, and the residue furnishes the cakes for feeding cattle. The seeds, when ground down, also furnish the linseed meal.

Pepper is the powdered fruits of Piper nigrum, *L.*, a climbing plant largely cultivated all throughout the tropics. (It may be pointed out in passing that many of the Pipers are very ornamental stove climbers or procumbent plants, to which more attention might be given.) White pepper is prepared from the same species as the black pepper by rubbing off the husk or pericarp of the berry Cayenne pepper, on the other hand, is derived from distinct Solanaceous plants, that is Capsicums. Dutch Long Pepper, Kava, and Betel Pepper are properly enough, the products of different species of Pipers. The plants that yield these latter peppers commence to bear in the third year, and continue bearing for about ten years. The fruit grows abundantly in spike-shaped clusters, each bunch bearing from twenty to fifty berries, about the size and colour of our Holly berries. The Pepper plants bear two crops every year.

Capers are the pickled flower buds of Capparis spinosa, *L*, a bush which grows freely in Southern Europe. The unripe fruits of the Garden Nasturtium (Tropaeolum majus, *L*), are sometimes used instead.

Chicory is the root of the wild Endive, carefully washed, sliced, and kiln-dried: after which they are roasted and ground.

Mustard is the ground seeds of one or two kinds of Brassica, which are cultivated both in this country and abroad. Many hundreds of tons are usually ground-up each year.

(*To be continued.*)

THE APIARY.

Breeding should be well advanced in all stocks by this time. In most hives there will be brood on two or three frames, and more in strong stocks. Now that the month of April is arrived all stocks should received a thorough overhaul the first fine day or two that occurs. If a clean, empty hive is handy so much the better, because we can shift the bees into it while examining them, placing it on the old stand. The hive they were in may be cleaned and prepared for the next stock, and so on, until all are gone over. In overhauling a stock give the bees a puff of smoke at the entrance, remove roof and upper quilts, roll back under quilt, giving a puff of smoke during the while, but no more than is absolutely necessary.

Remove the dummy and all frames that bees do not cover, placing the same at back of dummy in clean hive. Lift each frame with adhering bees

separately, examining each one carefully; note that they are healthy, the amount of food, quantity of brood and bees, &c. It is like turning over the leaves of a book you are reading, and the experienced bee keeper can read all at a glance. Be sure that you place combs in the new hive in the same position as they were taken out of the old one. It does not upset the brood nest so much, and there is less danger of having chilled brood. Give the bees no more frames than they can thickly cover.

It is far too early yet to begin spreading the brood nest. In examining a stock we should always see that we have sufficient time on our hands to allow us to do the work quietly and at our leisure. Work done in a hurry is never done well, and bees will not be hurried. If a sting is received it should be extracted immediately, and the part smoked a little. This removes the smell of the bee that inflicted the sting, which irritates the rest. There are so many cures for the sting of the bee that a few will be sufficient. The best cure that I know for them is stings! After you have received a few dozen, or may be hundreds, you become so thoroughly inoculated with them that after a time a dozen stings or so do not affect you either way. Some recommend rubbing the part with ammonia, honey, tobacco juice, or Dock leaf; others, a little earth, whisky taken internally, &c., &c. In fact, everyone has his or her particular cure.

Where water is at a distance from the hives it should be provided for. A shallow dish full of tea leaves, always kept damp, is suitable, or a rain barrel with a few corks for the bees to rest upon; in fact, anything that may occur to the handy bee keeper to provide water without the risk of drowning the bees.

In districts where natural pollen is scarce, a box filled with rough wood shavings with a pound or two of peasmeal thrown amongst them should be provided. This should be placed in a sunny corner near the hives, to attract the bees. A small piece of honeycomb should be placed amongst it. When the natural pollen is coming in they will leave it. Stocks that are short of food may be given liquid syrup, in place of candy, at the rate of ¼ pint a day for the first week, which can be gradually increased as the stock gets stronger.—*Doonfoot.*

GARDENING MISCELLANY.

CELOSIA PYRAMIDALIS AUREA.

The tall red and the yellow varieties of Celosias are much prized for summer garden decoration, and seeds may be sown now to supply plants for summer planting. Their culture is similar to that of the Cockscomb (C. cristata). Instead of allowing them to stop in the small sized pots (as is done with C. cristata till the formation of the comb), they should be potted on as needs require, and hardened off previous to their being put out in the beds in midsummer.

SAXIFRAGA BURSERIANA.

Gardeners usually label this plant S. burseriana major, but whether it merits this title or not is doubtful. When the plant is grown in pots and flowered in a frame or a glass structure of any kind, the flowers come considerably larger than when grown entirely out of doors. Being perfectly hardy it is an important adjunct to a collection of rockery plants, and of charming appearance when in full bloom under favourable circumstances. The dense rosettes of small, glaucous leaves form very neat tufts that increase very slowly, so that there is no possibility of the plant overrunning its neighbours. A variety named S. b. macrantha in the hardy plant house at Kew does not seem to differ from the type, except in being later in coming into bloom, and in having red stems and red calyx, and, perhaps, more decidedly glaucous foliage. Its chief value would be in forming a succession of bloom to the type.

SAXIFRAGA APICULATA.

Apparently this name is going to be retained for a plant that comes before the public under a variety of names such as S. Frederica Augusta, S. Malyii, S. luteo-purpurea, &c. The small leaves are arranged in dense rosettes, forming in the aggregate a dense tuft from which arise a wealth of flower stalks about 2 in. to 3 in. high, bearing each a terminal cyme of yellow flowers. The plant is quite hardy, and commenced opening its blooms a week ago at least; but it is much more handsome if accorded the shelter of a cold frame, or even a house erected for the purpose of growing hardy plants, or flowering them at least. Under such conditions the flower stalks are longer, and the flowers come much more regularly and are finer than in the open under the influence of cold and frosty nights.

SAXIFRAGA OPPOSITIFOLIA PYRENAICA MAXIMA.

The above rather lengthy name represents a grand form of a British plant, though the variety, as the name implies, is not a native of this country. The obovate, rosy-purple petals are not particularly broad, but they vary from five to six, and spread widely when fully expanded, owing to the great width of the calyx on which they are seated. The leaves are also relatively large, showing that altogether this is a very vigorous form of the species, which is perfectly hardy, but develops its flowers best in a cold greenhouse or frame, as a result of the shelter afforded against the uncertainties of our fickle climate in the month of March and April. All the forms of S. oppositifolia delight in a cool, moist situation. Those who are fond of hardy plants would do well to grow a pan or two of it to place in the greenhouse when in bloom, thereby adding to the interest of that structure in spring.

IRIS TUBERGENIANA.

In the open ground this new species does not exceed 3 in. in height, leaves, flowers, and all. Practically it is similar in habit to I. persica, but at first sight reminds one of the later flowering and taller I. orchioides. The dark green, two-ranked leaves have a narrow white margin. The yellow flowers are fairly conspicuous, this being chiefly due to the size of the obovate falls, which have two small black spots on either side of the small beard of fringes along the centre. It seems destined to prove hardy in sheltered places, as it has been flowering in front of a south aspect wall at Kew for some time past.

SOCIETIES.

LIVERPOOL HORTICULTURAL ASSOCIATION.

March 27th.

The 15th spring show of this society was held on the 27th ult., in the St. George's Hall. Although the weather was boisterous and nearly down to freezing point, a very fine lot of exhibits were staged and in some cases specimens were superior to anything seen previously.

For a group of miscellaneous foliage and flowering plants, Mr. B. Cromwell, gardener to T. S. Timmis, Esq., Clevelly, occupied the place of honour with a group of high merit, tastefully arranged. The climbing Roses arranged in festoons proved highly effective. The chief plants were Ferns, Orchids, Caladiums, Crotons, &c. Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Elm Hall, held second place with more greenery but lacking in the finish at the back of the first prize.

For ten pots of hardy herbaceous plants, Mr. E. R. Finch, gardener to Jos. Smith, Esq., won with fine pots. For a display of bulbs and foliage plants, Mr. C. Osborne, gardener to Percy Jackson, Esq., led with a good assortment. For twelve Hyacinths distinct, Mr. T. Hitchman, gardener to A. Earle, Esq., Childwall, led with fine massive spikes, the best being Electra, Capt. Boyton, Lord Roberts, Grand Maitre, Cardinal Wiseman, &c. For the six distinct varieties, Mr. J. Heaton, gardener to R. P. Houston, Esq., M.P., was to the fore. For six pots with three bulbs in each pot, Mr. E. R. Finch won with fine spikes.

For six pots Polyanthus Narcissus, Mr. Finch was again to the fore. Twelve pots single Tulips, not less than six varieties, Mr. F. C. Keightley, gardener to Mrs. Duncan, won with good types. For six pots, Mr. E. R. Finch was accorded first. For six pots doubles, Mr. W. Bustard, gardener to T. McClelland, Esq., Aighurth, took the lead.

Three greenhouse Azaleas, Mr. E. R. Finch was well ahead with smart plants. Six Amaryllis, Mr. T. Johnson, gardener to Mrs. G. W. Moss, was easily first with superb varieties, Eureka (white) being worthily accorded a Certificate of Merit. The Gem (crimson) was also very fine. For a basket of cut flowers, Mr. H. T. Fairclough, gardener to F. H. Davis, Esq., was the best out of six.

For one stove plant in flower Mr. Bracegirdle won with a grand plant of Angraecum sesquipedale, with thirteen fine blooms on five spikes. Mr. Cromwell was second with a strong Cymbidium. One greenhouse plant in flower was won by Mr. Cromwell with Imantophyllum miniatum. For three Orchids distinct, Mr. J. Bracegirdle had the leading lot. For two cool Orchid varieties, Mr. C. Duke, gardener to F. Cross, Esq., won with Oncidium cavendishianum and Odontoglossum Insleayi. For the single plant Mr. Bracegirdle led with Coelogyne cristata; for two hardy forced plants, the same exhibitor was to the fore.

For four exotic Ferns Mr. Cromwell staged a most handsome lot, including Goniphlebium subauriculatum with fronds ten feet in length, Microlepia hirta cristata and Nephrolepis rufescens in fine health. Mr. Bracegirdle was second, having Cibotium Schidei, ten feet in diameter. For the single specimen Mr. Bracegirdle led with Goniophlebium. Three Azaleas, Mr. Cromwell won with five specimens of good quality; and for the single was again in the leading position. Four hardy Rhododendrons, and for the single, Mr. E. R. Finch scored in each case with large well flowered plants. For the greenhouse variety Mr. Bracegirdle had the best. Six hardy forced plants Mr. Cromwell won with an attractive lot, well done. Three Palms or Cycads, Mr. Bracegirdle won with large specimens; and for the single the same exhibitor scored with a well grown Kentia. Mr. W. Lyon, gardener to A. M. McKenzie Smith, Esq., won for Cinerarias and Primulas. For six Cyclamen, W. B. Bowring led with well finished plants. For four Azalea mollis, Mr. W. Bustard held the coveted position, and Mr. Hitchman for the single plant.

The exhibits not for competition were numerous and good, Certificates of Merit being granted to Messrs. R. P. Ker & Sons for a fine collection of Amaryllis, Imperial, Monarch, Ladas, Pegasus, being exceptionally good; Mr. C. Young, for fifty pots Carnation Mrs. T. W. Lawson; Messrs. J. Cowan & Co., for table of Orchids including Dendrobiums, Odontoglossums, Cypripediums, &c.; Messrs. Dickson's cut Daffodils and other spring flowers; Mr. W. Rowlands, a fine collection of Hyacinths, Genistas, and Azaleas, forming a pleasing combination; Messrs. I. House & Son, Bristol, cut Violets in considerable variety; and Messrs. Thos. Davies & Co., Mignonettes, Hydrangeas, and other forced plants The admission proved slightly in excess of the previous year.

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. J. M., Market Drayton, Shropshire, for his article on "Azalea indica," p. 489.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "The Editor," 4, Dorset Buildings, Salisbury Square, Fleet Street, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Directions for growing Water Cress.—*W. Forgan:* There are several ways of doing this, or more par-

THEODORE TURNER, F.R.H.S.,

Begonia Nurseries, GT. SUTTON, CHESTER.

THE PROGRESSIVE AGE.—The past century has been unique in its development. Among others is the success attained by T. Turner. With the new century I have better value than ever. 2/6 orders carriage paid. My Spring Catalogue a 20th Century wonder.

Do you want 12 Roses for the Garden? Send me 4/-. I will send you 12 different sorts, carriage paid. Do you want 12 climbing Roses for outside? I will send you 12 for 4/-. 12 Monthly Roses for 4/-. 12 Moss Roses for 4/-. All named. I have a lot, names lost, 6, 1/6; 12, 3/-.

TEA ROSES.—6, 2/6; 12, 4/6; 100, 30/-; picked.

Niphetos	Maréchal Niel	Mdme. Berard
Paul Nabonnand	Climbing Niphetos	The Bride
Devoniensis	Mdme. Camille	S. de la Malmaison
Belle Seabright	H. E. Gifford	S. de S. A. Prince
Bardou Job	Mdme. Hoste	Ernest Metz
A. Vibert	Amazon	Mdme. P. Guillott
Sunset	Mdme. Cusin	L'Ideal
C. Testout	B. Henriette d'Luxembourg	S. de Pres. Carnot
Mdme P. Ducher	Mdme. H Jamain	C. Kuster
Francis Kruger	La France	Reine M. Henriette
Rêve d'Or	Elise Finger	Marie d'Orleans
Mdme. Tiller	Irene Watts	T. de Pernet Pere
Hermosa	C'tsse R. du Parc	Duchess of Albany
Mam-n Cochet	M. C. Guinoisseau	A. Olivier
Coquette de Lyon	The Homère	Ly. M. Fitzwilliam
Chestnut Hybrid	Mdme. Falcot	Leo XIII.
Souv. de C. Guillott	C. Mermet	A. M. Immacula
Euphrosine	Aglaia	Etoile de Lyon
Papa Gontier	G. Nabonnand	Mdme. Welsh
H. Majesty	Souv. d'un Ami	C'tsse de Frigneuse
Gustave Regis	Kaiser A. Victoria	A. Guinoisseau
S. de Paul Neyron	Marie Guillott	J. Ducher
Bouquet d'Or.	Grace Darling	Marie V. Houtte
Dr. Grill	Ophirie	Mdme. A. Chatenay
Perle des Jardins		

12, picked, our selection, for 5/-.

A large assortment of Tea Roses.—Large stuff. F. Kruger, A. Guinosseau, Mr. W. J. Graut, H E Gifford, Rêve d'Or, W. A. Richardson, Maréchal Niel, White Maréchal, Mdme. Berard, and about 40 more sorts extra, 1/- each, 9/- per doz.

New Roses.—Turner's Rambler, 3 to 7 ft., strong; Turner's Crimson Rambler, Aglaia (Yellow Rambler), Thalia (White Rambler), Euphrosine (Pink Rambler), 1/6 each; 4, 1 of each, for 5/-.

5 large Climbers for 6/-, or 1/3 each, 3 to 7 ft. —Gloire de Dijon. Reine Marie Henriette, Rêve d'Or, Mdme. Berard, W. A. Richardson. Any one can be placed by another.

Gloire de Dijon, 3 to 7 ft., strong, 1/3 each; 12, 12/-.

H.P. ROSES.—6, 2/6; 12 for 4/6; 100, 30/-; large.

A few of names enclosed.

Thos. Mills	Cheshunt Hybrid	C. Forestier
Pierre Notting	Chas. Lefebvre	Crimson Bedder
S. M. Rodocanachi	C. Tretrahoff	Xavier Olibo
A. Carriere	C. of Oxford	Violet Bouyer
Sir R. Hill	A. K. Williams	Mrs Baker
M. de St Amand	B. Rothschild	Senateur Vaisse
Maurice Bernardin	Bessie Johnson	Paul's Pillar
Magna Charta	A. Vibert	Marie Rady
Gen. Jacqueminot	Marie Beaumann	Mdme. Chas. Wood
Perle des Blanche	D. of Connaught	M. of Londonderry
Lord F. Cavendish	P. C. de Rohan	Victor Hugo
Jean Liabaud	Dr. Andry	Emperor de Marc
Duchesse de Morny	A. Wood	Merveille de Lyon
Lord Bacon	D. of Albany	D. of Bedford
Le Havre	Reynolds Hole	Mrs. Harkness
A. O. Rigotard	Gustave	Duke of Teck
Wm. H. Turner	Prince Arthur	Sir G. Wolseley
U. Brunner	Princess Beatrice	Rd. Wallace
Rd. Caxton	White Baroness	Mrs. J. Laing
Paul Neyron	Crown Prince	W. W. Saunders
Black Prince	Gloire de Margottin	Mabel Morrison
Emily Hausburg	Lord Herbert	J. Cherpin

Our selection, 5/- doz.

6 Tea Roses, 2/6; 12, 4/6—Aug. Guinosseau, white, tinted pale rose, fine for button-holes; 2, Caroline Testout, light salmon-pink; 3, La France, bright silvery-rose, bright pink; 4, Mrs. W. Grant, bright salmon-pink; 5, Perles des Jardins, deep straw-yellow; 6, Sunset, deep apricot-yellow; 6, 2/6; 12, 4/6.

6 Tea Roses, 3/-; 12, 5/—Catherine Mermet, light rosy-flesh; 2, The Bride. nearly pure white; 3, Souv. d'un Ami, salmon and rose shaded; 4, Souv. de Catherine Guillott, coppery-carmine shaded orange, good for coat flower; 5, Kaiser Aug. Victoria, cream, shaded lemon; 6, Marie d'Orleans, terra-cotta, one of the best. 6, 3/-; 12, 5/-.

6 Tea Roses, 3/6 12, 6/- — Homère, rosy-salmon centre; 2, Ernest Metz Tendre Carnation Rose; 3, Francisca Kruger, copper-yellow shaded peach; 4, Papa Gontier, rose-carmine, fine long buds; 5, Souv. de Pres. Carnot, rosy-flesh; 6, G. Nabonnaud, pale rose, shaded with yellow. 6, 3/6; 12, 6/- (the very best).

Turner's New Hybrid Delphiniums, all colours, 6, 1/6; 12, 2/6. Turner's Lychnis chalcedonica, large. 6, 1/6; 12, 2/6. Wallflowers, Double German 12, 1/6. Ruby Gem. 25, 1/6. Crimson Dame, 25, 1/6. English Iris, 50, 1/6; 100, 2/6.

6 Climbing Roses for 2/6; 12, 4/6—L'Idéal, yellow and metallic-red, streaked and tinted golden-yellow; 2, Maréchal Niel, rich golden-yellow; 3, Climbing Devoniensis, creamy-white, blush centre; 4, Reine Marie Henriette, deep cherry-red, large and full; 5, Mdme. Berard, fawn-yellow, tinted, rose-yellow; 6, Aglaia (Turner's Yellow Rambler). 6, 2/6; 12, 4/6.

Moss Roses, 6d. each; 6, 2/3; 12, 4/- — Light crimson, white, crested, rich crimson, pale rose, all the latest and newest, 6d. each; 6 2/3; 12, 4/-. All named.

Dielytra spectabilis (the Bleeding Heart-tree), very pretty, large roots, 3, 1/3; 6, 2/3; 12, 4/-.

Extra Large Trees (standards).—Snowball Trees, standards, bush, 1/6 each; 15/- dozen. Acers, variegated Maples, extra large standards, 2/6 each, worth 7/6; 5 for 10/-. Acers, pyramids, 1/6 each; 15/- dozen. Standard Prunus nobilis, double flowered Plum, 2/6 each; 5 for 10/-. Extra large standard Lilacs, 2/6; 5 for 10/-. Standard Hydrangea paniculata, 2/- each.

Viola Kitty Hay, yellow, 12, 1/6, Wallflower Ruby Gem, 25, 1/6. Primrose Dame, 25, 1 3 Double German, 12, 1/3. Delphiniums, large stuff, 6, 1/6; 12 2/6. Canterbury Bells, Dean's strain, 12, 1/3; Canterbury Bells, mixed, 25, 1/6; 100, 5/-. Gaillardias, extra fine, 6, 1 3; 12, 2/-. Grenadin Carnation, 6 for 1/6; 12, 2/6. Margarita Carnations, 6, 1/6; 12, 2/6. Lychnis chalcedonica, 6, 1/6; 12, 2/6. These are all extra large stuff.

Potatos.—British Queen, Challenger, Up-to-Date, Duke of York, 6 lbs., 1/3; 12 lbs., 2/-. Free in 10/- orders; otherwise, carriage forward.

CANNAS.—Large roots. Exhibition size.

	6	12	100
	s. d.	s. d.	s. d.
Crozy's Cannas, dwarf, in fine mixtures ...	1 6	2 6	16 0
Cannas, all sorts, mixed	1 3	2 0	12 0
Crozy's Cannas, all yellow flowers	1 6	2 6	16 0
Crozy's Cannas, all red flowers	1 6	2 6	16 0
Crozy's Cannas, all red leaves...	1 6	2 6	16 0
Cannas, variegated leaves, mixed	1 6	2 6	16 0
Named Cannas, Gladiolus flowered	2 6	4 6	32 0
Named Cannas, red-striped and spotted ...	2 6	4 6	32 0
Named Cannas, green leaves, red flowers ..	2 6	4 6	32 0
Named Cannas, red leaves, red-flowered ..	2 6	4 6	32 0
Orchid-flow'rd Cannas, named 8s. doz. mxd.	3 0	5 0	40 0

See Catalogue for description.

Turner's Clearance Offer of Lilies. Special offer.

	6	12	50	100	Case.	
Lilium auratum (Golden-rayed Lily of Japan), nice solid bulbs, 7 in. to 8 in....	s. d. 1 3	s. d. 2 3	s. d. 7 6	s. d 14 0	s. d. 26 0	200
Lilium auratum 8in. to 9in.	1 9	3 0	11 0	21 0	26 0	140
Lilium auratum 9 in ...	2 0	3 9	14 0	—	26 0	100
Lilium auratum, 9in. to 10in.	2 6	4 6	17 0	32 0		

Lilium auratum, exhibition bulbs, 1/3 each; 12/- doz.

Lilium longiflorum (Hardy Harrisi). Sale price

	6	12	50	100
Large bulbs, 7 to 8in. to clear them out	1 6	2 6	9 0	17 6
A few exhibition, 9 in. to 10 in.	2 6	4 6	—	—

Sale price Lilies.—Umbellatum grandiflorum, 6, 1/3; 12, 2/-; 50, 7/6; 100, 12/-.

Tiger Lilies, single and double, 25, 1/6.

Tigrinum splendens, 12. 1/6. Sale price.

Iris Kaempferi, true Japanese varieties in extra fine mixtures, brilliant colours, sale price, 25, 1/6; 50, 2/6; 100, 4/6.

Iris germanica (the Flag Iris), in extra fine mixtures, clear them out, 50, 1/6; 100, 2/6.

Shrubs, all at clearance prices —Laurels (Portugal), 12, 1/9. Aucuba japonica (variegated), 12, 2/-. Mahonia (Holly-leaved), large plants, 12, 2/6. Retinospora plumosa, 12, 3/6. Thuja Lobbi, 1½ ft., 12, 2/6. Laurestinus (large-leaved), 6, 1/6; 12. 2/6. Assorted Shrubs for pots and boxes and gardens at 2/6 and 3/6 per doz.

Monthly Roses, 6, 2/6; 12, 4/6. Cramoisie-Superieure, velvety-crimson flowers in large clusters; Ducher, pure white, good form, very free; Irene Watts, new '96, tinted salmon pink, long bud, very pretty and distinct. 3, 1/6; 6, 2/6; 12, 4/6.

Hardy Climbers, 6, 2/6; 12, 4/6; 3 ft. to 10 ft.—Leopold de Orleans, white, tipped red, rosette-shaped flowers; Ruga, pale flesh, double, very sweet-scented, glossy foliage; The Garland, nankeen and pink, changing to white clusters; Climbing Pet, white clusters; Félicité-Perpetue, creamy-white; Gracilis, bright pink (13 varieties). 6, 2/6; 12, 4/6; 3 ft. to 10 ft. Picked, 6, 3/6; 12, 6/-.

Tritoma Uvaria (Red-hot Pokers), 6, 2/-; 12, 3/6.

Gaillardia grandiflora, 6, 1/6; 12, 2/6. Large Canterbury Bells, 12, 1/6; Wallflowers, 25, 1/6; Coreopsis grandiflora, 6, 1/6; 12, 2/6.

Palm-Seed. Kentia Belmoreana, sale price, 25, 1/-; 50, 1/9; 100, 3/-.

Gloxinia erecta grandiflora, large 2-year-old tubers, 6, 2/6; 12, 4/6; 24, 7/6; 50, 14/-; 100 25/-. 2-year-old, selected, 12, 2/6; 100, 16/-.

Gloxinia erecta, 1-year old, grandiflora. 12, 1/6; 100, 8/-. Named Gloxinias, 6d. each; 6, 2/6; 12, 4/6 Turner's Tigridia, Turner's Scarlet Defiance, Emperor Frederick, Kaiser Wilhelm, Firefly, Mont Blanc, Snow Queen, Blue Celestial, Turner's white and blue bordered, 6d. each; 6, 2/6; 12, 4/6. A few extra large, 1/- each; 12, 10/-. 1-year-old, named, 12, 2/6; 100, 16/-.

Azalea indica, large bushes, all named, full of buds, 1/3 each, 6, 6/-; a few smaller, well set, 2, 1/6. Azalea mollis, extra large plants 1/- each. 10/- doz. Azalea mollis, smaller, full of buds, 5/- doz., 6d. each.

Deutzia gracilis.—For forcing, well set, 6, 1/6; 12, 2/6.

Wistaria sinensis, 3, 1/3; 6, 2/-; 12, 3/6.

Carnations, large plants, 6d. each; 6, 2/6; 12 4/6.—La Villette, Miss A. Campbell, Pride of Garnen, Mrs. Fred, Sir George White, G H. Sage, Lady Houghton Raby Castle, Salamander Improved, Clove. All large stuff, 6d. each; 6, 2/6; 12, 4/6.

Japanese Wineberries, 6 ft., 1/6 each. Strawberry-Raspberry, 1/ each.

Geraniums, 6 1/3; 12, 2/-.—Vesuvius, H. Jacoby, J. Gibbons, West Brighton Gem, Crystal Palace Gem, Queen of Whites, Happy Thoughts, Flower of Spring, 6 1/3; 12, 2/-; 100. 15/-. Mrs. Pollock, 6, 1/6; 12 2/6. Calceolarias, 12, 1/6.

A 20th Century Marvel in Sweet Peas.—All leading sorts, 21 varieties, 50 seeds of each, 1,050 seeds for 1/3, all guaranteed new seeds; or 100 each, 21 varieties, for 2/-; mixed, 1/6 per lb. Primrose Princess May, Senator, Countess of Radnor, Dorothy Tennant, Emily Henderson, Mrs. J. Camberlain, Mrs. Eckford Mrs. Sankey, Mrs. Gladstone, Blanche Burpee, Princess Beatrice. Purple Prince, Splendour, The Queen, Boreatton, Captain of the Blues, Cardinal, Lottie Eckford, Invincible (white), Invincible (scarlet). These 21 choice varieties, 50 seeds each, 1/3; 100 seeds each, 2/-.

Tiger Lilies, splendens, 6, 1/6; 12, 2/6.

Croceum (Orange Lilies), 6 2/-; 12 3/6.

A 20th Century Wonder.—Montbretias, in 10 named sorts (see Catalogue for names). 50, 1/3; 100, 2/6. Montbretia Pottsi, 100, 1/6; picked, 50, 1/-. Montbretia crocosmiaeflora, 50, 1/3; 100, 2/-. Mixed seedlings, 100, 1/6.

1/6. Special Cheap Collection Gladiolus. 1/6.—6 Brench. (Sword Lilies), 6 Lemoine's Hardy. 6 Hybrid Gandavensis, 6 Psittacinus, gold striped, 6 French Hybrids, 6 Brides 3 doz. for 1/6; double lot, 2/6.

Hyacinthus candicans, very pretty, 3 ft. spikes. white Bellflowers, goes well with Gladiolus, 12, 1/, 50, 3/6; 100. 6/-.

Tigridias (Mexican Lilies), very pretty, Canariensis grandiflora alba, speciosa, violacea, 1/- per doz.

Lobelia cardinalis Queen Victoria, 6 1/6; 12, 2/6. Gaillardia grand flora, 6, 1/6; 12, 2/6. Auriculas, fine strain, 6, 1/6; 12, 2/6. Hydrangeas pontica and japonica, 6, 1/6; 12. 2/6.

Trees.—Poplars, 9 to 10 ft., 2/6 each; smaller, 6d. each; Limes, Beech, Wych Elms, Sycamores, 6d. each; 12, 4/6; Hornbeam Beech, 25, 1/6. Privet ovalifolium, large, 12, 1/6; 100, 8/-; smaller, 50, 2/6. Variegated Ivy, 12, 4/6. Honeysuckles, 12, 2/6. Aucuba japonica, 12, 2/-.

Gladiolus, one of our Specialities.—Brenchleyensis, the well-known Scarlet or Sword Lilies, so much called for for Harvest Decorations:—

	Doz.	50	100	500	1,000
	s. d.	s. d.	s. d.	s. d.	s. d.
Immense specimen Bulbs	1 3	4 6	8 0	35 0	60 0
Extra large first size Bulbs ...	1 0	3 0	5 6	25 0	40 0
Very large second size Bulbs ...	0 9	2 0	3 6	15 0	27 6
Third size good flowering Bulbs	0 6	1 6	2 6	10 0	17 6
Colvillei alba, The Bride, picked	0 4	1 3	2 0	9 0	17 6
Bride, good flowering Bulbs ...	0 3	0 9	1 3	5 6	10 0
Colvillei Red Brides	0 4	1 3	2 0	9 0	17 6
Lemoine's new hardy Gladiolus	0 9	2 6	4 0	18 0	32 6
Lemoine's large exhibition Bulbs	1 0	3 6	6 0	27 6	—
Gandavensis Hybrids, extra fine, mixed	0 9	2 6	4 0	18 0	32
Gandavensis, large exhibition roots	1 0	3 6	6 0	27 6	—
French Hybrids, fine, mixed ...	1 0	3 6	6 0	27 6	
Marie Lemoines, very striking ...	1 0	3 6	6 0	27 6	—
Kelway's best mixed	1 6	5 0	9 0	—	80

Named Gladiolus, 3d. each; 6, 1/3; 12, 2/3; 100, 16/-.

Lily of Valley, large Dutch crowns. the large flowers, 50, 1/6; 100, 2/6. Large clumps, 9d. each, 8/- doz. Berlin crowns, 50, 2/6; 100, 4/6.

Climbers.—Clematis Jackmani, montana, and named sorts, 4 to 7 ft., bushy, 1/3 each; 6 for 6/-. Names see Catalogue. Ampelopsis Veitchi, large, 3 to 6 branches, 2, 1/6; 12, 7/6. Ampelopsis, the old sort, about 3 yds. long, 1/6 each. Aristolochia Sipho (Dutchman's Pipe), 7 to 10 ft., 1/6 each. Wistaria sinensis, 7 to 10 ft., 1/6 each. W. alba, 7 to 10 ft., 1/6 each. Bignonia radicans, 7 to 10 ft., 1/6 each.

Hybrid Rhododendrons, choice named sorts, well set with bud, including large specimens Cunningham's White, 1/6 each; 15/- per doz.

Cactus, extra large plants, 1/- each; 10/- doz., named. Cactus, smaller, nice plants, 2, 1/6. Hedgehog Cactus, 2, 1/6. Cactus Ball of Snow, quite round, covered with white, each 2/6.

Dracaenas indivisa, 2, 1/6. Palms, 3, 1/3 Asparagus Ferus, 2, 1/6. Japanese Honeysuckles, 3, 1/3. Fuchsias, 6, 2/6. Pentstemon, Kelway's, 6, 2/6 Marguerites, 12, 2/6.

Plants.—Pansies, large-flowered, black, white, cat's-eye, blue, marine blue, mahogany, silver-lined, bronze, all at, 25, 1/6; 100, 4/-. Viola Pansies, or Tufted, white, blue, yellow, 25, 1/6; 100, 4/-. Pansies, mixed, large giant flowered, 25, 1/6; 100, 4/-. Viola Pansies, mixed, 50, 1/6; 100, 2/6. Canterbury Bells, 25, 1/6. Auriculas, 6, 1/6; 12, 2/6. Named Phlox, 6, 2/6; 12, 4/6. Michaelmas Daisies, white and red, 6, 2/6; 12, 4/6. Polyanthus, large, 12, 1/6. Single Pyrethrum, 6, 1/6; 12, 2/6. Forget-me-nots, 25, 1/6. Daisies, 50, 1/6; 100, 2/6. Hollyhocks, 12, 1/6. Chrysanthemum maximum, 6, 1/6; 12, 2/6.

2/6 Collection of Climbers.—2 Pyracanthas (Fire Thorns), 2 Jessamines, white; 2 Jessamines, yellow; 2 Irish Ivies, 2 Ampelopsis Veitchi, 2 Honeysuckles; lot, 2/6.

Helleborus niger, 6, 1/6; 12, 2/6; 100, 16/-.

Pyracanthas (Fire Thorns), 6, 1/6; 12, 2/6. Jessamines, white, 3, 1/3. Jessamines, yellow, 6, 1/6; 12, 2/6 Ampelopsis Veitchi, 12, 1/6.

Plants for Forcing.—Spiraea japonica, large clumps, 3, 1/-; 6, 1/9; 12, 3/-. Spiraea japonica compacta, 6, 2/-; 12, 3/6. Spiraea elegans (Pink Spiraea), 6, 1/6; 12, 2/6.

Syringas, Hybrids, all colours. for forcing or garden, 6, 1/6; 12, 2/6 Philadelphus (Mock Orange), named, 6, 1/6 12, 2/6.

Turner's Prize Strain Begonias are the very best obtainable.—Double Begonias, grown from seed. These produce flowers like double Camellias, and about 80 per cent. come true. We have them in 5 colours—white, yellow, orange, rose, scarlet. 5, extra picked, for 5/-; 12 for 10/-. Double Begonias, 2-year-old tubers for exhibition, fine tubers, 5 for 2/6; 10, 4/-; 20. 7/6; 50, 17/-; 100, 30/-. Double Begonias, 1-year-old, in 5 colours, 5. 1/3; 10, 2/-; 20, 3/6; 50, 7/-; 100, 12/-. (For named ones see Catalogue.)

Turner's Prize Strain Single Begonias.—These have been a great success during the past 10 years for pots, showing and bedding.

Single Prize Strain Begonias for pots or showing. —White, yellow, orange, rose, scarlet, take prizes anywhere, 5, in 5 colours, 2/6; 10, 4/-; 20, 7/6; 50, 17/6; 100, 32/6.

Bedding Begonias.—For the last six years I have made a specialty in these. 5 colours, at 12/- 100; 50, 7/-; 1,000 for £5.

Prize Strain Begonias.

	Extra large Selected tubers Splendid for pots.		Very fine selected tubers Also for pots.		Good certain flowering tubers Fine for bedding.	
	Per doz.	100.	Doz.	100.	Doz.	100.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Crimson	3 0	20 0	2 0	12 0	1 3	8 0
Scarlet	3 0	20 0	2 0	12 0	1 3	8 0
Rose	3 0	20 0	2 0	12 0	1 3	8 0
Orange	3 0	20 0	2 0	12 0	1 3	8 0
White	3 0	20 0	2 0	12 0	1 3	8 0
Yellow	3 0	20 0	2 0	12 0	1 3	8 0

5/-.—The Great Sutton Collection of Vegetable and Flower Seeds contains 6 ½ pints of Peas, 4 ½ pints Beans; 1 oz. each Onion, Parsnip, Carrot, Radish, Mustard, Cress, Spinach; 1 pkt. each Extra Curled Parsley, Aigburth Brussels Sprouts, Savoy, Lyon Leek, Autumn Giant Cauliflower, Silver King Turnip, Cabbage and Cos Lettuce, Covent Garden Beet. Celery, Cabbage, Broccoli, Marrow, Kale, choice Paeony-flowered Aster, Double Ten-week Stocks; and 12 pkts. various Annual Flower Seeds. All new seeds guaranteed. A Twentieth Century wonder.

3-year-old Currant Trees, 6, 2/-; 12, 3/6; named, Red, Black, White, all choice stuff; smaller, Black and Red, 6, 1/-; 12, 1/6.

Gooseberries, all leading sorts, 6, 2/-; 12, 3/6; smaller, 6 1/6; 12, 2/6; all fruiting trees.

Plums, all leading sorts, 1/- each; 12, 10/-; large standards, 2/6 each, 5 for 10/-; dwarf trained, 2/6 each, 5, 10/-; also large standard Victorias, 2/6 each, 5 for 10/-.

Cherries, May Duke and Morello, 1/6 each.

Apples, large, unnamed, 2/- each, 5 for 10/-; large, 3-year standards, 2/6 each, 5 for 10/-; Ecklinville, Frogmore, Cox's Orange, etc., maiden Apples, 1/- each, 10/- doz. Pears, Jargonelle, maidens, 1/- each. All leading sorts. Pears, 1/- each. 10/- doz. Raspberry Canes, 25, 1/6.

New Century Pinks.—Flowers like a large double Camellia, big as 5-piece—Mrs. Theodore Turner, Mrs. Hall, Mrs. Prichard, Mrs. Naish, May Queen, Lady Falmouth, White Gem, Mr. Ed. Ferris, 6d. each; 6, 2/6; 12, 3/6 The flowers are as full as a Carnation, only larger. Splendid for cutting, wreaths, &c.

(Please Mention this Paper.)

ticularly, several conditions, dependent upon circumstances, under which the gardener is called upon to grow Water Cress. If you had stated what were your facilities, or under what conditions you had to grow the Cress, we could have given you directions in relatively few words. In general terms it may be stated that the cultivator should imitate natural conditions as near as possible under the conditions prevailing in his own particular garden. Some of the best natural conditions are a running brook, stream or ditch of clear spring water and a clean gravelly bottom. Water Cresses thrive remarkably well under these conditions not always available, however. The water should not be very deep, a broad shallow stretch of water being best, and if not spring water it should at least be clean, and clear if possible. If you can command these conditions you are well off. On a small scale you can imitate these conditions by digging out a bed of a size sufficient for your requirements. Puddle the bottom of this with clay if necessary; put on a layer of good soil, treading it down firmly; and after making the surface even, cover it with a layer of clean shingle or gravel. You can now introduce a sufficient force of water, from a company's main it may be, to trickle over the surface and keep the Cresses growing. You can easily increase the water in the bed to a depth of 3 in. by damming up the lower end of the bed till it rises to that depth when an overflow pipe may be made to conduct the superfluous water away so as to maintain a gentle movement of the water which will prove very beneficial to the Cresses, as well as keep the water clean. For another method see under "Correspondence" on p. 508.

Communication without Name.—Would the correspondent, who sends a communication above the signature "J. M.", with the postmarks Blantyre and Glasgow, kindly send us his name and address, not necessarily for publication, but as a guarantee of *bona-fides*.

How to Measure a Lean-to Conservatory for Fumigating Purposes.—*W. Forgan*: This is very easily done by observing a few simple rules. First of all measure the cubic contents of the lower portion of the house from the ground level up to the eaves of the house. Find the length of the interior of the house, and then the width of it in feet. Multiply the former by the latter; and multiply the product by the height of the house up to the eaves. This sum will be the contents of the lower portion of the house in cubic feet. To find the contents of the upper portion with the sloping roof on one side, multiply the length by the width as before; and then find the height from the eaves up to the ridge (not along the sloping side but up the back wall of the house. Take half this ascertained height and multiply the product of the length and width, with it. Then add the cubic contents of the bottom portion of the house to those of the upper and the sum will be the cubic contents of the whole house in cubic feet. If you have any doubt about it take all the measurements over again and proceed as before to see if you get the same results. A little practice will soon give you confidence in making these and similar calculations for other houses.

Successful Culture of Tomatos.—*Tomatos*: We understand that you are going to plant out the Tomatos or else grow them in boxes, these being both good methods for securing heavy crops. When grown to single stems about 15 in. is quite close enough, and 18 in. would do no harm, as it would let light and air amongst the plants. The house should not be kept too close after the plants are beginning to make rapid growth. Your object should be to grow them as sturdily as possible, to make them short-jointed. There is really no necessity to fertilise Tomatos with a camel's hair brush, if the conditions are suitable to their welfare. Whenever the first truss comes into bloom keep the atmosphere of the house buoyant and airy to help to disperse the pollen. By tapping or slightly shaking the plants now and again during the middle of the day, you will be aiding the scattering of the pollen, and thereby making the setting of the fruits more certain. You may safely plant the Tomatos inside the unheated house in a week or two if the weather gives promise of settling down to be fairly fine. We cannot expect very severe frost after this, so that the glass will keep it all out. You want sunshine, however, to make the plants grow, otherwise they cannot make good progress for a time. Let them get fairly strong before planting out if the weather remains cold. Any of the all-round artificial manures will answer admirably to mix with the soil at planting time and also for topdressing up to the middle of July, but not later. If you desire to mix your own manure then get some nitrate of soda, muriate of potash, or kainit if you prefer it and superphosphate. To a cubic yard of soil add half a pound of superphosphate and a similar amount of muriate of potash, mixing the whole thoroughly. When the plants have set a bunch of fruit you can scatter nitrate of soda over the surface at the rate of ½ oz. to the square yard, repeating this at intervals of three weeks, making in all three applications.

Shutting up a Tomato House to Economise Sun Heat.—*Tomatos*: What you suggest is certainly a good method of proceeding to work in promoting the growth of the plants; but this is more advisable in the early stages than later on when the heat is sufficiently strong, although a little air might prove serviceable even all night. In the meantime when you plant out the Tomatos you may shut up the house early to bottle sunshine. The precise hour depends upon the heat of the day or the strength and duration of the sunshine. It is a matter on which you will have to exercise your judgment. With the present amount of sunshine you might safely shut up the house at 3 p.m. or earlier if the sun is feeble. Later on as it gains in strength you may shut the house at a later hour. You can tell by the inside heat of the house when you can close it. Tomatos will stand a good deal of heat in their early stages.

Tomatos turning Black.—*A. M. D.*: You do not send us any specimens so that we cannot be absolutely certain as to the cause of your plants turning black. We think, however, that it is due to some fault in cultural treatment, judging from specimens we have seen in a similar condition. Neither insects nor any fungus, so far as we could see, had brought about the malady, which we believed to be due to a high temperature, and the keeping of the house too close in the early part of the year when light is very feeble. The plants to which we refer recovered when more rational treatment was accorded them and the light improved. The varieties you mention are not responsible for the malady. We consider you are giving them too high a temperature and keeping them too close and moist during the present sunless period or that which has till recently prevailed; and the constitution of the plants has been thereby greatly weakened. When planting out use good fibrous loam, with sufficient sand to make it porous. If it is poor in character use some well made stable manure to mix with it; and feed with liquid or artificial manure after the first bunch is set. You need not continue this beyond the middle of July. Your other questions will be answered next week.

Names of Plants.—*A. C.*: 1, Eupatorium ianthinum; 2, Salvia Heerii; 3, Cyrtanthus Mackenii; 4, Othonna crassifolia.—*D. M.*: 1, Iris reticulata; 2, Iberis gibraltarica; 3, Hacquetia Epipactis.—*E.L.*: 1, Dendrobium densiflorum; 2, Dendrobium crassinode; 3, Laelia jongheana; 4, Oncidium sarcodes.—*W. K.*: 1, Vinca major variegata; 2, Negundo aceroides variegata; 3, Forsythia suspensa; 4, Ornithogalum arabicum; 5, Allium neapolitanum; 6, Primula denticulata alba.—*A. H. D.*: 1, Adiantum formosum; 2, Asplenium furcatum; 3, Asplenium bulbiferum fabianum; 4, Polypodium pleiosorum; 5, Polypodium Lingua; 6, Polypodium Billardieri.—*A. M.*: 1, Begonia, a garden hybrid; 2, Begonia fuchsioides; 3, Begonia Dregli; 4, Oxalis Ortgiesii; 5, Tibouchina macrantha; 6, Ruellia Portellae.

Communications Received.—F. J. C.—G. Dickson.—Hans Reich.—G. M.—A. L.—S. C.—A. J. B.—E. F.—H. W. W.—R. F.—T. H. D.

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FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

April.

9.—R.H.S. Committees; Durham, Northumberland, and Newcastle Botanical and Horticultural Society Spring Show (2 days).
10.—Shropshire Horticultural Society Show at Shrewsbury; East Anglian Daffodil Show, Corn Exchange, Ipswich.
18.—Royal Botanical and Horticultural Society of Manchester Spring Show (3 days).
22.—Chesterfield Spring Show.
23.—R.H.S. Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

May.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting
7.—R.H.S. Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R H S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).
25.—Royal Botanical and Horticultural Society of Manchester, Whitsuntide Exhibition (25th to 30th).

June.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

July.

2.—R H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show; Farningham Rose and Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days).
11.—Bath Floral Fete and Rose Show.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S, Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days).
24.—Strabane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Prescot Exhibition; Selby Exhibition.
30.—Buckingham Exhibition; R.H S. Committees.
31.—Wilts. Exhibition.

August.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldcarn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.
21.—Banffshire Exhibition; Eastbourne Exhibition; Hastings Flower Show.
27.—R.H S. Committees.
28.—Henley-on-Thames Exhibition; Hinckley Exhibition.
29.—Dundee Exhibition; Thame Exhibition.

September.

3.—Bicester Horticultural Society.
4.—Milton and Sittingbourne (2 days).
6.—National Dahlia Society (2 days).
10.—R H.S. Committees; Durham Flower Show (2 days).
11.—Royal Caledonian Horticultural Society (2 days).
17.—Dahlia Show, Royal Aquarium, Westminster (3 days).
18.—Botley Show.
24.—R.H.S. Committees.

October.

8.—N.C.S. Exhibition (3 days).
10.—Fruit Exhibition, Crystal Palace (3 days).
15.—R.H S. Committees.
29.—Croydon Exhibition (2 days).
30.—Exmouth Exhibition (2 days).

November.

1.—Newport (Isle of Wight) 2 days; Cowes (2 days).
5.—N.C.S. Exhibition (3 days).
6.—Cardiff Exhibition (2 days).
7.—Doncaster Exhibition (2 days).
8.—Waltham Cross Exhibition (2 days).
12.—R.H.S. Committees; Birmingham Chrysanthemum Show (3 days).
13.—Hull Exhibition (2 days); York Chrysanthemum Show (3 days).
14.—Barnsley (2 days); Devon and Exeter Fruit and Chrysanthemum (2 days); Royal Botanical and Horticultural Society of Manchester, Chrysanthemum Show (3 days).
15.—Broughton-in-Furness Exhibition.
19.—Leeds Paxton Society Chrysanthemum Show (2 days).
21.—Norwich Exhibition (3 days); Launceston Exhibition.
26.—R.H.S. Committees.

December.

3.—N.C.S. Exhibition (3 days).
17.—R H.S. Committees.

TO LET, in the neighbourhood of Worthing, Sussex, a particularly good Farm of about 200 acres with first-class residence, almost all the land is thoroughly suitable for Market Garden purposes. Rent, £500 per annum. Apply to—POWELL & CO., The Estate Offices, Lewes, Sussex.

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Beg to invite the attention of Amateurs to their extensive collection of **FLOWER** and **VEGETABLE SEEDS** for the present season. It will be found replete with valuable Novelties and Rare Seeds, and is especially rich in **HARDY PERENNIALS** and **ALPINES.** Priced Catalogue, sent post free to any address.

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The Gardening World

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, APRIL 13th, 1901.

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NEXT WEEK'S ENGAGEMENTS.

THURSDAY, April 18th.—Royal Botanical and Horticultural Society of Manchester, Spring Show (3 days).

THE ROSE AND ST. GEORGE'S DAY.—After the lapse of a century the Society of St. George, located in London, has joined issue with various other societies of the same name both in the British Isles and abroad, in raising the banner of St. George, their Soldier Saint. A festival dinner was held in the Holborn Restaurant, London, on St. George's Day, April 23rd, 1900, under the patronage of the Right Hon. the Lord Mayor, and the Lord Mayors and Worshipful Mayors of the principal English boroughs, when about 150 ladies and gentlemen sat down to table. Cablegrams of congratulation passed between the central society and others of the same name in various parts of the world, including Canada and the United States. Strange to say there have been several kindred societies in Ireland for some years past; but as far as we see from the published account of April 23rd of last year, the record for age must rest with the society at Poole which was founded in 1408, for the encouragement of "piety and patriotism." The day was observed in many of the leading Canadian towns (throughout Canada is the expression), a large number of the English boroughs, several of the cities of Ireland, Cape Town, New South Wales, New Zealand, Tasmania, &c. The Society of St. George, London, was not established solely to do honour to the long-neglected Patron Saint. It seeks a higher field, namely, "to cultivate national sentiment," and it is said that "sentiment governs the world."

As far as the wearing of Roses is concerned we take it for granted that few will object to that, and fewer connected with gardening. One of the chief difficulties in connection with April 23rd is that no Roses are obtainable from the open garden, though Roses grown under glass may be had practically all the year round—thanks to the skill of our Rose growers, whether professional or amateur. It is to be presumed also that the foreigner will avail himself of a national Rose day in England to do a bit of trade. Surely we may take it for granted that our Rose growers at home will make an effort to meet the demand on that particular date, assured that it will be worth their while to do so. We have some evidence that the supply was fairly adequate to the demand last year; but imagine that a more decided effort will be made to meet the demand with Roses grown on national soil. On the occasion of last year's festival the back of the chair was resplendent with a magnificent wreath of red and white Roses, tied with ribbons of like colours, and flanked on either side by silken banners of St. George. The diners also wore the national emblem. St. George's Day also coincides with the birthday and death of Shakespeare, the national poet. Our late Queen Victoria observed the day by wearing Roses. The crowd attending the mounting of the guard at St. James' Palace, in many cases, wore red and white Roses, and though they were worn so long as they could be got, the streets were not perfumed by them, which may have been due to failure in meeting the demand. Many of the cabmen and 'bus drivers decorated their horses, &c., with them. A large consignment of Roses was sent over to Ireland from the Royal Gardens at Windsor. By ordering in good time the London society was able to get a supply for 2/- per dozen; and it was given to understand that as soon as a regular demand is established they can be sold at half that price, namely, a penny each, and leave a good profit for the grower. It is hoped that his Majesty King Edward VII. will elect to be crowned on St. George's Day, as were several of his predecessors, both English and British monarchs, including the celebrated Alfred the Great. That would certainly give a great impetus to the cause.

Red and white Roses are evidently the favourites. This raises the question which is the English Rose; but that, like the true Shamrock, is a difficult question to answer; and we also remember that the heraldic Thistle of Scotland seems to be a creation of the imagination, for it is certainly not a native. The ancient national emblem of Scotland as recognised by Burns is well known to be the Spear Thistle (Carduus lanceolatus) and certainly native to the soil. Both the red and the white Rose mentioned by Shakespeare might have been foreigners, as the York and Lancaster Rose certainly is, being a variety of Rosa damascena. That generally but incorrectly known as the York and Lancaster Rose is really Rosa Mundi, also named Village Maid and Rosa gallica versicolor. The true York and Lancaster Rose, symbolising the union of the ancient royal families or houses of those respective names, is a pale rose or white variety, only sometimes striped. Seeing that the symbol is an exotic Rose, would it not be appropriate for the St. George's Society to foster the development of a national Rose, native to the soil? No doubt some will say that a Rose or any Rose is the national emblem; but then we have Scotch Roses which acquired that name simply from the fact that they were developed from Rosa spinosissima by Scotch growers, many of them being raised from R. s. cyphiana, a red and white striped variety. If the opportunity had been seized upon in time, this might well have furnished the idea of the union of the red and white Roses.

There are several other wild species and varieties, natives of Britain, that might well be taken in hand and improved so as to render them more durable and fit for wearing than the relatively ephemeral single types, beautiful as they are. There are already several improved forms of British Roses in cultivation besides the Scotch Roses. For instance, there are several semi-double Roses, known collectively as Ayrshire Roses, and individually as Dundee Rambler, Bennett's Seedling, Ruga, Splendens, and others. Here again some of the forms are admittedly Scotch, while the name for the section is decidedly so. On the other hand the Sweet Brier or Eglantine (Rosa rubiginosa) is essentially English, not only in name, but because it is a true native of the chalk hills of the south of England, and although found elsewhere it is probably an escape from cultivation in the north of England, in Scotland and Ireland. A great

impetus has within recent years been given to the raising and cultivation of improved forms of Sweet Brier as a result of the accomplishments in that direction by the late Lord Penzance. Many of his varieties are amongst the most cherished of the race, whoever put them into commerce. Most of them are single, or at most only semi-double. There are, however, the Double Scarlet and the Double White, apparently of unknown origin, and which might, in skilful hands, be capable of still further improvement. The Double White has flesh-white flowers, and is of dwarf habit, which might make it useful for pot culture in order to get flowers on April 23rd. At all events raisers might avail themselves of it in order to raise a race of dwarf varieties suitable for pot culture and forcing in order to meet the requirements of a truly national emblem on St. George's Day. Many men, many minds; and it is evident that Roses of various colours are required to meet the varying tastes of those that will wear Roses on England's Day.

A Record Rent for a Farm.—A sewage farm near Edinburgh draws £35 per acre for rent. Some times as many as five crops of grass are cut from it during a year.

Her Majesty Queen Alexandra has been graciously pleased to continue to be a patroness of the Gardeners' Royal Benevolent Institution, of which her late Majesty Queen Victoria was patroness for fifty years.

The Wood Leopard Moth.—At the last meeting of the Scientific Committee of Royal Horticultural Society, Mr. McLachlan stated that "the caterpillar of this moth really bored upwards through the pith and not downwards as generally supposed." This is certainly not the case, at least, with the wood of the Spanish Chestnut, for amongst the numerous examples before me not one instance of the caterpillar following the pith is observable; indeed, I should say that no general course of boring is adopted, the tunnels being as often directed from side to side of the branch as lengthways, and the hardest wood is never avoided. I have not heard it denied that the course is generally upwards.—*A. D. Webster.*

Register of Nurseries, Market Gardens, Farms, Florists' Seed Businesses, &c.—The current issue of the "Horticultural Register" issued by Messrs. Protheroe & Morris, 67 and 68, Cheapside, London, is before us and shows a large number of businesses for disposal, either to be let or sold, in various parts of England, but particularly in the southern counties from Devon and Sussex to Warwick, Derbyshire, Hampshire, Lancashire, &c. There are, however, paragraphs relating to gardening establishments in the north of England, the Channel Islands and even Australia. Those intending to commence business or even to extend their present one would therefore find this publication useful, as showing the chances available at the present time for securing what they require. Places to be disposed of are pretty numerous in London, and also in the immediately surrounding counties.

Two Old Trees.—Two trees, believed to be the remains of the ancient "Great Birnam Wood" stand on the south bank of the Tay, behind Birnam Hotel, or at least they stood there till recently. One of them, an Oak, at 5 ft. from the ground, measured 18 ft. in circumference. About 88 years ago the Oak was measured by Dr. E. D. Clarke, the celebrated traveller, who recorded its girth as 17 ft. The difference of time between the two measurements was 70 years, so that the tree took that time to add 12 in. to its circumference, a fact which would point to great age. The Sycamore or Scotch Plane, measured at the same height, was 19 ft. 8 in. in circumference. These trees are in the direct line that the English army must have marched on its way to Dunsinane to fight Macbeth and place Malcolm on the Scottish throne; and are believed to be close upon 1,000 years old.

London 100 years ago had a population of 888,198 when the first official census was taken.

Largest Horse Chestnut in Scotland.—Amongst some giant specimens of Horse Chestnut in the grounds of Moncreiffe House, Perthshire, is a patriarch, believed to be the largest in Scotland, or possibly in Britain. At 1 ft. from the ground the circumference of the hole is 20½ ft., and at 5 ft. up the girth is 19 ft. The hole is 10 ft. long, above which it gives off three enormous limbs, each equal to an ordinary-sized tree. One of the largest of the limbs, torn off by the memorable hurricane, which blew down the Tay Bridge in 1879, was computed to weigh about 2 tons.

Alfa Fibre for Paper.—Over the bay of the entrance door of the Church of the Holy Trinity at Porte d'Isly, Algiers, is the following interesting inscription on a tablet of Algerian marble:—

"EDWARD LLOYD,
of Salisbury Square, London,
and
Sittingbourne, Kent.
Died April 8th, 1890. Age 75.

He was known and respected in England as a leading journalist, the father of the cheap Press, and in this colony as one of its greatest benefactors. He was first to show the value of Alfa fibre for the manufacture of paper, and to start a branch of industry which is one of the most important in Algeria."

Miss Eleanor A. Ormerod, LL.D., V.M.H.—It is with a deep feeling of regret that we hear of the retirement from active work of Miss Eleanor A. Ormerod. In 1877, when she issued her first report on injurious insects and common farm pests, very little was known of agricultural entomology. By the great interest she has taken in the world during the last twenty-five years she has completely revolutionised the subject. She was ever ready to answer gratuitously any inquiries, and look into the causes of mischief, and advise the best means for their removal. It is not only at home that the work of Miss Ormerod is known and appreciated, but in nearly every country in the world, so that her retirement will be widely felt. After her long and useful labours it is to be hoped that she may live long to enjoy her rest.

Ealing Gardeners' Society.—The thirteenth annual dinner of this society was held on the 2nd inst. at the Lyric Restaurant, Ealing, when about forty members and friends gathered together to enjoy themselves and to toast the supporters and workers of the society, and to otherwise emphasise the advantages of membership. M. C. Hulbert, Esq., one of the vice-presidents, and district councillor, occupied the chair. In proposing the toast of the evening, he not only wished success to the society, but offered a special donation to further that success. He then dilated on the quality and progress of modern gardening, and referred to several large gardens he had visited and noted with much satisfaction. Drummond Castle especially took his fancy, as he inclined to the formal style of gardening and rejoiced in terraces, statuary and architectural features. However, there was no limit to gardening—each one could pursue his individual taste and devote himself to the science, or the art, whichever recommended itself to his approbation. Certainly England was the home of gardens and gardening, and anything which tended to foster a love of the beautiful deserved one's respect. There were many other little speeches and much *bonhomie*. A large number of prizes were distributed. Mr. Dack, on behalf of the hon. secretary, Mr. Roberts, gave his report and chronicled progress. Mr. R. Callard complimented the "President, officers and committee," to which Mr. C. B. Green responded. The "Donors of prizes" was well sustained by Mr. R. Green, and found worthy support from Mr. Councillor Pritchard. The "Readers of papers" was undertaken by Mr. W. J. Simpson (Falkland Park), and concluded by Mr. A. Wait, of Kensington Cemetery, Hanwell. The "Exhibitors" was well handled by Mr. Geo. Cannon, and replied to by Mr. Exhibitor Holloway. Mr. Wood and Mr. Edwards, respectively, took the "Judges of exhibits." Other toasts succeeded, concluding with the "Chairman," of whom Mr. Burgess said very kindly things. Some capital songs and recitations were given during the evening and contributed very materially to render the gathering a great success.

Croydon and District Horticultural Mutual Improvement Society.—A meeting will be held at the "Sunflower" Temperance Hotel, on Tuesday evening, April 16th, when a paper will be given by Mr. H. J. Chapman, The Gardens, Cambridge Lodge, Camberwell, subject, "Cypripediums." The chair will be taken at 8 p.m., but the room will be open for exhibits, &c., at 7 p.m.—*John Gregory, Secretary.*

Royal Horticultural Society.—Notice is hereby given that a general meeting of the Fellows of the society will be held at the Drill Hall of the London Scottish Volunteers, Buckingham Gate, Westminster, on Tuesday, April 23rd, to consider, and if approved, to adopt the proposal of the council to purchase on behalf of the society for the purpose of its new gardens, forty-eight acres of land in the county of Kent, forming part of Rabbit's Farm, and adjoining the Little Boys' Home at South Darenth. Fellows wishing to see the property before the meeting, should take the ten a.m. train from Victoria (L. C. & D. Railway) to Farningham Road Station, on Thursday, the 18th, when some of the members of the council will be on the spot to explain boundaries, &c.—*By order of the council, W. Wilks, Secretary.*

Cup for Daffodils.—The Daffodil Cup offered at the R.H.S. meeting on the 9th inst, not having been awarded owing to there being one competitor only, will be offered in competition again on April 23rd as follows:—Group of Daffodil Blossoms (Polyanthus varieties excluded) grown without artificial heat; must include some of each section, Magni-, Medii-, and Parvi-Coronati; must contain at least 50 varieties distinct, of 30 of which at least three blooms each must be shown. Not more than nine blooms of any one variety may be put up. To be staged in bottles, vases or tubes, not exceeding 3 in. in diameter at the top (inside measurement), and all the stems must touch the water. Quality of flower will count more than quantity, and correct naming and tasteful arrangement will be duly considered. Any foliage may be used, Daffodil or otherwise. No prize will be awarded unless there are two competitors at least. Open to amateurs and gentlemen's gardeners only. First Prize, a £7 7s. Silver Cup, presented to the society by Messrs. Barr & Sons. Second Prize, Silver Flora Medal. Owing to the backward season the Narcissus Committee will also meet on May 7th.—*W. Wilks.*

The Hamilton and District Gardening and Forestry Association held their monthly meeting in the Mining Institute on Tuesday evening, 2nd inst., when Mr. M. Campbell, sen., of the Blantyre Nurseries read a paper on "The Cultivation of the Dahlia." Mr. Campbell is a well known grower and exhibitor of this class of florist flowers, as well as many others, the Carnation in particular. The paper was most practical in all details, and selection of show and fancy varieties, including twenty-four Cactus Dahlias, which Mr. Campbell considers the cream, both for exhibition and house decoration, which was of much value and interest to the members present. Mr. Campbell was awarded a most hearty vote of thanks. The Rev. Mr. Paterson, Ardenclutha, the president of the association, exhibited a spike of Coelogyne cristata Chatsworth var., which was scented. The perfume reminded one of white Lilac. I had the honour of being invited to see the plants in Mr. Paterson's very valuable collection of Orchids. Mr. Paterson had all plants in flower removed from the house where this plant was staged to give one the chance of proving the effect. The plant had twelve flower spikes with five and six blooms each. When I entered the house the perfume was most effective; in fact I looked round to see if there was no white Lilac about. There were no flowers of any sort about. Mr. Renard, the gardener, told me it flowered about five years ago, and they sent some blooms to the *Gardeners' Chronicle*, but by the time they reached London the editor said the perfume had gone. I must say the spike sent to our meeting was not so effective as on the plant. The form of the pseudo-bulb to me was of somewhat different to the ordinary variety. I have been used to seeing them being of a deeper green and quite round. The flower spikes seemed to me all flowering on the three year old bulbs. Mr. Paterson is much interested to know if any of the cristata varieties are known to be scented.—*J. M.*

Whirlwind in Victoria Park.—On the morning of March 24th a whirlwind in Victoria Park, London, raised a pillar of dust 60 ft. to 70 ft. in height and 25 ft. to 30 ft. in circumferenee.

Spring is Coming.—*First Urchin*: "Garn, there are no Bluebells hout yet; it is too cold." *Second Urchin*: "Yuss, there are. I saw some blue belles hout larst night, quite blne wlth the cold."—*Tommy.*

Laelia jongheana Kromeri.—Mr. Ed. Kromer, Roraima Nursery, Bandon Hill, Croydon, informs us that Laelia jongheana Kromeri, described in the first column of p. 510, received a First Class Certificate from the Royal Horticultural Society, not an Award of Merit.

A Catalogue of Cacti.—While fashions come and go in the course of a century, it is astonishing with what persistency and consistency some firms stick to specialities which they have once taken in hand. Cacti, succulents, and seeds thereof, have been a speciality of Frederic Adolph Haage, Jun., Erfurt, Germany, slnce the foundation of the firm in 1822. The catalogue he issues extends to seventy pages, and is abundantly illustrated throughout with Cacti of all kinds, and other succulents belonging to various natural orders, and which can very appropriately be associated with Cacti both on account of habit, appearance, and cultural requirements. Several species of Echinocereus have been depicted while in fnll bloom, and it must be admitted that some of them are showy at certain times of the year as well as being pecnliar and interesting at all periods of the year. On the other hand many of them are decldedly formidable, inclnding Cereus pugioniferus, and most, if not all of the Echinocactl. The various methods of growing them are illnstrated, including the grafting of odd things on to oddities. One of their chief recommendations is the ease with which all of them may be cultlvated by attending to the few wants really necessary to their existence. Another thing is that no end of time may be pleasurably spent in studying the very numerous forms in existence, and their respective peculiarities, by those whose taste inclines towards this special class of plants. All classes of growers are catered for, both amateur and professional. It is also shown how they may be grown in specially constrncted frames, some of them no bigger than hand-lights; and how they may be used for room and table decoration. The agent in this conntry for the firm is Mr. H. N. Ellison, F.R.H.S, 3 and 3a, Bull Street, West Bromwich, Staffordshire.

Syndical Chamber of Belgian Horticulturists.—At the monthly meeting of this body in conjunction with the Royal Agricultural and Botanical Society of Ghent, at that city on March 3rd, Certificates of Merit were accorded to Cypripedium spicerianum × villosum aureum, and C. callosum × superbiens Demidoff, exhibited by M. L. Draps; to Cypripedinm Rosa Bonheur (with unanimity), C. duvivierianum (with unanimity), C. Memoire d' Edouard Pynaert, C. coloris nova, and Odontoglossum Surprise (by acclamation), all exhibited by M. L. de Smet-Duvivier; to Laelia anceps hilliana var., and Odontoglossum crispum var., both shown by the La Lys Society, of Deynze; to Cypripedium leeanum × villosum Madame Joubert, presented by M. Stepman of Brussels; and to Odontoglossum Adrianae, shown by M. M. Verdonck. M. le Marquis of Wavrin exhibited a large number of varieties of Cattleya Trianaei, Certificates of Merit being granted to C. T. Lindeni, C. T. henryana, C. T. Matador (with unanimity), C. T. lucida, C. T. eminens, C. T. Triomphe, C. T. Mars, C. T. le Tsar, C. T. elatior, C. T. illuminata (with unanimity), C. T. Transvaal, C. T. rubens (with unanimity), C. T. formosa, C. T. princeps (wlth unanimity), C. T. Veronique, C. T. Annae, C. T. Genevieve de Wavrin (wlth unanimity), C. T. Lucienne (with unanimity), C. T. gloriosa, C. T. gemma, C. T. major, two unnamed varieties of the same Cattleya, also Odontoglossum Cervantesi lilacina, Laelia jongheana (with unanimity), Epidendrum armstrongeanum (with unanimity), E. armstrongeanum (with acclamation), and Zygopetalum Perrenoudi. The same exhibitor received Certificates for Culture and Flowering for Phalaenopsis bornensis and Dendrobium speciosum (with acclamation and the congratulations of the jury); also a Certificate for the variety for the Phalaenopsis. Honourable mention was accorded Odontoglossum hyb. Dr Struelens, shown by M. L. P. de Langhe-Vervaene. Certificates of Merit were awarded to a lot of Cineraria, shown by M. Firmin de Smet (by acclamation); and a Certificate for Culture and Flowering to Barosma floribunda shown by M. E. Bedinghaus. Honourable Mentions were also accorded to several other plants.

Hints for Emigrants.—The April circulars of the Emigrants' Information Office are being published and distributed from 31, Broadway, Westminster, S.W., and show the present prospects of emigration. This is the best season for emigration to Canada. There is a good demand for competent farm labourers in nearly all parts, except British Columbia. There is a good demand for female servants everywhre, both farms and in towns. There is also a demand for female servants, carpenters, painters, &c., in New South Wales, at Lithgow. At Sydney men out of work are being provided with employment on government works at 7s. a day, the result being that it is almost impossible to get good farm hands in certain country districts. Owing to the drought and scarcity of employment in Queensland, emigrants, other than female servants, are not recommended to go there at present, unless they receive nominated passages, or take a little money with them. Assisted passages have recently been stopped. In Western Australia, unskilled labour was better employed than in the year before, and first-class labourers found no difficulty in obtaining regular employment at good wages. The demand for farm workers was considerably beyond the supply. Domestic servants were in constant demand throughout the year; the fifty emigrant girls who arrived from England last July were all engaged in one day. In Auckland, New Zealand, there is good employment for bricklayers, carpenters, general labourers, &c.; also in Taranaki. At Dunedin, among other indnstries, the freezing works, saw mills, and flaxmills, have been busy. In country districts the harvest has been giving plenty of employment to farm labourers, for whom there is a good demand. Persons are again warned against going to South Africa at present in search of professional or manual work, unless they have ample private means to meet the very high cost of living. They will not as a rule be allowed to proceed up country. There are already large numbers of persons in South Africa at the present time who are out of employment. Candidates for the new South African Constabulary should appply to The Recruiting Officer, 1, Chapel Place, Delahay Street, Westminster, S.W.; they must be good riders, good shots, single, strictly sober, and from twenty to thirty-five years of age; they will be given free passages to South Africa.

CURIOUS RESULT OF CROSS-FERTILISING.

When visiting the garden of an enthusiastic amateur friend in Girvan, Mr. P. Paterson, to wit, some half a dozen years ago, I was so much pleased with the appearance of a Brussels Sprout plant bearing a magnificent crop of firm sprouts, that I urged him strongly to preserve it for seeding. I pleaded guilty to having a selfish end in view here, which has been frustrated by the "busy bee." The advice was duly carried out, the seed being sown in due course. When the young plants began to appear my friend suspected an enemy had been at work, as a great number of green Kale were appearing, which he diligently weeded out, till he thought as he was likely to have few sprouts, he might as well secure a few "curlies." He did so, and the other day I was called in to assist him to select a few plants of greens for seed. The plants were all good, and I chose two of as fine Kale as I ever saw. These, he afterwards informed me, were the produce of my fine "Sprout." I may state that he had no member of the Brassica family flowering in his garden, but his neighbour had a fine lot of greens in bloom.

In the above instance, as well as in many others, Scotland was not behind, as there were several representatives of the old "Scotch Kale" among the first crop of plants. My friend informs me that the flavour is excellent, partaking somewhat of the Brussel Sprout; the plant is also tender to cook, yet very hardy in constitution. It also gives evidence of its origin by *sprouting* freely up the stem. These develop rapidly after the head is cut. When I was assisting to make the selection referred to above, I should have stated that he had specimens of another noted strain growing beside the offspring of the "Sprout"; this I was not aware of till the selection was made.

Mr. Paterson must be congratulated on the success of his experiment, for it was experimenting keeping what most of us would consider good-for-nothing mongrels, and fit subjects for the rubbish heap. He now keeps an eye on his neighbour's garden, however, and tries to arrange that none of the Brassica family are flowering when he is intending to save seed, as a further cross might not result so satisfactorily. The moral is that the pollen bearing subject has more influence on the future plant than the seed bearing one. Hybridisers know this well, however, and need no hints.—"*Brightspade.*"

FRUIT AND VEGETABLE PRODUCTS FROM OTHER LANDS.

(Concluded from p. 511.)

Kola or Kola nut has within recent years come into favour as a beverage; and if not always used alone, it is at least employed along with cocoa. Kola is prepared from the seeds of Cola acuminata, *R.Br.*, a native of West Tropical Africa, from where the first exportation took place about 1877. The general aspect of the Cola, which grows to 60 ft. in height, resembles a Chestnut tree. Besides being found largely between Sierra Leone and the Congo, it also grows in the hot, moist woods of Venezuela. Recent researches and experiments with the nuts prove that a chocolate can be made from them. The nuts are highly valued in the Soudan. They are employed to clear and sweeten muddy water; and as an allay to hunger. It has been successfully introduced into the East Indies, Seychelles, Ceylon, Demarara, Mauritius, Zanzibar, and Sydney. The French have also introduced the plant to many of their colonies. One of the most remarkable properties of Kola is that of enabling people to withstand fatigue for a prolonged period; furthermore they are said to be sure preventives of dysentery, and to aid the liver.

Nutmegs are the Kernels of the fruits of the Nutmeg tree (Myristica fragrans). a beautiful tree of the Moluccas, but of course now widely scattered for commercial purposes. The complete fruit is Pear-shaped, ruddy in colour, and consists of four parts—the outer fleshy part, under which is the membranous substance (aril) covering the shell of the Nutmeg, and known to commerce as "Mace," then the shell, and finally the kernel or actual Nutmeg. Other species of Myristica are now used in soap making. About 250 tons of Nutmegs are annually imported into this country from abroad.

Plums and Prunes arrive from Bordeaux and neighbouring districts of France, about September and October in a dried state. We learn that the finer sorts are all plucked before the sun has risen in the mornings, and are separately laid on Vine leaves in baskets, where they are exposed to the sun and air for three days. The commoner fruits are simply shaken from the trees and are dried in ovens, or in specially prepared drying machines. Plums or Prunes, whether they come from Bosnia, Servia, Hungary, Germany, or France, are all simply varieties of Prunus domestica, *L.* When we wake up to the fact that thousands of pounds could be gained by drying our own English varieties of Plums, perhaps we shall then set about investing in the necessary machines.

Rice, as is pretty well known, is the seeds of one of the most beautiful of tropical Grasses, botanically named Oryza sativa, *L.* This plant may be cultivated in pots wherever there is a Water Lily, or other suitable house. Rice forms the staple food of about one-half the human race, and is cultivated in enormous quantities in China, Burmah, and the West and East Indies; also parts of Africa and tropical America. Rice requires damp, or even marshy land, and in China along by the banks of the rivers the great Rice-fields are often submerged even while the plants are growing. Artificial flooding and irrigation is resorted to where the supply is not naturally plentiful enough. When Rice is still in the husk it is called "paddy."

Sago.—It is also generally known that Sago is the soft pith of some species of Palms cultivated in the larger islands of the Straits Settlements and elsewhere. Those most especially employed are Metro-

xylon Rumphii, *Mart.*, and M. laeve. Inferior qualities of Sago are got from many other Palms, even including the well known Rhapia flabelliformis, *L.*, and the exceedingly useful Mauritia flexuosa so essential to the West Indian and tropical American natives. Sago seems a strange crop and would appear to necessitate great destruction, seeing that the trees have to be cut down before the pith can be extracted.

TEA is the dried leaves of an Evergreen shrub (Camellia theifera Griff), whose culture is gradually extending in Africa, though formerly the East Indies, China, Burmah, and Ceylon were the principal countries wherein it was to be found. The shrub ordinarily grows to a height of 3 ft. to 6 ft., and is very bushy with numerous leafy branches. Its flowers are white and somewhat like those of a Bramble or Dog Rose. Before any leaves are pulled off, the plants are allowed to have become well established, that is, generally their second or third year. The "Pekoe Tea" is derived from leaves plucked from the buds during the early stages of opening. Green Tea and Black Tea are only rendered different by their mode of preparation.

The process of drying takes a long time, and is mostly done in the open air. After being dried the leaves are then roasted. This is done in shallow iron pans heated over a wood fire, the person in charge keeping the leaves constantly turned. In a few minutes the leaves begin to crack, and become soft, moist, and pliable. They are then thrown on Bamboo tables where they are rolled. The drying and rolling goes on alternately for a while longer, when the merchants buy it, and blend it before packing in the little Tea boxes so well known to us. Indian Tea gives a stronger and darker liquid than the China Teas; and the Ceylon Tea is very popular because of its rich quality. China Teas arrive in London about the end of June or the beginning of July. New Indian Teas appear about the end of May; whilst Ceylon Teas come in all the year round. There are over fifty blends of Teas.

MACARONI is simply a dried paste made from the flour of a very hard wheat, and water. The paste is pressed through holes in such a way as to form hollow cylinders, and according to the size of the cylinder its name varies, the largest being called Marcaroni, the next vermicelli, and so on. Semolina consists of small particles of Corn, Rice, and a hard Wheat grown in Italy.

SUGAR is produced all the world over; the two principal being the Cane and the Beet sugar. The latter now largely dominates the European markets. The sugar cane is cultivated in all tropical and sub-tropical countries, but the warmer the country the more, and better sugar is produced. The canes when ripe are cut close down to the ground, for it is in the lower joints and in the root-stocks that the sugary juice is greatest. These are then passed through rollers after which the juice (now in pans) is evaporated by means of heat. The cane refuse, megass, and coals are burned to supply the artificial heat, but where coals are expensive, the price of the sugar is greatly raised. This is one of the problems that have taxed those who are trying to re-establish the sugar growing industry in the West Indies. It has been thought that sun heat might be used to effect by concentrating the rays by means of large glasses.

In the Sugar-Beet countries fuel is cheaper to buy, and easier to get. Labour is also plentiful, whereas in the West Indies many of the Islands are very sparsely populated, having less than one hundred to the square mile. Sugar cane requires a rich, moist soil, and here again manure is much more difficult to get in the cane countries, than in those where the Beet is grown. The Sugar Cane has until recently suffered from a disease, and as the means of propagation has hitherto been entirely from young suckers the disease was likewise transmitted. But canes after having been allowed to mature were found to flower freely, and a fresh, healthy stock of seedlings can easily be raised. The failure or decay of the Cane Sugar industry which at one time was the mainstay of the West Indian Islands, has caused many other crops to be cultivated in its stead. So great were the Sugar returns early in last century that owners of comparatively small estates, say 3,000 acres, could afford to live in luxury in London, while their foreign affairs were managed for them by a resident estate agent.—*J.H.D.*

VALLOTA PURPUREA

Is well worthy of a place in every garden, as it produces its splendid flowers during autumn. It seems to thrive and flower best on becoming pot bound, applying waterings of liquid manure occasionally; therefore frequent shifting should be avoided. During summer it requires abundance of water, and exposure to full sunshine. Unlike most other bulbs, Vallotas have no time of inaction; many cultivators at first failing through drying off, until they become aware of the fact. If large specimens are required, place a dozen bulbs in a 12-in. pot. Repotting is best done in autumn, when necessarily required, at the same time severing the small bulbs from the large, for increasing the stock. For specimens pot on intact into larger pots. Vallota purpurea, or, as it is named, major, generally flowers about August, but varies at times according to the temperature in which it is grown. Flowering bulbs placed in gentle heat, may be had in bloom about March. For soil they delight in turfy loam, peat, sand, and cow manure. The other three varieties are minor, magnifica, and eximia. The latter two have brighter colour than the two former. The two first named vary only in size of flower.—*Walter Hogarth, Norton Gardens, Ratho, Midlothian.*

FILMY FERNS.

How seldom one meets with these, notwithstanding their exquisite beauty and comparative ease of culture, if only their few simple wants be attended to. They can easily be grown in a frame out of doors, behind a north wall, provided they are protected from severe frost, but if preferred they can be grown in a Wardian case in a cool house. There are four conditions essential to their successful cultivation; these are—shade or subdued light, a humid close atmosphere, plenty of water and ample drainage. The Hymenophyllums and Trichomanes should be grown in pots half filled with drainage and potted Orchid-fashion, with equal parts of turfy loam and peat, both used in a rough lumpy state, with a free admixture of charcoal, sandstone and chopped sphagnum. If a block of Oak or other hard wood be built into the centre of the pots intended for the Trichomanes they will cling to it with their rhizomes. Todeas do not require more than ordinary drainage, and in their case the sandstone may be omitted and silver sand substituted. When once they are established they should not be disturbed for several years beyond giving them a top-dressing. Many people think they should be watered overhead with a rose, but this is wrong. Give plenty of water at the roots, keeping the frame or case closed, and this will produce the necessary humidity of atmosphere. Todeas should not be attempted by those whose room is limited, as plants of T. Fraserii and T. superba, when well grown and fully developed, often measure from 3 ft. to 4 ft. across; but for those who can afford them space they are lovely objects. I close with a list of a few of the more popular Filmies:—Todea Fraserii, T. superba, T. pellucida, Trichomanes radicans (Killarney Fern), T. r. Andrewsii, T. reniforme, T trichoideum, Hymenophyllum demissum, H. nitens, H. tunbridgense, H. chiloense and H. flexuosum.—*Chas. Comfort, Broomfield, Davidson's Mains, Midlothian.*

MIGNONETTE FOR WINTER BLOOMING.

THIS is a very favourite greenhouse plant, and deservedly so. It is so useful for vase decoration, or as a window plant. To grow it well it requires great care. Seed should be sown this month, in 7-in. pots, using a compost of turfy loam, leaf soil, lime rubble, and decayed cow manure. The pots should have liberal drainage, with a layer of manure over the crocks, filling the pots to within ½-in. from the top with the soil named. Then put four or five seeds on, and cover slightly over with finer soil, giving them a good watering and place the pots in a cool frame, kept close until the seeds begin to germinate, when they will require more air. As soon as the plants are ½-in. high, thin them out, leaving the strongest plant. When they have attained the height of 3 in., pinch out the leads and continue till about July or August. By that time they will want staking, and also feeding occasionally with weak manure and soot water. The plants will be quite safe in the cold frames till October, when they should be brought into the greenhouse and placed up to the glass to prevent them from being drawn. I find "Machet" the best variety for pot work and winter blooming.—*T. W. B.*

COSMOS BIPINNATUS.

COSMEAS are slowly coming into fashion, but so slowly that it is necessary to be constantly singing their praises. Few annuals are so handsome and satisfactory in large or small gardens. Sow in heat in March or April, and they must be pricked out, taken care of, and planted out early in June in good rich soil, when the results will be surprising. They grow 3 or 4 ft. high, and from July till November are covered with large pink or white flowers, the shape of a Daisy, which last well in water if cut, and keep the plant gay if left alone. The foliage is almost as light as fennel, but without the smell, so that it is an all round success. If there is no heat, Cosmeas may be sown in the ground, but should have a seed bed, where the tiny plants may be covered when there is danger of frost, and from whence they may be transplanted. The real object of transplanting is to ensure their having room to thrive, for they are both tall and bushy, and one plant to 2 sq. ft. of ground gives best results. Crowded small and weak they are no good, so they should not be sown in their flowering places. A new mammoth variety appeared about two years ago which grows a foot taller than the others, and has larger flowers, but is not otherwise noticeably different. Cosmos sulphureus is a shorter smaller species with yellow flowers the size of sixpence; it is very branching, and wanders about a flower bed in a casual way of its own, but it is a very pleasing plant, and well worth growing. Cosmea is a synonym of Cosmos.—*Albert Marks, 4, Orchard Terrace, Chichester, Sussex.*

DAHLIA PROPAGATION.

ROOTS that were placed in the hotbed or the propagating frame the latter part of March, will now have put forth cuttings. When these are 3 in. or so in length they should be taken off with a sharp knife close to the old tuber, but not so as to injure its crown, because many more shoots will arise from it if required. Prepare the cuttings by cutting the shoot smoothly across under the first joint, and without shortening the leaves. The cutting should be put into the smallest sized pots (30's) into a light soil composed of decayed leaves and sand, although I have seen them struck in a pure white sand alone. The cutting should be inserted just as far as will enable it to stand upright, as the shallower they are planted the better. Plunge in a brisk bottom heat, cover with a hand glass, and shade regularly. Water regularly but not over the leaves. In fourteen days or so they may be taken from under the glass and accustomed to the air by degrees. When they will stand without flagging transplant into larger pots and gradually harden them off by removing from the pit to other situations until they will stand the air and temperature of a cold pit; but in these they will require to be covered at night with mats till the 1st of May or so when they must be accustomed to stand the open air so that they may be planted out where they are to flower by the middle of that month.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

HOW TO GROW CYCLAMEN FROM SEED.

CYCLAMEN seed should be sown in August. Seed pans are the best for the purpose; they should be filled with a compost of loam, a liberal quantity of leaf soil, and a little silver sand. Dibble the seeds in about an inch apart, and a quarter of an inch deep; place on a shelf in a greenhouse, and shade from the sun. When large enough to handle prick off into similar soil, putting about a dozen in a 4½-in. pot; when ready place them in single pots, and by the end of April in 3-in. pots, and flower them in 4½-in. pots. In the final potting the crown of the corm should appear a little above the surface. Afterwards place them in a cold frame near the glass; sprinkle them freely overhead once in the forenoon with a very fine spray, not too heavily, or the foliage will be bent down. Never shut the lights of the frame until the leaves are dry, otherwise they will become drawn and the constitution of the plant will suffer. Give the plants as much air as possible, avoiding cold draughts, for sudden changes are very detrimental to the Cyclamen. In summer shading

will be needed, taking care not to over-do it. In August and September an occasional dose of weak manure water will add to the size of the flowers. The soil should consist of three parts loam, one part leaf soil, a liberal quantity of rotten cow dung, and sufficient silver sand to keep it open.—*T. W. B.*

THE PLANT HOUSES.

The Stove.

THYRSACANTHUS RUTILANS.—Of recent years this fine old-fashioned subject has been greatly neglected, but when seen in fine condition during the winter or early spring months it is of great decorative value. Cuttings may be taken now, inserted singly in sandy loam and leaf mould and placed in a case to root. When this has taken place, and before the roots get pot-bound, the plants should be shifted into larger sizes, when necessary, and grown on strongly. The long stems of this plant would, to the uninitiated, appear naked and unsightly after they run up to 2 ft. or 3 ft., but the use of such becomes evident when the plants are in bloom, the long stems being necessary to keep the long, pendent flower spikes off the ground. No method of tying up would ever make them look natural.

CENTROPOGON LUCYANUS.—Now is the time to take cuttings of this plant for the production of stuff that will flower during the forthcoming winter. The cuttings may be rooted by the usual method given to soft-wooded stove plants generally. A similar compost to that used for Thyrsacanthus will answer, or a little more sand may be employed with advantage, as the plant is allied to Lobelia, which flowers best when not overfed nor kept too moist. The rooted cuttings may be shifted on as they require it till the plants are in 6-in. pots, which will be found a convenient size. About the middle of June, if the weather is fine, the plants may be transferred to a cold frame, facing south. Here they may remain till the approach of cold weather necessitates their being brought back to the stove or intermediate house. By judicious ventilation, the sun's heat may be utilised for keeping the plants warm enough to make healthy bushy specimens by September.

POINSETTIAS.—The old plants may now be introduced to heat, and occasionally syringed to start them into fresh growth. When the earliest produced cuttings are about 3 in. long they may be taken off and rooted to give early and strong plants to come in serviceable when Chrysanthemums are getting less numerous. Old plants may be repotted after they have started into growth, if large, bushy specimens with numerous heads are required. The bracts will not be so large as those grown on single stems, but they may be put to useful purpose in the conservatory, where the lower portion of the stems, if naked, may be hidden with the foliage of other plants.

EUCHARIS.—Pots of bulbs, from which a good supply of flowers was cut in winter, should be encouraged to make free growth by such stimulants as increased temperature and a liberal supply of water as soon as young growth shows that such is necessary and desirable. Syringe the foliage, morning and afternoon, and see that it is kept clear of mealy bug and scale.

GESNERAS.—Some gardeners like to start these into fresh growth before repotting them; but there is a danger of breaking the young roots in attempts to remove the old soil before repotting. There are two other methods that may be adopted, one of which is to put the tubers into shallow boxes of rich light soil and place the boxes in the stove till the plants have made some growth. They can then be potted up in pots proportionate to their size and vigour. Other growers make up a suitable compost and forthwith pot up the tubers straight away. Even here it is advantageous to use small pots and afterwards shift on the plants as this becomes necessary. By this plan the souring of the soil by watering while the roots are still scanty is obviated.

TEMPERATURE OF THE STOVE.—With the more genial weather now prevailing the night temperature of the stove may be raised to 70° if the stage of progress of the plants warrants it. No great firing should be given in the early morning even if the temperature should be a few degrees below this, unless very cold and sunless weather prevail at the time. The gardener will here have to use his judgment as to the necessity of a brisk fire. Syringe the plants twice a day if the weather is fairly bright.

The Greenhouse.

SOLANUMS.—If these have started well after having been cut back and placed in heat they may be transferred to a cooler house and hardened off. Presently an unheated frame or pit will answer the purpose till they can finally be planted in the open to flower and fruit.

COLEUS.—Cuttings that have been rooted and potted off singly should be put into a relatively cool house, after they have become established in the fresh soil. Here they will grow more slowly—at least, till the weather gets warmer—but they will be sturdier and healthier for being grown cool.

SPARMANNIA AFRICANA.—As soon as the plants go out of flower, they may be cut hard back so as to reduce their size. Keep them drier for a short time, and introduce them to a moderate heat to encourage fresh growth. After they have fairly started, better and more consolidated growth will be made in a greenhouse or other structure with a similar temperature.

Gleanings from the World of Science.

AT the meeting of the Scientific Committee of the Royal Horticultural Society, on March 26th, the subjects given below came up for discussion.

Cattleya monstrous.—Dr. Masters described the specimen sent to the last meeting as follows:—The flower is dimerous, in having two sepals, a lip and a lateral petal, and a normal column.

Cypripedium illustrations.—Mr. G. S. Sanders showed a series of beautifully executed water colour drawings of malformations in the flowers of this genus as follows:—The entire absence of one or both side petals; the entire absence of the labellum, its presence in a distorted form, and its partial or entire duplication; one or both side petals partially, or entirely, taking the form of the labellum; the side petals joined to the upper or lower sepals; the upper and lower sepals joined together; one side petal adhering to the labellum; the lower sepal adhering to the labellum; a duplication of parts; a double flower, caused by the adherence of two flowers; a flower showing the two lower sepals separate which are generally joined together in this genus.

Acotyledonous members of Amaryllideae.—Mr. Worsely gave some account of his observations as follows:—"Among Amaryllideae acotyledonous species occur in the genera Crinum, Hymenocallis, Elisena, and probably in Griffinia and several Audine Pancratia. I do not think it is constant even in one species. Among the Crinums it occurs occasionally in C. Moorei; frequently, or almost invariably, in Ismene and Elisena, but rarely, if ever, in Hymenocallis true. Plants from regions of annual droughts gain advantage by immediately forming a bulb at some depth under the soil, which will not break into growth until the rains return, and will thus commence their annual growth at the best time." In the absence of specimens and illustrations it was impossible to form an opinion as to the peculiar and anomalous conditions described, as acotyledonous plants are unknown to botanists in this family. Orchids and parasites, &c., Dr. Masters observed, are without cotyledons, because the perfect embryo is not formed. Mr. Worsely also described the usual curvature of the radicle, or "geotropion," characteristic of all seed germinating in the ground. He also described how a bulb will be formed at the bottom of the flower pot. This, Dr. Masters remarked, was probably the well-known formation of a "dropper," so common in Tulips, &c., the new bulb being formed on a leaf-sheath.

Ferns, anomalous.—Mr. Druery exhibited the following remarkable specimens:—Fronds of Polystichum angulare var. sinuosum, sent by Rev. H. Kingsmill Moore, Dublin. It is an unique variety in having all the fronds evenly sinuous at short intervals in the plane of the frond. In this respect it is quite distinct from the several flexuose forms already found, they being generally distorted, a fact which in pressed herbarium specimens is masked by pressure. The fronds exhibited were unpressed, as received. The Fern was found wild many years ago in Ireland by Mr. Davey.

Hybrid Orchids.—Mr. Douglas brought some hybrids "for the purpose of showing that Orchids which flower naturally at the same period of the year produce satisfactory results, whereas if crosses are effected between species that do not naturally flower at the same period, the results are unsatisfactory." As an example of the latter he referred to Laelia × Briseis, a cross between Laelia purpurata (pollen parent), and L. harpophylla (seed parent) He observes, "The seed did not germinate freely; two plants only were obtained from what seemed a very satisfactory capsule. The Orchid Committee thought it worthy of an Award of Merit. Both plants are natives of Southern Brazil. L. harpophylla produces its flowers under cultivation in February and March; its flowers are small, 2 in. to 3 in. across, of a bright cinnabar-red colour, and altogether unlike the gorgeous L. purpurata, with coriaceous leaves 12 in. to 15 in. long, having flowers 6 in. to 8 in. diameter of an amethyst purple colour. The only trace of this colour in the progeny is a slight tinge on the lip, and in no respect is there anything to lead one to the conclusion that L. purpurata was the parent. The plant is very much larger in all its parts than L. harpophylla, but not nearly approaching even the intermediate size of L. purpurata, either in flower, leaf, or pseudobulbs. Can any reason (other than the fact that the two species do not flower at the same season of the year) be shown that the seedling is not intermediate between the two parents?" He also exhibited flowers of Cymbidium eburneo-lowianum, with flowers of the seed parent, C. lowianum, and of the pollen parent, C. eburneum. "In this case the two parents naturally produce their flowers at the same time, and the result of hybridisation is entirely satisfactory. The pseudobulbs and leaves are as intermediate as are the flowers. The flower spikes are longer than those of C. eburneum, but not so long as in C. lowianum. In the one case the result was disappointing, in the other very satisfactory; moreover, it has been asserted that such results are to be expected. May I ask why?"

Dendrobium leaves, spotted.—Mr. Douglas remarks:—"The leaves of Dendrobium, freely covered with black decayed spots and blotches, have puzzled me greatly. I had a few plants sent here which developed the disease, and it speedily spread to my own plants, which were quite healthy. I lost several altogether, as it is also developed on the stems. There does not seem to be any fungus on the diseased parts, and yet by no manner of treatment can I get rid of this pest."

Cattleya Trianaei, monstrous.—Mr. Douglas observes:—"The flower of Cattleya Trianaei was sent to me by the Rev. Francis D. Horner. It is abnormal as regards colour, but it has been constant for six years."

Turmeric tubers.—Mr. Holmes exhibited fresh specimens, an unusual condition, as a marketable product they always arrive dried. They are the old tubers of Curcuma longa; the young ones are white, and contain starch.

Plants from Botanic Gardens, Cambridge.—Mr. Lynch sent the following interesting species: Arctotis, sp. n., a fine plant, sent to Cambridge by Mr. Gumbleton. It somewhat resembles A. glaucophylla; Melasphaerula graminea, a curious and graceful Irid, charming among bolder flowers. There are two forms, one having pale yellow flowers and is rare; the other with darker tinted blossoms. Hybrid Sarracenias.—These showed variations of colour, according to those of the parent species as follows: S. purpurea × S. flava = Stevensi; S. rubra × S. purpurea = Chelsoni; flava × Stevensi = illustrata; Chelsoni × illustrata = hybrids sent. Laportea moroides.—This plant had a large bunch of Mulberry-like fruit, but paler in tint. It bore numerous stinging hairs, the leaf also resembled that of the Mulberry tree. It belongs to the tribe Urticeae of Urticaceae. It is figured, "Bot. Mag.," 1889, t. 7057, and is a native of N. Queensland, where it is said to cause the death of horses. Deherainia smaragdina.—A native of Mexico; a tree of the order Myrsineae, remarkable for its dark green flowers, the corolla having chlorophyll. There are foliaceous, rudimentary stamens alternating with the petals, as in Brookweed (Samolus) of the allied order Primulaceae. The anthers are extrorse, dehiscing, while forming a central, erect column, but spreading on the petals subsequently. It is figured in "Bot. Mag.," t. 6373. Fungi.—Mr. Lynch also sent some specimens of Peziza lanuginosa (described as Sepultaria sumneriana in Massee's "Fungus Flora"), growing in the grounds of the Botanic Garden.

HINTS FOR AMATEURS.

CHOICE EDIBLES.

THE articles that appear in these two columns deal mostly with plants to please the eye. This week we will have a change and talk about a few things to please the "inner man." Space will not allow many to be dealt with, so an endeavour must be made to select the choicest that can be grown without much expense and trouble.

Mushrooms.—These are, for the greater part of the year, out of the reach of most people, owing to the price demanded for them. To those possessing a small back garden or a spare shed these need not be denied during the greater part of the year. Not only can sufficient be grown in a small shed to allow a generous supply for the family use, but also for market purposes where they always command high prices and a ready sale. The initial expense is not much. If a shed is available it should be fitted with shelves in the form of boxes about 1 ft. deep to hold the compost. The compost generally used is fresh stable dung. The long litter should be shaken out, and the remainder placed in a dry place where it should be frequently turned to prevent a too rapid fermentation.

When sufficient has been obtained the boxes should be filled, well beating the successive layers as they are put in to make it firm, so that it will ferment more slowly, and thus retain the heat for a longer period. When filled to within 2 in. it should be left for a day or two to see if it is going to heat too much before putting in the spawn. If it is not likely to go over 80° it may be spawned. The spawn may be bought very cheaply at horticultural stores, etc. It should be broken into about 2 in. pieces and pressed into the beds till level with the surface. The pieces should be about 9 in. apart. When this is completed the boxes should be filled up with moist loamy soil and pressed firmly. After a time as the heat of the bed declines a covering of long litter may be given.

When the soil requires watering it is not advisable to pour the water on to it but to wet the litter, taking care that warm water is used. In about six weeks from the time of spawning the Mushrooms will appear as little knots on the white mould-like threads, which will have covered the bed. When once started they grow very quickly and must be kept well looked after or the large ones will push the smaller ones over. They should not be pulled up but cut off close to the bottom. This prevents injury the others close to it.

Mushrooms in the Open Air.—When grown out in the open they are subject to all sorts of weather and cannot be obtained for so long a period owing to the cold. The method employed for growing them in large quantities in the open is on ridge beds; these are about 3 ft. wide at the bottom and run up to a sharp ridge. The dung used for this method need not be so free from litter as for the boxes, as it helps to bind the mass together, but it should be thoroughly saturated with urine, etc. It is firmly trodden, and spawned when the heat has declined to 80° and then cased with about 2 in. of moist soil firmly pressed on. To keep off cold winds, rain, &c., the beds are covered with long litter, or a frame-work and mats are used. Mushrooms differ from most other plants in not requiring light for their full development, and, indeed, are grown to greater perfection in total darkness than where light is admitted. Another way to obtain a small supply is to dig a trench in the garden about 1 ft. deep, and into it tread horse droppings and short litter. Cover thinly when spawned with soil, and beat firmly with a spade. A little straw must be scattered over the surface to check evaporation, and thus lessen the necessity for watering. By this simple method a fair supply of Mushrooms may be had for eight months during the year. The cost of the spawn bricks is about eightpence per square foot.

Tomatos.—At the present day Tomatos may be bought very cheaply, but anyone with a piece of sheltered garden which gets a fair amount of sunshine can grow them much cheaper if they employ the right means. If a wall or fence is available, which gets the sun for several hours during the day, a great many pounds of fine fruit may be obtained from a very few feet of space. It is the best to buy the young plants as it saves a large amount of trouble and more sturdy plants may be obtained. If the weather is nice they may be planted about the end of May. If the soil is poor the addition of a little well decayed manure will be beneficial. They should be planted about 1 ft. apart on the walls and 18 in. each way in the open. Care must be taken to keep them tied up as the stems are easily broken. All side shoots must be carefully pinched out as they appear, when growing outside, as the season is only long enough to bring the earliest formed fruits to perfection. When about six trusses of fruit are formed on a plant, on a wall, the top must be taken off to make the plant throw its energy into the development of the fruit. If any leaves are in the way to hinder the free access of the sun's rays they should be tied back but not cut off as the leaves elaborate the sap and thus produce highly flavoured fruit. Only four bunches should be allowed to remain on those in the open, which must be securely tied to stakes. They must never be allowed to become dry at the root or they will ripen their fruit prematurely. If the season is very wet the leaves are apt to become spotted. When this is noticed they must be sprinkled with flowers of sulphur. On the first appearance of frost in the autumn all the fruit must be gathered and placed in a dry, warm and light position, such as that provided by a kitchen window where they will gradually ripen and produce a supply, often up to Christmas. Or the green fruit may be made into sauce which is equal to that made from the ripe ones.

Cucumbers.—These may be grown in abundance all through the summer with the aid of a frame and a small bed of dung. The plant should be planted on a mound of soil in the centre of the frame. It will be found best to plant it in a laying down position or the stem is apt to snap off close to the ball. As the roots protrude through the soil more should be warmed and put round them. After the plant has made a good start the point should be pinched out to make it break; these lateral shoots should again be pinched at about the fourth joint. As the plant increases it will be found necessary to pinch often and to cut out all old stems that have done fruiting, where these can be spared without sacrificing too much of the young growth. The atmosphere must be kept moist by damping the sides of the frame several times during the day. It must not suffer from want of water at the root, and when this is applied it should not be poured too close to the main stem or collar, or the plant is likely to rot at this point. When the sun is very bright a light shading should be given. In hot weather air may be freely admitted but carefully avoid cold draughts. When the sun is declining in the afternoon the whole interior of the frame should be well sprinkled with warm water, well damping the foliage as well. The ventilation must then be taken off so that a good steamy heat is caused. It is much better if the material is handy to cover the frame at night so that the temperature does not fall too low. Where glass is not available for making the frame top, a very good substitute can be made by giving linen a coat of white paint. This will be found cheap and durable and perfectly waterproof if stretched tightly. Where a warm position is obtainable there is a very good little variety of Cucumber that may be grown out in the open. It requires a little manure for the roots to ramify in; and by stopping the shoots as advised for those in the frame, a great many fruits may be obtained from one plant. The variety is known as the Ridge Cucumber, it is only a very short grower, but very prolific, the plants often being covered with the short spiny fruits. The flavour is much better than the indoor ones. It is grown in large quantities round London for pickling, for which purpose it is well adapted when about half grown.

Vegetable Seeds for Present Sowing.—Sow main crops of Peas for use in June and July. Early Potatos that have been forwarded in a warm place should be planted on warm borders to shelter and hurry them forward. Seeds of Cabbages, Cauliflowers, Brussels Sprouts, Savoys and Red Cabbage for pickling should be sown without further delay. Onions, Carrots, Parsnips, Leeks, Parsley, Turnips, Radishes, Lettuces, Long Pod and Broad Beans must all be got in without further delay if they have not been attended to earlier for various reasons.

Vegetable Marrows.—These can hardly be called choice, but they can be grown for the household and serve another purpose at the same time. They make a very effective covering for small summer-houses, being very quick growers. They only require a light position and a piece of well manured ground and careful tying up. It is a plant that likes a large amount of water.—*F. J. C.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Window Culture of Campanula isophylla.—*D. Marsland*: There should be no difficulty in growing this plant in a window, provided you observe a few simple rules. Get some clean pots about 5 in. to 6 in. wide, inside measurement; crock them well to insure drainage, and put some moss over the crocks to keep the soil in its place. For soil use good fibrous loam that has been stacked six or twelve months since it was cut, with about a sixth part of leaf mould, and sufficient clean sand to give the whole a gritty feel to the hand after it has been thoroughly mixed. Pot the plants in this rather firmly and water for the first time with a rosed can. Not very much water will be required afterwards till the plants begin to grow freely, but you must not allow the soil to get dust dry at any time. If you hang up the pots, which is the best plan, you may keep a saucer under the pots to prevent drip in the window, but you should empty out the water as soon as it has passed through the soil.

How to get large Trusses of Hydrangeas on Single Stems.—*A. T. W.*: You can scarcely do this at the present time. Preparations should have been made in July last by taking off the growing tips of strong shoots when getting firm at the base. Put these singly into 3½-in. pots of rather sandy soil and stand the pots under hand lights or in a cold frame. Keep the lights perfectly close till the cuttings show signs of beginning to root, when air may gradually be given day by day. During bright weather you must of course shade the frame by day to prevent the flagging of the leaves, as that would delay rooting and probably destroy many of them. When well rooted, repot the plants into a larger size, and keep them growing in the frame till towards the end of the season when you should ripen off the plants by taking off the light and leaving the plants exposed night and day. Take them into a greenhouse before there is danger of frost injuring them. While growing feed them with liquid manure, and they should throw a fine truss of bloom in the frames or greenhouse next summer.

Stocks Damping Off.—*W. D. Wilson*: You must be keeping them too damp during the very unfavourable weather we have had. Your best remedy is to make up some boxes of light sandy soil and leaf mould. Make the soil firm and carefully prick out the seedlings into them, 2 in. apart each way. Water the seedlings with a rose can, after which they are not likely to require any more for a week. It will depend of course upon the weather, but very little water generally speaking will be required until the plants begin to grow strongly and the weather gets drier and warmer.

Pruning newly planted Roses.—*Uncertain*: It is high time that all Roses were pruned now, whether recently planted or fully established. Cut back the strongest shoots to a good bud, leaving them 6 in. or 8 in. long. The weaker ones may be cut shorter, and those that are finer than a crow quill should be cut back to a bud at the base. Before dry weather sets in you should get some short manure and spread it over the ground so as to maintain the moisture in the same, and the Roses will root all the better for it.

Cuttings of Golden Privet.—*R. W. Hill.*: There is no difficulty in getting up a stock of this Privet. The stronger cuttings may be cut into lengths of 9 in. and dibbled into light soil in a shady position. The ground should be previously dug and enriched with some leaf soil. Water them occasionally in dry

weather till they have fairly started to grow. The smaller cuttings may be firmly inserted in pots of sandy soil and the pots stood in a cold frame, which should be kept close till the cuttings begin to grow. You can put the plants out into nursery lines as soon as rooted, but you must shade them for a few days, if the weather is warm, till they get a fresh hold of the soil.

When to take Fuchsia Cuttings.—*F. S. Wise*: You can take cuttings off as soon as they are 3 in. long or a little more. If they are getting a little firm at the base so much the better, as there will be less danger of their damping off. Fill some pots with very sandy soil; water them with a rose can, and about half an hour afterwards you can insert the cuttings rather firmly. Place the pots in a frame and keep the latter close till the cuttings begin to root. Shade for a time if the sun is bright, to prevent flagging.

Cut Flowers of Daffodils.—*Thos. Reid*: The plan for getting Daffodil flowers in the cleanest condition is to cut them with long stems while the flowers are still only half expanded or even less. Drop the stems into a pail of water nearly their full length, and keep them in a warm place but shaded from the sun till they open.

There are a score and more varieties of the Hibiscus—single and double, purple, white, and blue—but the dark crimson blotch at the base of each petal is shown off to best advantage in the single forms to which category the Observatory specimen belongs. The Hibiscus evidently delights in a deep gravelly soil, such a soil as suits the Spanish Chestnut, for of both there are few larger specimens than may be found in the Royal Park at Greenwich.—*A. D. Webster.*

CHEMISTRY FOR THE GARDEN.

(*Continued from Vol. xvi, p.* 587)

XI.—Soils.

What is soil, and whence did it come? are questions which often present themselves to the mind of every individual. Without the aid of the geologist and the chemist, the answers, however, are not so easily solved. The geologist tells us that in its initial form, soil necessarily consists of nothing but mineral matter. The chemist also tells us where this same mineral matter came from, and the various forms through which it had gone, before it arrived at the stage of crystallisation in the shape of consolidated rocks. There is much in the theory of the formation of the earth that is highly instructive for gardeners. It gives them a clear conception of a material which it is their daily duty to manipulate, besides the grandeur that ensues the extension of our minds, by such studies.

But not to be digressive, soil began to be formed originally by the action of the elements upon the rocks. These agencies were chiefly frost, rain, and carbon dioxide. The same process is still going on around us. This will be more obvious when a hilly part of our country is visited, and where we see terrible enough evidences of the disintegrating influences of the above untiring servants of Nature. In the course of time, in the world's history, the botanist steps in to tell us how organic life in the form of plants of a lichenous type, came to possess and inhabit the partially disentegrated rocks, and how by their decomposition every succeeding race gained stronger foothold. Thus therefore Nature was carrying on two great acts simultaneously, the growth of the plant as well as forming an essential part of the plant's food, the organic mould arising from the decomposition.

It will be apparent that a knowledge of the geological formation of the district is of great importance to a gardener, whether to enable him to plan out a proper situation for a new garden, or to make him feel quite at home with the soils of a garden in his charge. There can be no doubt but the gardener and the farmer have been, to some extent, in the past working greatly in the dark, and consequently very much labour and expense were being expended unnecessarily, as always is the case in such circumstances. Nowadays we are glad to say there are facilities everywhere to enable all who make tillage of the soil their profession a much more intelligent calling as well as a more remunerative industry. Moreover it is gratifying to observe that the wise and unbiased take full advantage of these aids.

Soils vary according to the nature of the rocks of a district. In the vicinity of volcanic rocks such as Edinburgh the soil is light, and therefore poor, requiring much manure to give good returns. In the neighbourhood of Devonian rocks, such as Herefordshire the soil is very fertile, requiring very much less manure for its support. In carboniferous districts the soil is generally clay, and though one of the very worst adapted for gardens, it is notwithstanding among the richest soils we have. The maritimal tracts to be met with on the east coast of Scotland exemplify this. Then there are the Lanarkshire beds in the Clyde valley; a more fertile soil could not be met with anywhere.

The distribution of clay soils is widely spread all over the kingdom, and their presence in a locality may be quite independent of the general geological structure. Their formation has been brought about in two ways, viz.: precipitation, and glacial action. What is known as boulder clay is the result of the latter, and our maritime and lacustrine clay tracts, that of the former. Every soil contains some quantity of clay. For a test a person should take a small quantity of any soil, and put it into a beaker, wash this thoroughly and decant the turgid liquid into another vessel. Repeat this until the residue in the beaker is washed clean. The proportion of clay will be found precipitated on settling at the bottom of the other vessel.—*Oxygen.*

(*To be continued.*)

The Syrian Mallow.

THE SYRIAN MALLOW (HIBISCUS SYRIACUS).

Growing on the line of the first meridian within the grounds of the Royal Observatory in Greenwich Park may be seen one of the largest and healthiest specimens of the Syrian Mallow that is to be found anywhere in this country. Certainly, though perched on the hill top it has the friendly shelter of the Observatory buildings, with a western aspect and suitable soil, conditions that have no doubt largely aided in bringing about its present unusual size and flourishing condition. How freely the conspicuous semi-double flowers are produced will be seen from the accompanying illustration (from a photograph taken by one of the Observatory staff), which reveals not only its floriferous character, but bright, healthy foliage and far-reaching branches. The height is about 12 ft., and the branch-spread 21 ft., and when viewed from the lower drive during the flowering period, which is of by no means short duration, specially in bright sunlight, the effect is truly surprising and fully justifies the exclamation of visitors, that when well developed the Hibiscus is one of the handsomest of hardy shrubs.

Drying Fruits.—Apropos to what was written in our leader in the issue of 1st December, a correspondent to a contemporary re-echoes our remarks. He says: "Whether the drying of fruit will ever be made a profitable industry in this country is a matter of conjecture, but it seems that there is a screw loose somewhere when on a little island like this, with its

teeming population, tons of wholesome fruits are allowed to fall from the trees and rot when the crop happens to be a heavy one."

JOHN CLAUDIUS LOUDON.

(*Continued from p. 488.*)

PREVIOUS to 1813 the Continent had long been closed to visitors from this country so that very little, practically, was known about gardening and kindred subjects in the interior. Owing to the general rising against Napoleon Bonaparte in that year, the Continent was once more thrown open, and Loudon took advantage of this to see for himself and collect information upon those things which most interested him. Making preparations he forthwith sailed from Harwich on March 16th, landing at Gottenburg, in Sweden. Here he was delighted with the country, its roads and systems of education; but his peculiar temperament prevented him from staying any length of time, as he was anxious to plant himself in the theatre of the war. Accordingly on April 14th he found himself at Konigsberg, having travelled by way of Memel. In every direction there was no lack of evidence of the destructive influence of war in those days, all the country houses being in ruins, the roads broken up, and skeletons of horses lying bleaching where they fell. The streets of Elbing were filled with the goods and live stock of the country people fleeing from the French army passing only two miles off. Near Dantzic the Russian Cossacks were digging holes as dwelling places or huts for themselves and horses. After passing through Swedish Pomerania, and while nearing Berlin he found the avenues of trees leading to that city full of carriages, waggons and foot passengers all making for that city for protection.

At Berlin he stayed for seventeen days, after which he proceeded to Frankfurt on the Oder. Here he happened to dine with several Prussian officers, who supposing him to be a Frenchman, remained silent for some time till they heard him speak in German, when they concluded that he must be an Englishman. When he intimated that he came from London, all to a man rose to their feet, while one sprang over the table in his haste, and crowded round, shaking hands, kissing and loading him with compliments, as the first Englishman they had seen. From Frankfurt Loudon proceeded through Possen to Warsaw, arriving on June 6th. While travelling towards Russia he was stopped at Tykocyn, owing to some informality in his passport, and was delayed three months till this was rectified. From here he travelled to Wilna, through a country covered with the remains of the French army, both men and animals. Three Cossacks attacked his carriage while entering Kosnow, endeavouring to secure his horses; but they were driven off by the whips of the driver and servants. At Mitten he had to sleep in his carriage in the yard of the inn; and during the night was awakened by animals eating the hay that had been placed over his feet to keep them warm. Reaching Riga on September 30th he found the town barricaded with waggons taken from the French. Misfortune again dogged his footsteps between this town and St. Petersburg, where he was taken up as a spy while making a sketch of a picturesque old fort. Being bailed before the magistrates he felt greatly amused by the comments made upon the unconnected memoranda of his note book, when translated into Russian.

On October 30th Loudon reached St. Petersburg, just before the breaking up of the bridge, and remained there for some months utilising his time to the best advantage. His next journey was to Moscow which he reached on March 4th, 1814, after surmounting many difficulties. On one of those occasions his carriage stuck in the snow, when the postilions, unharnessing the horses, told him to keep the windows of the carriage close and the leather blinds down, and he would be safe from the wolves till morning, when they would return with fresh horses. Having no remedy he simply followed out their instructions with calm resignation—another trait in his character best brought out when labouring under the pressure of difficulties. Wolves there were in plenty, and they kept him awake with their howling. A herd of them actually rushed across the road close to his carriage. The wind also howled, and well nigh buried the carriage with its occupant during the night. True to their promise, however, the postilions returned with fresh horses in the morning, and the remainder of the journey was completed without incident. The streets of Moscow were filled with the ruins of churches and what had once been splendid mansions, while the remainder were yet black from recent fire. News arrived of the capture of Paris and the entry into it of the allied armies; but though this was on April 25th the illuminations in honour of the event did not take place till May 5th. Loudon left Moscow on June 2nd, reaching Kiov on the 15th. He next visited Cracow, Vienna, Prague, Dresden and Leipzig in succession; thence on to Magdeburg and Hamburg, from whence he sailed for England, reaching Yarmouth on September 27th, just a year and 195 days from the date he left the shores of England.

METHODS OF PROPAGATION.*

SINCE promising to prepare a paper on this subject, I have thought several times, that a nursery gardener would have been able to discourse on the above in a far more lucid manner than I shall be able to, I am afraid, but having put my hand to the plough I must endeavour to work out the furrow.

As you all know, many and varied are the ways the gardeners adopt to increase our stock, be it fruit, flowers, foliage, or vegetables, and as seed is the most natural mode, we will dilate upon this first. Speaking generally, plants from seed are much more healthy and vigorous than from any other source of propagation. On the other hand we cannot always depend upon their coming true, though at the present time (thanks to our energetic nurserymen) they are much nearer the goal than even we could have hoped, owing to their selection, which means that they only save from the very best varieties. In a great many instances the best time to sow the seed is as soon as it is ripe, but there can be no doubt, spring is the most natural time, though we gardeners have to sow all the year round to keep a supply going in very many cases. Yet spring and early summer when the soil is fairly moist, and each day getting warmer, is all in favour of germination. It is after some few weeks of very hot dry weather during summer, that we have the greatest difficulty in getting many seeds to germinate, though a lot can, and should be done in the way of soaking the drills some few hours previously to sowing the seed, when the soil is in such a parched condition. Again, we can assist nature in soaking certain kinds of seeds in warm water for twelve or more hours. This applies to such hard seeded subjects as Cannas, Camellias, and Nelumbiums; in fact, any that have such hard casings as these, come through the soil in much less time had no steeping taken place. Shade, too, is a great factor in many cases, especially when seeds are sown in pans, pots, or boxes, but here we have them more under our control than in the open garden, so can give them the required treatment as regards water, shade, &c., and it is much the wisest to have your soil fairly moist before sowing, as a great many seeds if watered immediately after sowing fail to come up at all.

Cucumbers and Melons are very apt to decay if watered before sprouting has taken place, and a bottom heat of 70° to 80° favours quick germination of a great many, especially those two just mentioned. As to the depth that seeds should be sown, it greatly varies. The larger the seeds, the deeper they want to be buried, and such minute seeds as Begonia, Calceolaria, Gloxinia and many others, require little or no covering at all, just a dusting of sand will suffice; and naturally the finer the seed the more flat and even surface to sow upon comes home to us. With these very small seeds the greatest care is necessary in sowing and after treatment as well; for if you attempt to water with a rose can ever so fine, before the seed has germinated, the chances are twenty to one (pardon the phrase) that most of it will be washed aside and fail altogether. It is far better to immerse the pot or pan in a tub of water nearly to the rim, so that the moisture can permeate or soak through the soil from the bottom upwards. Now let us take

PROPAGATION BY DIVISION,

a most certain and safe way of increasing one's stock if carefully carried out at the proper time. It is best done in autumn or spring just as growth is starting, and includes many of the herbaceous flowering perennials, Cannas, Dahlias, Gladioli, Tulips; in fact, a host of things come under this heading; and we might for convenience sake add Potatos, Artichokes, Shallots, Rhubarb, &c.; while we multiply various plants from root and stem-suckers. The Raspberry furnishes us with the former, as well as the Filbert, Rose, Lilac, and lastly, though it is unnecessary for one to mention it, the Elm. But I do not consider this an advisable way to propagate, unless it be the Raspberry, as such plants are so liable to throw up many another sucker, to the detriment of the parent plant. The luscious Pineapple supplies us with stemsuckers. Those springing from the soil are not so desirable.

PROPAGATION BY RUNNERS

is a very expeditious way of increase, and we have only to note how soon a large stock of Violets or Strawberries can be got, especially the last named. Three or more plants on one runner can be had, if it is necessary to do this with a new variety, or one that may be scarce. On the other hand, if good strong plants only are required for forcing or planting a permanent bed in the open, *one* only should be taken, and this nearest the parent plant, pinching the point out of the runner so as to throw the sap into this one plant, which otherwise would have been shared between three or four, with the result that all would have been more or less weak. Of course wet weather suits runners much the best, as, if it is very dry, few or no roots strike into the soil; but by aiding with fresh soil or the watercan, a different state of affairs is soon apparent.

LAYERING.

This, too, is a convenient way of increase, and one the gardeners often fall on with such plants as Carnations, Magnolias, Rhododendrons, Azaleas, &c., and it is usually performed on large shoots or branches by bending them down and bringing them in direct contact with the soil. A little preparation of the shoot to be operated on is of course necessary. This is done with a sharp knife, by cutting in an upward direction nearly halfway into the shoot, and pegging the same into the soil, care being taken that the slit is kept open by a little stone or piece of wood, or else the cut pieces would again unite. This is termed tongueing, and, generally speaking, is best performed about October, especially among hard-wooded plants; and by the following autumn the layers should be ready to sever from the mother plant, and placed in new quarters. It is best to give new soil and of a sandy nature when layering. A stake is sometimes necessary to tie the shoot, slightly bringing the same to an upright position, but not enough to try the shoot where it has been cut, or it may break.

(*To be continued.*)

* A paper read by Mr. J. Mayne, gardener to the Hon. Mark Rolle, Bicton, at a meeting of the Devon and Exeter Gardeners' Association on March 16th.

EUCHARIS GRANDIFLORA.

CONSIDERABLE difficulty is often experienced in getting this plant to thrive. In some places it may be seen growing almost as free as weeds, and in others after every attention has been paid to the plants, they look sickly and good-for-nothing. It delights in a good loamy soil with plenty of sand and about one third of well decayed leaves. If the plants are in bad health now, the best plan is to shake them out and carefully wash the bulbs and roots with warm water, keeping a sharp eye for mite and maggots. They should be firmly potted, only just covering the bulbs, and placed in a warm and shady place where the atmosphere can be kept thoroughly moist, and the temperature not below 70° at night. They will then make roots rapidly and may require a shift, for they should only be allowed small pots to start in. They should be kept growing until late in the autumn; then they may be given a rest by lessening the water supply, only just giving sufficient to prevent them flagging. In the spring they may be started again, being careful not to get the soil sour or they will rot. If they were not in a too exhausted condition the previous spring they should now begin to show flower, but they may go on until the summer or even autumn without flowering, as they seem to have no particular season. Where a suitable position can be provided they often do well planted out in a warm house. The soil should be of an open nature, and plenty of drainage should be underneath to allow the surplus water to pass off and not become stagnant. A little liquid manure will be found to aid them considerably when growing. The best for this purpose is that made

from sheep droppings. Eucharis are shade loving plants so that exposure to direct sunlight must be avoided; but on the other hand the extreme must not be sought, for, if the shade is too dense they become drawn and weak.—*F. C.*

POINSETTIA PULCHERRIMA.

For a brilliant display of colour in the depth of winter this plant stands unrivalled. It is generally at its best about Christmas-time, when its scarlet bracts are in great demand for decorating purposes. When given the proper treatment it is a plant very easily grown. About April the old plants should be put into a warm house and watered to make them break. When fit the cuttings should be taken off with a small heel and inserted singly in thumb pots, filled with a sandy compost, and put directly into the propagating case before they have time to flag. They should have a good bottom heat—about 85°—and the case kept at 75° with the atmosphere thoroughly saturated. If treated thus, they soon take root and may then be potted on and stood on a stove shelf near the glass. They have a tendency to grow very tall. If this is not required, dwarf plants may be obtained by the following method:—About six inches from the top make an incision about half way through the stem. In a week, when this will have callused over, complete the cut and treat it as a cutting again. This may be done twice in a season, and if done carefully fine dwarf plants of not more than eight inches may be obtained, producing bracts equal to those which are three or four feet high.—*F. C.*

EPIPHYLLUM TRUNCATUM.

This beautiful Brazilian plant is not cultivated nearly so much as it deserves. It is no trouble to manage when given the proper treatment, and for a magnificent display of blooms in the spring it is hard to surpass. If grown on its own roots a lot of the beauty is lost as it does not rear itself, but hangs over the side of the pot. It is usual to graft it on the Pereskia, to which it takes well, and can be made into a nice standard. They like a warm light conservatory or stove to grow in. They require very little root room and must not be kept too wet. The soil should be of a very open nature so that there is no fear of stagnant moisture. A good sprinkling of lime rubble in the soil will be found beneficial. Planted out on a rockery in a warm light house they do remarkably well. For this purpose plants on their own roots should be used, as their mode of growth is better adapted to this manner of growing. They are seldom troubled with insect pests; the only thing that ever causes any trouble is small scale, but owing to the shape and texture of the branches this can easily be sponged off with a little soap and water.

ANTHURIUM ANDREANUM AND ITS VARIETIES.

Who, to-day, does not know (be he a horticulturist or an amateur grower and lover of flowers) that marvellous plant that the botanist M. Ed. André discovered in the springtime of 1876 in the province of Choco, in the Andes of Columbia? This meritorious introduction was sufficient to perpetuate the name of the happy traveller who has left a number of these wonderful introductions that now adorn our gardens and are so useful to our florists. The introduction of the first Anthurium formed quite an event. Its peculiarly characteristic inflorescences astonished horticulturists. The cordate spathes were imposing to the view, not only by their form and their leathery texture, but still more by the vivacity of their scarlet colour. The presence of the cylindrical spadix, which is golden-yellow and white, and the long duration of the inflorescences added to spread the popularity of these plants—a popularity which has increased and remained justified. This plant has lost none of its value in collections of plants at the present day; and is to be found in the glasshouses of many of the smallest gardens. The first hybrid obtained by M. Bergman, Ferrières, Brie, by a cross between A. ornatum and A. andreanum, created a sensation almost equal to that caused by the introduction of the plant. Since then numerous hybrids and varieties have been raised in other countries besides Belgium. Amongst the most successful hybridists may be named M. Jacob Makoy, whose well-known nursery is at Liège. The late M. Edward Pynaert seems to have been the raiser of Anthurium andreanum atropurpureum and A. a. Louisae, the latter being the name of his daughter. Amongst other seedlings (as mentioned by him in the *Revue de l'Horticulteur Belge*, of August, 1899) he had obtained various other shades of colour; for example, a variety where the spathe was of a purple colour, darker even than atropurpureum. Another was carmine-red, very beautiful; and a third was paler than the variety Louisae. Many other seedlings had still to flower. It seems strange to learn that all these varieties were from the same two parent plants—A. andreanum, the seed parent, which had been pollinated from A. Chantrieri, the latter being little known in this country. The questions arise as to whether hybridisation was complete, or only partly. No one can say, but from the floral structure of these pretty Aroids, the doubt, or supposition, might be entertained.

On closely examining the mode of flowering, the minute, complete flowers arranged on the spadix, one must ask if the flowers which they say are fecundated have been effected by foreign pollen, and if the variability, which plays so great a rôle in the formation of new varieties, has not here been the principal actor. We express here a simple hypothesis, for we have been assured by intelligent cultivators, who have had hundreds of seeds of A. andreanum that those have always reproduced the type. But if they explain so easily the obtaining of the colours of A. andreanum Louisae, thanks to the intervention of A. Chantrieri; it is otherwise with A. atropurpureum. Culture does much to alter the size of the flowers and foliage; and it is said that the best and most successful cultivators do not fear to use liquid manure.—*R.*

SOCIETIES.

ROYAL CALEDONIAN HORTICULTURAL.—

April 3rd and 4th.

The annual spring show of the Royal Caledonian Horticultural Society was held in the Waverley Market, Edinburgh, on the above dates, under very favourable auspices as to weather, considering the particularly trying state of it, which had prevailed for some time previously—rain, frost, and boisterous winds alternating with one another, and making the outlook for the show very bad indeed. As it was the weather changed for the better, and the show was a great success, notwithstanding its being a few entries short of last year. The number on this occasion was 505. At 1.30 p.m. the show was formally opened by Col. Forbes Mackay, convenor of the Parks and Gardens Committee of the Town Council. The Colonel congratulated the society for having given renewed proof of its vitality, notwithstanding the untoward condition of the weather to the well-being of the flowers, fruits, and vegetables that adorned the tables. In racing parlance the society was still "strong and fit," and he commended it to the attention of all lovers of flowers. The antiquated and formal or conventional ribbon border style of gardening, as applied to open spaces, was declining, and he was not sorry to see it go. The extension of the cultivation of hardy herbaceous plants was more worthy of their care, and he hoped they would welcome it.

The judges were entertained to dinner in the afternoon at the Royal British Hotel, under the presidency of Mr. David Laird, supported by Mr. W. Mackinnon and Mr. John Methven, as croupiers. After the loyal toasts had been honoured, Mr. M'Hattie, the recently appointed superintendent of the Edinburgh Parks and Gardens, proposed "The Judges." Mr. J. Morrison, Archerfield, Drem, responded to this toast. Bailie M'Kenzie proposed "Success to the Royal Caledonian Horticultural Society and the Exhibitors," to which Mr. M. M'Intyre, The Glen, Innerleithen, replied. Mr. W. M'Kinnon next proposed "The Corporation of Edinburgh," and acknowledged the encouragement always accorded to horticulture by the Town Council. He corroborated the statements of Col. Forbes Mackay about ribbon borders, and said that the Town Council might do something in the way of winter and spring gardening. Bailie Brown, in responding, said that the shows held by the society supplemented the natural beauty of Edinburgh and served to attract visitors, which ought to be encouraged. The superintendent would have a free hand for a few years and much was expected of him. Mr. Methven proposed the health of "The Chairman."

In the competitive classes open to gardeners and amateurs the competition for first place for a circular table of plants, 12 ft. in diameter, was very keen. Neither of the two groups put up were entirely faultless, but the premier honours fell to Mr. M. McIntyre, gardener to Sir Charles Tennant, Bart., The Glen, Innerleithen, in virtue of his group being the more effectively arranged, though the difference in points was not great. The second prize was worthily awarded to Mr. George Wood, gardener to J. Buchanan, Esq., Oswald House, Edinburgh. Mr. John Mitchell, gardener to J. Wilson, Esq., Bantaskin, Falkirk, was awarded the first prize for his table of Orchids, 5 ft. by 4 ft., arranged for effect.

Mr. M. McIntyre again took the lead in the class for ten forced plants, in which he is always a formidable antagonist to tackle. In this case he was followed by Mr. James Bald, Canaan House, Edinburgh. For six plants in a similar class Mr. McIntyre was to the fore, beating Mr. David Matheson, Kinellan, Murrayfield, Midlothian; third, Mr. John Pearson, Murrayfield.

Mr. George Wood beat Mr. McIntyre in the class for six stove and greenhouse plants in bloom, distinct, Mr. James Bald coming in third. The order of the first-prize winners was reversed for four stove and greenhouse plants in bloom, Mr. J. Mitchell taking third place. For two greenhouse Rhododendrons the order was: first, Mr. McIntyre; second, Mr. D. Kidd, Carberry Tower, Musselburgh; third, Mr. James Bald. The latter followed Mr. McIntyre for three hardy Rhododendrons in bloom; and likewise for three varieties of Azalea indica. For two varieties of the latter, Mr. George Wood preceded Mr. Bald, making Mr. McIntyre third. For four varieties of the same species of Azalea the order was Mr. J. Bald, Mr. McIntyre, and Mr. George Wood, respectively. Mr. McIntyre had the best specimen Azalea indica, and the finest six hardy Azaleas, being followed by Mr. J. Pearson in the latter case, as well as for three hardy varieties.

Mr. McIntyre was also first for four Orchids, distinct, beating Mr. J. Mitchell, and Mr. William Sharp, gardener to C. L. Wood, Esq., Freeland, Forgandenny, in this order. For one Orchid, Mr. Robert Laurie, Inveralmond, Cramond, took the lead of Mr. J. Mitchell and Mr. W. Sharp in the order named.

Mr. George Wood was accorded the first prize for exotic Ferns, exclusive of all others for which prizes were offered. Mr. J. Pearson had similar honours for Adiantums (Maidenhairs). Mr. James Bald had the leading prize for a Tree Fern. Mr. John Staward, Belwood, had the best dwarf British Ferns, and was followed by Mr. A. Knight, Mildersneuk, Lenzie; and third, Mr. J. Cruickshank, 6, Glen Street, Edinburgh.

For three and six foliage plants exclusive of Palms, the prizes went to Mr. McIntyre, who was beaten, however, by Mr. Adam Knight for table plants. Mr. McIntyre came to the front again in several other classes, taking in all twenty first, eight second, and a few third prizes. Mr. George Wood was also a successful competitor, taking many prizes, and like his antagonist just named did much to make the show a success.

Several classes were set apart for Hyacinths, Tulips, Narcissi, and other spring-flowering bulbs. The lead for twelve Hyacinths was taken by Mr. Adam Brydon, Tweedbank, Innerleithen, Peebles. Mr. John Meiklem, Thorn House, Johnstone, had the best six. Mr. Archibald M'Innes took the lead for Polyanthus Narcissi, but Mr. James Bald had the place of honour for garden Narcissi. For Tulips, Mr. A. Farquhar, gardener to the Lord Advocate, Stenton, Dunkeld, was the winner in good company. Mr. J. Pearson had the best lot of spring bulbs otherwise than those above named.

Cut Flowers.—Mr. John H. Cumming, gardener to Lady Stewart, Grantully Castle, Aberfeldy, Perthshire, staged the finest collection of twenty-five varieties of Daffodils, representing all the sections, exclusive of Polyanthus Narcissi. He was followed by Mr. W. Cook, The Lodge, Ratho, Midlothian. Mr. James Bald beat Mr. Cumming for twelve bunches of Daffodils. Mr. George Manson, Wallhouse, took the premier places for twenty-four and

twelve Roses, twelve Gloire de Dijon in two vases, and twelve Maréchal Niel Roses in two vases. Mr. Alexander M'Millan, gardener to James Currie, Esq., Trinity Cottage, Edinburgh, took the lead for twelve trusses of Rhododendrons, in good competition. For twelve trusses of stove or greenhouse flowers the order of the winners was, Mr. Malcolm McIntyre, Mr. J. Mitchell, and Mr. William Sharp.

FRUIT.—In the classes for fruit, open to all, the premier honours for six pots Strawberries and a dish of thirty fruits were taken by Mr. McIntyre, who was followed in the latter case by Mr. W. Smith, gardener to the Earl of Stair, Oxenford Castle, Dalkeith. The latter was first with white Grapes, but in the class for black Grapes was beaten by Mr. D. Kidd. Mr. George Mackinlay, Wrest Park, Beds, had the best twenty-four culinary and the best twenty-four dessert Apples, being followed by Mr. J. Fraser Smith, gardener to the Countess of Seafield, Cullen House, Cullen, in the latter case.

VEGETABLES.—In the open classes for a collection of vegetables, the first prize was taken by Mr. R. Stuart, gardener to the Earl of Lauderdale, Thirlstane Castle, Lauder; Mr. D. Kidd was second, but led for Cucumbers. Mr. James Cossar, Dunbar, was first for French Beans and Cabbages; Mr. George Mackinlay for Asparagus, and Broccoli; Mr. John Cairns, The Hirsel, Coldstream, for Seakale; Messrs. Wm. Murray & Sons, Parkhall, Polmont, for Rhubarb; Mr. W. H. Wilson, Kippilaw, for early Potatos; Mr. Alexander Dewar, Dankeith, Kilmarnock, for Onions; Mr. D. Kidd for Leeks; and Mr. John Waldie, Dollarbeg, Dollar, for Beet and Carrots.

Many classes were set apart for amateurs, amongst whom there was a keen competition.

MISCELLANEOUS EXHIBITS. — As usual at the Edinburgh shows some fine groups are set up by the nurserymen, adding considerably to the effectiveness of the show. Messrs. R. B. Laird & Sons, Pinkhill Nurseries, Edinburgh, surpassed themselves on this occasion. At the west end of the Market, they arranged a very large, and beautiful, crescent-shaped group, the monotony of which was broken up by smaller groups, forming as it were appendages to the whole, the plants being effectively and artistically arranged. Amongst flowering plants they had forced Lilacs, Laburnums, Wistarias, Azaleas, and several beautiful species of Acacia now in season. They also had double Peaches, Cytisus, Genista praecox alba, Viburnums, Camellias, Staphyleas, Amaryllis, &c. (Gold Medal.)

Mr. John Downie, 144, Princes Street, Edinburgh, was in his usual good form with a large, circular group of plants set up with great skill and taste. A tall plant of Negundo aceroides variegata occupied the centre, round which were such flowering plants as Azaleas, Lilacs, Viburnum, Opulus sterilis, Cytisus, and other subjects of similar character interspersed with foliage plants. As usual, Mr. Downie was a strong competitor in the nurserymen's classes, taking a round dozen leading prizes for Azaleas, Rhododendrons, and other plants brought into bloom by forcing. His Japanese Maples were very pretty.

Messrs. Cunningham Fraser & Co., Comely Bank, Edinburgh, set up an interesting group of hardy herbaceous and alpine plants, many of which are now beginning to flower about Edinburgh. As recorded in last week's issue, Mr. John Forbes, Hawick, made an attractive display with his new white Begonia Caledonia, making a chaste contrast with its parent, Gloire de Lorraine.

Messrs. J. & A. Glass, Newington, staged a large collection of Daffodils which were highly attractive.

Messrs. T. Methven & Sons, Edinburgh, arranged a group of foliage, and spring flowering plants, with forced subjects.

Mr. Alexander Kirk, gardener to Mr. J. Thomson Paton, Alloa, exhibited a flowering specimen of Richardia elliottiana, which attracted a considerable amount of attention from the fact that yellow Callas or Richardias have not hitherto made their appearance at any of the Edinburgh shows.

Mr. P. Murray Thomson, the energetic secretary, is to be congratulated on the admirable way in which he has again carried out the arrangements for the show.

ROYAL HORTICULTURAL.—*April 9th.*

THERE was a great variety of material at the Drill Hall on Tuesday last, all the tables being well filled. Spring flowers were again very prominent, but particularly such things as Tulips, Daffodils, &c., brought forward under glass, and forced flowering trees and shrubs including a fine lot of Cerasus Pseudo-cerasus and its varieties. Orchids were also well represented. Hardy flowers grown without heat were also plentiful, considering the lateness of the season.

Orchid Committee.

H. T. Pitt, Esq. (gardener, Mr. F. W. Thurgood), Rosslyn, Stamford Hill, exhibited a group of Orchids, including a massive and well-flowered piece of Cymbidium eburneo-lowianum, also conspicuous and handsome plants of Miltonia vexillaria gigantea, Cattleya Schroderae, C. Trianaei, Dendrobium atroviolaceum, Angraecum fastuosum, A. Leonis, Epidendrum sceptrum, &c. (Silver Flora Medal.)

W. A. Bilney, Esq., Fir Grange, Weybridge, exhibited a very showy and splendidly flowered group of Dendrobiums, supplemented with other things. The specimens of D. wardianum and D. nobile with allied hybrids were simply gorgeous with their masses of flowers. Other notable things were Cattleya schilleriana, C. citrina, richly coloured Sophronites grandiflora, Laelia harpophylla and others. (Silver Flora Medal.)

de B. Crawshay, Esq. (gardener, Mr. W. J. Stables), Rosefield, Sevenoaks, exhibited a group of very select varieties, including Odontoglossum Adrianae Theodora, O triumphans Raymond Crawshay, O. t. Lionel Crawshay, O. t. Mrs. Crawshay, O. crispum Denisonae Nebula, O. ruckerianum rosefieldense and O. Hallio-crispum, a garden hybrid raised at Rosefield. (Silver Gilt Flora Medal.)

Major Joicey (gardener, Mr. F. J. Thorne), Sunningdale Park, Sunningdale, Berks, set up a magnificent group of Dendrobium atroviolaceum, grown in pots, baskets and on rafts. All were splendidly flowered and have been grown upon the establishment for three years. He also had Cymbidium lowianum, Epidendrum bicornutum and Cattleya Schroderae, all tastefully set up with Adiantum cuneatum.

W. P. Burkinshaw, Esq. (gardener, Mr. Barker), Hessle, near Hull, exhibited Cattleya Mendelii The Pearl, C. Schroderae The Gem, C. S. Sunshine, C. Parthenia vernalis, Odontoglossum Adrianae Countess Grey, O. andersonianum Starfish and Cypripedium niveum, the latter carrying seven of its snowy-white flowers and a seed pod. H. F. Simonds, Esq. (gardener, Mr. G. E. Day), Woodthorpe, Beckenham, exhibited Odontoglossum Adrianae Mrs. Simonds and O. andersonianum Woodthorpe var., both very choice and the latter having broad segments.

W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs, exhibited well-grown pieces of Cochlioda vulcanica grandiflora, Odontoglossum wilckeanum grandiflorum, O. w. concinnum, O. triumphans Premier, O. Adrianae Thompson's var., Dendrobium kingianum, &c. (Silver Banksian Medal.)

A Cultural Commendation was awarded to G. B. Joel, Esq. (gardener, Mr. J. May), for a plant of Cypripedium rothschildianum, having two spikes, one of which carried four fully expanded flowers. A Cultural Commendation was also accorded to F. Crisp, Esq. (gardener, Mr. Knowles), Friar Park, Henley-on-Thames, for a large and splendidly flowered piece of Lycaste Skinneri in a pot.

Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited Epidendrum Clarissa superba, Masdevallia Alceste and Laeliocattleya dighyano-Trianaei. The latter was notable for the size of the flowers but particularly of the enormous fringed lip.

Floral Committee.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, put up a very effective group of bulbs, Azaleas, and Begonia Gloire de Lorraine. The colours were very tastefully blended and arranged. Some of the Narcissi were very fine, especially Sir Watkin, Barrii conspicuus, and Emperor. The Begonias were very compact and highly coloured little plants, evidently having received cool treatment. (Silver Banksian Medal.)

Messrs. James Veitch & Sons, Ltd., Chelsea, had a large group of Cerasus Pseudo-cerasus Watereri, the plants or trees being of dwarf, compact habit, and bearing a profusion of large and handsome flowers. They also had C. P.-c. James H. Veitch, the darkest variety of that Cherry. (Silver Flora Medal.)

Messrs. G. Jackman & Sons, Woking, exhibited an interesting group of rock plants, showing several varieties of Primulas, including the handsome Primula Sieboldii alba magnifica, the showy Primula rosea and the tiny but pretty little Primula frondosa, Muscari botryoides album, one of the best of the early avourites, being a good shape and pure white. Other noteworthy plants in this collection were Aubretia deltoidea, Chrysogonium virginicum, Incarvillea Delavayi, Puschkinia libanotica, Cyclamen repandum. (Silver Banksian Medal.)

Messrs. Wallace & Co., Kilnfield Gardens, Colchester, exhibited a showy group of bulbous plants, Scilla sibirica alba, Puschkinia scilloides, Muscari botryoides album, Trillium sessile, californicum, and numerous varieties of Narcissi. (Silver Flora Medal.)

Messrs. Isaac House & Son, Coombe Nurseries, Westbury-on Trym, Bristol, exhibited several beautiful varieties of Violets, the best being Sulphurea, Lady Hume Campbell, White Czar, Admiral Avellan, Coolcronan (new) and Mrs. J. J. Astor. (Bronze Flora Medal.)

Messrs. James Veitch & Sons, Chelsea, staged a few very good Hippeastrums and two large pans of blue Primroses.

Messrs. W. Paul & Son had a large collection of flowering trees and shrubs, the most striking being the well-bloomed plants of Prunus triloba and the double French Cherry. (Silver Gilt Banksian Medal.)

Messrs. H. Cannell & Sons, Swanley, Kent, had a brilliant display of new zonal Pelargoniums. No choice could be made as to the best, as all were very remarkably fine blooms and received a large amount of attention from the visitors. The Sirdar was noticeable by its brilliant scarlet colour. Two very good whites were Virginia and Snowstorm. (Silver Flora Medal.)

Mr. R. Sydenham, Birmingham, had a small group of Narcissi growing in jars with no drainage and with nothing round the roots but charcoal, cocoanut fibre and ground shell. Grown thus, they make charming plants for table decoration, &c.

Messrs. Barr & Sons, Long Ditton, had a large exhibit of bulbs, chiefly Narcissi, occupying the whole length of a table. The most conspicuous were Duke of Westminster, Empress, Rip Van Winkle, Albicans, General Roberts, Katherine Spurrell, Gloria Mundi, Red Star, Cynosure, C. J. Backhouse, Mrs. Langtry and Victoria. (Silver Gilt Flora Medal.)

Messrs. Peed & Sons, West Norwood, London, had a collection of Narcissi and alpines. (Silver Banksian Medal.)

Messrs. W. Cuthush, Highgate, staged a large exhibit of double Tulips, which well deserved the award of a Silver Banksian Medal. They were bold and effective, notwithstanding the general lack of sunshine necessary to show off Tulips to the best advantage.

Fruit and Vegetable Committee.

Some dishes of Pears were shown, including a dish of Bergamot d'Esperen from the Earl of Ilchester (gardener, Mr. Charles Dixon), Holland House, Kensington.

Mrs. Nix (gardener, Mr. E. Neal), Tilgate, Crawley, exhibited a collection of twenty-nine dishes of Apples, for which she was aworded a Bronze Banksian Medal.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. T. W. Dollery, The Gardens, Whitburn, Sunderland, for his article on "Grape Thinning," p. 505.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

THEODORE TURNER, F.R.H.S.,

Begonia Nurseries, GT. SUTTON, CHESTER.

THE PROGRESSIVE AGE.—The past century has been unique in its development. Among others is the success attained by T. Turner. With the new century I have better value than ever. 2/6 orders carriage paid. My Spring Catalogue a 20th Century wonder.

Do you want 12 Roses for the Garden? Send me 4/-. I will send you 12 different sorts, carriage paid. Do you want 12 climbing Roses for outside? I will send you 12 for 4/-. 12 Monthly Roses for 4/-. 12 Moss Roses for 4/-. All named. I have a lot, names lost, 6, 1/6; 12, 3/-.

TEA ROSES.—6, 2/6; 12, 4/6; 100, 30/-; picked.

Niphetos	Maréchal Niel	Mdme. Berard
Paul Nabonnand	Climbing Niphetos	The Bride
Devoniensis	Mdme. Camille	S. de la Malmaison
Belle Seabright	H. E. Gifford	S. de S. A. Prince
Bardou Job	Mdme. Hoste	Ernest Metz
A. Vibert	Amazon	Mdme. P. Guillott
Sunset	Mdme. Cusin	L'Ideal
C. Testout	B.Henriette d'Lew	S. de Pres. Carnot
Mdme. P. Ducher	Mdme. H Jamain	C. Kuster
Francis Kruger	La France	Reine M. Henriette
Rêve d'Or	Elise Finger	Marie d'Orleans
Mdme. Tiller	Irene Watts	T. de Pernet Pere
Hermosa	C'tsse R. du Parc	Duchess of Albany
Maman Cochet	M. C. Guinoisseau	A. Olivier
Coquette de Lyon	The Homère	Ly. M. Fitzwilliam
Cheshunt Hybrid	Mdme. Falcot	Leo XIII.
Souv. de C.Guillott	C. Mermet	A. M. Immacula
Euphrosine	Aglaia	Etoile de Lyon
Papa Gontier	G. Nabonnand	Mdme. Welsh
H. Majesty	Souv. d'un Ami	C'tsse de Frigneuse
Gustave Regis	Kaiser A. Victoria	A. Guinoisseau
S. de Paul Neyron	Marie Guillott	J. Ducher
Bouquet d'Or.	Grace Darling	Marie V. Houtte
Dr. Grill	Ophirie	Mdme.A.Chateuay
Perle des Jardins		

12, picked, our selection, for 5/-.

A large assortment of Tea Roses.—Large stuff. F. Kruger, A. Guinosseau, Mr. W. J. Graut, H. E Gifford, Rêve d'Or, W. A. Richardson, Maréchal Niel, White Maréchal, Mdme. Berard, and about 40 more sorts extra, 1/- each, 9/- per doz.

New Roses.—Turner's Rambler, 3 to 7 ft., strong Turner's Crimson Rambler, Aglaia (Yellow Rambler), Thalia (White Rambler), Euphrosine (Piuk Rambler), 1/6 each; 4,1 of each, for 5/-.

5 large Climbers for 6/-, or 1/3 each, 3 to 7 ft. —Gloire de Dijon. Reine Marie Henriette, Rêve d'Or, Mdme. Berard, W. A. Richardson. Any one can be placed by another.

Gloire de Dijon, 3 to 7 ft., strong, 1/3 each; 12, 12/-.

H.P. ROSES.—6, 2/6; 12 for 4/6; 100, 30/-; large.

A few of names enclosed.

Thos. Mills	Cheshunt Hybrid	C. Forestier
Pierre Notting	Chas. Lefehvre	Crimson Bedder
S. M. Rodocauachi	C. Tretrahoff	Xavier Olibo
A. Carriere	C. of Oxford	Violet Bouyer
Sir R. Hill	A. K. Williams	Mrs. Baker
M. de St Amand	B. Rothschild	Senateur Vaisse
Maurice Bernardin	Bessie Johnson	Paul's Pillar
Magna Charta	A. Vibert	Marie Rady
Gen. Jacqueminot	Marie Beaumann	Mdme. Chas.Wood
Perle des Blanche	D. of Connaught	M. of Londonderry
Lord F. Cavendish	P. C. de Rohan	Victor Hugo
Jean Liabaud	Dr. Andry	Emperor de Marc
Duchesse de Morny	A. Wood	Merveille de Lyon
Lord Bacon	D. of Albany	D. of Bedford
Le Havre	Reynolds Hole	Mrs. Harkness
A. O. Rigotard	Gustave	Duke of Teck
Wm. H. Turuer	Prince Arthur	Sir G. Wolseley
U. Brunner	Princess Beatrice	Rd. Wallace
Rd. Caxton	White Baroness	Mrs. J. Laing
Paul Neyron	Crown Prince	W. W. Saunders
Black Prince	Gloire de Margottin	Mabel Morrison
Emily Hausburg	Lord Herbert	J. Cherpin

Our selection, 5/- doz.

6 Tea Roses, 2/6; 12, 4/6—Aug. Guinosseau, white, tinted pale rose, fine for button-holes; 2, Caroline Testout, light salmon-pink; 3, La France, bright silvery-rose, bright pink; 4, Mrs. W. Grant, bright salmon-pink; 5, Perles des Jardins, deep straw-yellow; 6, Sunset, deep apricot-yellow; 6, 2/6; 12, 4/6.

6 Tea Roses, 3/-; 12, 5/—Catherine Mermet, light rosy-flesh; 2, The Bride. nearly pure white; 3, Souv. d'un Ami, salmon and rose shaded; 4, Souv. de Catherine Guillott, coppery-carmine shaded orange, good for coat flower; 5, Kaiser Aug. Victoria, cream, shaded lemon; 6, Marie d'Orleans, terra-cotta, one of the best. 6, 3/-; 12, 5/-.

6 Tea Roses, 3/6; 12, 6/- — Homère, rosy-salmon centre; 2, Ernest Metz Tendre Carnation Rose; 3, Francisca Kruger, copper-yellow shaded peach; 4, Papa Gontier, rose-carmine, fine long buds; 5, Souv. de Pres. Carnot, rosy-flesh; 6, G. Nabonnand, pale rose, shaded with yellow. 6, 3/6; 12, 6/- (the very best).

Turner's New Hybrid Delphiniums, all colours, 6, 1/6; 12, 2/6. Turner's Lychnis chalcedonica, large. 6, 1/6; 12, 2/6. Wallflowers, Double German, 12, 1/6. Ruby Gem, 25, 1/6. Crimsou Dame, 25, 1/6. English Iris, 50, 1/6; 100, 2/6.

6 Climbing Roses for 2/6; 12, 4/6—L'Ideal, yellow and metallic-red, streaked and tinted golden-yellow; 2, Maréchal Niel, rich golden-yellow; 3, Climbing Devoniensis, creamy-white, blush centre; 4, Reine Marie Henriette, deep cherry-red, large and full; 5, Mdme. Berard, fawn-yellow, tinted, rose-yellow; 6, Aglaia (Turner's Yellow Rambler), 6, 2/6; 12, 4/6.

Moss Roses, 6d. each; 6, 2/3; 12, 4/- — Light crimson, white, crested, rich crimson, pale rose, all the latest and newest, 6d. each; 6, 2/3; 12, 4/-. All named.

Dielytra spectabilis (the Bleeding Heart-tree), very pretty, large roots, 3, 1/3; 6, 2/3; 12, 4/-.

Extra Large Trees (standards).—Snowball Trees, standards, bush, 1/6 each; 15/- dozen. Acers, variegated Maples, extra large standards, 2/6 each, worth 7/6; 5 for 10/-. Acers, pyramids, 1/6 each; 15/- dozen. Standard Prunus nobilis, double flowered Plum, 2/6 each; 5 for 10/-. Extra large standard Lilacs, 2/6; 5 for 10/. Standard Hydrangea paniculata, 2/- each.

Viola Kitty Hay, yellow, 12, 1/6, Wallflower Ruby Gem, 25, 1/6. Primrose Dame, 25, 1 3 Double German, 12, 1/3. Delphiniums, large stuff, 6, 1/6; 12, 2/6. Canterbury Bells, Dean's strain, 12, 1/3; Canterbury Bells, mixed, 25, 1/6; 100, 5/-. Gaillardias, extra fine, 6, 1 3; 12, 2/-. Grenadin Carnation, 6 for 1/6; 12, 2/6. Margarita Carnations, 6, 1/6; 12, 2/6. Lychnis chalcedonica, 6, 1/6; 12, 2/6. These are all extra large stuff.

Potatos.—British Queen, Challenger, Up-to-Date, Duke of York, 6 lbs., 1/3; 12 lbs., 2/-. Free in 10/- orders; otherwise, carriage forward.

CANNAS.—Large roots. Exhibition size.

	6	12	100
	s. d.	s. d.	s. d.
Crozy's Cannas, dwarf, in fine mixtures ...	1 6	2 6	16 0
Cannas, all sorts, mixed	1 3	2 0	12 0
Crozy's Cannas, all yellow flowers	1 6	2 6	16 0
Crozy's Cannas, all red flowers	1 6	2 6	16 0
Crozy's Cannas, all red leaves...	1 6	2 6	16 0
Caunas, variegated leaves, mixed	1 6	2 6	16 0
Named Cannas, Gladiolus-flowered	2 6	4 6	32 0
Named Cannas, red-striped and spotted ...	2 6	4 6	32 0
Named Cannas, green leaves, red flowers...	2 6	4 6	32 0
Named Cannas, red leaves, red-flowered ...	2 6	4 6	32 0
Orchid-flow'r'd Cannas, named 8s. doz. mxd.	3 0	5 0	40 0

See Catalogue for description.

Turner's Clearance Offer of Lilies. Special offer.

	6	12	50	100	Case.	
Lilium auratum (Golden-rayed Lily of Japan), nice solid bulbs, 7 in. to 8 in....	s. d. 1 3	s. d. 2 3	s. d. 7 6	s. d. 14 0	s. d. 26 0	200
Lilium auratum 8in. to 9in.	1 9	3 0	11 0	21 0	26 0	140
Lilium auratum 9 in. ...	2 0	3 9	14 0	—	26 0	100
Lilium auratum, 9in. to 10in.	2 6	4 6	17 0	32 0	———	

Lilium auratum, exhibition bulbs, 1/3 each; 12/- doz.

Lilium longiflorum (Hardy Harrisi). Sale price.

	6	12	50	100
Large bulbs, 7 to 8in. to clear them out	1 6	2 6	9 0	17 6
A few exhibition, 9 in. to 10 in.	2 6	4 6	—	—

Sale price Lilies.—Umbellatum grandiflorum, 6 1/3; 12, 2/-; 50, 7/6; 100, 12/-.

Tiger Lilies, single and double, 25, 1/6.

Tigrinum splendens, 12, 1/6. Sale price.

Iris Kaempferi, true Japanese varieties in extra fine mixtures, brilliant colours, sale price, 25, 1/6; 50, 2/6; 100, 4/6.

Iris germanica (the Flag Iris), in extra fine mixtures, clear them out, 50, 1/6; 100, 2/6.

Shrubs, all at clearance prices.—Laurels (Portugal), 12, 1/9. Aucuba japonica (variegated), 12, 2/-. Mahonia (Holly-leaved), large plants, 12, 2/6. Retinospora plumosa, 12, 3/6. Thuja Lobbi, 1½ ft., 12, 2 6. Laurestinus (large-leaved), 6, 1/6; 12, 2/6. Assorted Shrubs for pots and boxes and gardens at 2/6 and 3/6 per doz.

Monthly Roses, 6, 2/6; 12, 4/6. Cramoisie-Superieure, velvety-crimson flowers in large clusters; Ducher, pure white, good form, very free; Irene Watts, new '96, tinted salmon pink, long bud, very pretty and distinct. 3, 1/6; 6, 2/6; 12, 4 6.

Hardy Climbers, 6, 2/6; 12, 4/6; 3 ft. to 10 ft.—Leopold de Orleans, white, tipped red, rosette-shaped flowers; Ruga, pale flesh, double, very sweet-scented, glossy foliage; The Garland, nankeen and pink, changing to white clusters; Climbing Pet, white clusters; Félicité-Perpetue, creamy-white; Gracilis, bright pink (13 varieties). 6, 2/6; 12, 4/6; 3 ft. to 10 ft. Picked, 6, 3/6; 12, 6/-.

Tritoma Uvaria (Red-hot Pokers), 6, 2/-; 12, 3/6.

Gaillardia grandiflora, 6, 1/6; 12, 2/6. Large Canterbury Bells, 12, 1/6; Wallflowers, 25, 1/6; Coreopsis grandiflora, 6, 1/6; 12, 2/6.

Palm-Seed, Kentia Belmoreana, sale price, 25, 1/-; 50, 1/9; 100, 3/-.

Gloxinia erecta grandiflora, large 2-year-old tubers, 6, 2 6; 12, 4/6; 24, 7/6; 50, 14/-; 100, 25/-. 2-year-old, selected, 12, 2/6; 100, 16/-.

Gloxinia erecta, 1-year old, grandiflora. 12, 1/6; 100, 8/-. Named Gloxinias, 6d. each; 6, 2/6; 12, 4/6 Turner's Tigridia, Turner's Scarlet Defiance, Emperor Frederick, Kaiser Wilhelm, Firefly, Mont Blanc, Snow Queen, Blue Celestial, Turner's white and blue bordered, 6d. each; 6, 2/6; 12, 4/6. A few extra large, 1/- each; 12, 10/-. 1-year-old, named, 12, 2/6; 100, 16/-.

Azalea indica, large bushes, all named, full of buds, 1/3 each, 6, 6/-; a few smaller, well set, 2, 1/6. Azalea mollis, extra large plants, 1/- each, 10/- doz. Azalea mollis, smaller, full of buds, 5/- doz., 6d. each.

Deutzia gracilis.—For forcing, well set, 6, 1/6; 12, 2/6.

Wistaria sinensis, 3, 1/3; 6, 2/-; 12, 3/6.

Carnations, large plants, 6d. each; 6, 2/6; 12, 4/6.—La Villette, Miss A. Campbell, Pride of Garden, Mrs. Fred, Sir George White, G. H. Sage, Lady Houghton. Raby Castle, Salamander Improved, Clove. All large stuff, 6d. each; 6, 2/6; 12, 4/6.

Japanese Wineberries, 6 ft., 1/6 each. Strawberry-Raspberry, 1/ each.

Geraniums, 6, 1/3; 12, 2/-.—Vesuvius, H. Jacoby, J. Gibbone, West Brighton Gem, Crystal Palace Gem, Queen of Whites, Happy Thoughts, Flower of Spring, 6, 1/3; 12, 2/-; 100, 15/-. Mrs. Pollock, 6, 1/6; 12, 2/6. Calceolarias, 12, 1/6.

A 20th Century Marvel in Sweet Peas.—All leading sorts, 21 varieties, 50 seeds of each, 1,050 seeds for 1/3, all guaranteed new seeds; or 100 each, 21 varieties, for 2/-; mixed, 1/6 per lb. Primrose, Princess May, Senator, Countess of Radnor, Dorothy Tennant, Emily Henderson, Mrs. J. Camberlain, Mrs. Eckford. Mrs. Sankey, Mrs. Gladstone, Blanche Burpee, Princess Beatrice, Purple Prince, Splendour, The Queen, Boreatton, Captain of the Blues, Cardinal, Lottie Eckford, Invincible (white), Invincible (scarlet). These 21 choice varieties, 50 seeds each, 1/3; 100 seeds each, 2/-.

Tiger Lilies, splendens, 6, 1/6; 12, 2/6.
Croceum (Orange Lilies), 6, 2/-; 12, 3/6.

A 20th Century Wonder.—Montbretias, in 10 named sorts (see Catalogue for names). 50, 1/3; 100, 2 6. Montbretia Pottsi, 100, 1/6; picked, 50, 1/-. Montbretia crocosmiaeflora, 50, 1/3; 100, 2/-. Mixed seedlings, 100, 1/6.

1/6. Special Cheap Collection Gladiolus. 1/6.—6 Brench. (Sword Lilies), 6 Lemoine's Hardy, 6 Hybrid Gandavensis, 6 Psitacinus, gold striped, 6 French Hybrids, 6 Brides 3 doz. for 1/6; double lot, 2/6.

Hyacinthus candicans, very pretty, 3 ft. spikes, white Bellflowers, goes well with Gladiolus, 12, 1/-, 50, 3/6; 100, 6/-.

Tigridias (Mexican Lilies), very pretty, Canariensis grandiflora alba, speciosa, violacea, 1/- per doz.

Lobelia cardinalis Queen Victoria, 6, 1/6; 12, 2/6. Gaillardia grandiflora, 6, 1/6; 12, 2,6. Auriculas, fine strain, 6, 1/6; 12, 2/6. Hydrangeas pontica and japonica, 6, 1/6; 12, 2/6.

Trees.—Poplars, 9 to 10 ft., 2/6 each; smaller, 6d. each; Limes, Beech, Wych Elms, Sycamores, 6d. each; 12, 4/6; Hornbeam Beech, 25, 1/6. Privet ovalifolium, large, 12, 1/6; 100, 8/-; smaller, 50, 2/6. Variegated Ivy, 12, 4/6. Honeysuckles, 12, 2/6. Aucuba japonica, 12, 2/-.

Gladiolus, one of our Specialities.—Brenchleyensis, the well-known Scarlet or Sword Lilies, so much called for for Harvest Decorations:—

	Doz.	50	100	500	1,000
	s.d.	s.d.	s.d.	s.d.	s.d.
Immense specimen Bulbs	1 3	4 6	8 0	35 0	60 0
Extra large first size Bulbs ...	1 0	3 0	5 6	25 0	40 0
Very large second size Bulbs ...	0 9	2 0	3 6	15 0	27 6
Third size good flowering Bulbs	0 6	1 6	2 6	10 0	17 6
Colvillei alba, The Bride, picked	0 4	1 3	2 0	9 0	17 6
Bride, good flowering Bulbs ...	0 3	0 9	1 3	5 6	10 0
Colvillei Red Brides	0 4	1 3	2 0	9 0	17 6
Lemoine's new hardy Gladiolus	0 9	2 6	4 0	18 0	32 6
Lemoine's large exhibition Bulbs	1 0	3 6	6 0	27 6	—
Gandavensis Hybrids, extra fine, mixed	0 9	2 6	4 0	18 0	32 6
Gandavensis, large exhibition roots	1 0	3 6	6 0	27 6	—
French Hybrids, fine, mixed ...	1 0	3 6	6 0	27 6	—
Marie Lemoines, very striking ...	1 0	3 6	6 0	27 6	—
Kelway's best mixed	1 6	5 0	9 0	—	80 0

Named Gladiolus, 3d. each; 6, 1/3; 12, 2/3; 100, 16/-.

Lily of Valley, large Dutch crowns. the large flowers 50, 1 6; 100, 2/6. Large clumps, 9d. each, 8/- doz. Berlin crowns, 50, 2/6; 100, 4/6.

Climbers.—Clematis Jackmani, montana, and named sorts, 4 to 7 ft., busby, 1/3 each; 6 for 6/-. Names see Catalogue. Ampelopsis Veitchi, large, 3 to 6 branches, 2, 1/6; 12, 7 6. Ampelopsis, the old sort, about 3 yds. long, 1/6 each. Aristolochia Sipho (Dutchman's Pipe), 7 to 10 ft., 1/6 each. Wistaria sinensis, 7 to 10 ft., 1/6 each. W. alba, 7 to 10 ft., 1,6 each. Bignonia radicans, 7 to 10 ft., 1,6 each.

Hybrid Rhododendrons, choice named sorts, well set with bud, including large specimens Cunningham's White, 1/6 each; 15/- per doz.

Cactus, extra large plants, 1/- each; 10/- doz., named. Cactus, smaller, nice plants, 2, 1/6. Hedgehog Cactus, 2, 1/6. Cactus Ball of Snow, quite round, covered with white, each 2,6.

Dracaenas indivisa, 2, 1/6. Palms, 3, 1/3. Asparagus Ferns, 2, 1/6. Japanese Honeysuckles, 3, 1,3. Fuchsias, 6, 2 6. Pentstemon, Kelway's, 6, 2/6 Marguerites, 12, 2 6.

Plants.—Pansies, large-flowered, black, white, cat's-eye, blue, marine blue, mahogany, silver-lined, bronze, all at, 25, 1/6; 100, 4/-. Viola Pansies, or Tufted, white, blue, yellow, 25, 1/6; 100, 4/-. Pansies, mixed, large giant-flowered, 25, 1/6; 100, 4/-. Viola Pansies, mixed, 50, 1/6; 100, 2 6. Canterbury Bells, 25, 1/6. Auriculas, 6, 1/6; 12, 2/6. Named Phlox, 6, 2/6; 12, 4/6. Michaelmas Daisies, white and red, 6, 2/6; 12, 4/6. Polyanthus, large, 12, 1/6. Single Pyrethrum, 6, 1/6; 12, 2/6. Forget-me-nots, 25, 1/6. Daisies, 50, 1/6; 100, 2/6. Hollyhocks, 12, 1/6. Chrysanthemum maximum, 6, 1/6; 12, 2/6.

2/6 Collection of Climbers.—2 Pyracanthas (Fire Thorns), 2 Jessamines, white; 2 Jessamines, yellow; 2 Irish Ivies, 2 Ampelopsis Veitchi, 2 Honeysuckles; lot, 2/6.

Helleborus niger, 6, 1/6; 12, 2/6; 100, 16/-.

Pyracanthas (Fire Thorns), 6, 1/6; 12. 2/6. Jessamines, white, 3, 1/3. Jessamines, yellow, 6, 1/6; 12, 2/6; Ampelopsis Veitchi, 12, 1/6.

Plants for Forcing.—Spiraea japonica, large clumps, 3, 1/-; 6, 1/9; 12, 3/-. Spiraea japonica compacta, 6, 2/-; 12, 3/6. Spiraea elegans (Pink Spiraea), 6, 1/6; 12, 2/6.

Syringas, Hybrids, all colours. for forcing or garden, 6, 1 6; 12, 2/6. Philadelphus (Mock Orange), named, 6, 1/6 12, 2/6.

Turner's Prize Strain Begonias are the very best obtainable.—Double Begonias, grown from seed. These produce flowers like double Camellias, and about 80 per cent. come true. We have them in 5 colours—white, yellow, orange, rose, scarlet. 5, extra picked, for 5/-; 12 for 10/-. Double Begonias, 2-year-old tubers for exhibition, fine tubers, 5 for 2/6; 10, 4/-; 20, 7/6; 50, 17/-; 100, 30/-. Double Begonias, 1-year-old, in 5 colours, 5, 1/3; 10, 2/-; 20, 3/6; 50, 7/-; 100, 12/-. (For named ones see Catalogue.)

Turner's Prize Strain Single Begonias.—These have been a great success during the past 10 years for pots, showing and bedding.

Single Prize Strain Begonias for pots or showing. —White, yellow, orange, rose, scarlet, take prizes anywhere, 5, in 5 colours, 2/6; 10, 4/-; 20, 7/6; 50, 17/6; 100, 32/6.

Bedding Begonias.—For the last six years I have made a speciality in these. 5 colours, at 12/-, 100; 50, 7/-; 1,000 for £5.

Prize Strain Begonias.

	Extra large Selected tubers Splendid for pots. Per doz.	100.	Very fine selected tubers Also for pots. Doz.	100.	Good certain flowering tubers Fine for bedding. Doz.	100.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Crimson	3 0	20 0	2 0	12 0	1 3	8 0
Scarlet	3 0	20 0	2 0	12 0	1 3	8 0
Rose	3 0	20 0	2 0	12 0	1 3	8 0
Orange	3 0	20 0	2 0	12 0	1 3	8 0
White	3 0	20 0	2 0	12 0	1 3	8 0
Yellow	3 0	20 0	2 0	12 0	1 3	8 0

5/-.—The Great Sutton Collection of Vegetable and Flower Seeds contains 6 ½ pints of Peas, 4 ½ pints Beans; 1 oz. each Onion, Parsnip, Carrot, Radish, Mustard, Cress, Spinach; 1 pkt. each Extra Curled Parsley, Aigburth Brussels Sprouts, Savoy, Lyon Leek, Autumn Giant Cauliflower, Silver King Turnip, Cabbage and Cos Lettuce, Covent Garden Beet, Celery, Cabbage, Broccoli, Marrow, Kale, choice Paeony-flowered Aster, Double Ten-week Stocks; and 12 pkts. various Annual Flower Seeds. All new seeds guaranteed. A Twentieth Century wonder.

3-year-old Currant Trees, 6, 2/-; 12, 3,6; named, Red, Black, White, all choice stuff; smaller, Black and Red, 6, 1/-; 12, 1/9.

Gooseberries, all leading sorts, 6, 2/-; 12, 3/6; smaller, 6, 1/6; 12, 2/6; all fruiting trees.

Plums, all leading sorts, 1/- each; 12, 10/-; large standards, 2/6 each, 5 for 10/-; dwarf trained, 2 6 each, 5, 10/-; also large standard Victorias, 2/6 each, 5 for 10/-.

Cherries, May Duke and Morello, 1/6 each.

Apples, large, unnamed, 2/- each, 5 for 10/-; large, 3-year standards, 2/6 each, 5 for 10/-; Ecklinville, Frogmore, Cox's Orange, etc., maiden Apples, 1/- each, 10/- doz. Pears, Jargonelle, maidens, 1/- each. All leading sorts. Pears, 1/- each, 10/- doz. Raspberry Canes, 25, 1,6.

New Century Pinks.—Flowers like a large double Camellia, big as 5/- piece—Mrs. Theodore Turner, Mrs. Hall, Mrs. Prichard, Mrs. Naisb, May Queen, Lady Falmouth, White Gem, Mr. Ed. Ferris, 6d. each; 6, 2 6 12, 3/6 The flowers are as full as a Caruation, only larger. Splendid for cutting, wreaths, &c.

QUESTIONS AND ANSWERS.

**** All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Fertilising Melons.—*T. W.*: The best time to do this is about the middle of the day when the light is good, and all the better if the sun is shining. The anthers will be opening freely about that time, when you can collect pollen with a camel's hair brush from the male flowers and liberally dust the stigmas or tips of the ovary with the same. A simpler method adopted by some gardeners is to get fully expanded male blossoms, and carefully pull off the corolla and calyx lobes. Then lay one of them top downwards into each of the fully expanded female flowers. As the anthers open the pollen then falls on to the stigma of the female flowers, and fertilisation is effected.

Syringing and Shading Cucumbers.—*A. M. D.*: The syringing of Cucumbers is a very necessary operation to keep down red spider and greenfly, but particularly the former, which is liable to increase rapidly and do serious damage if the atmosphere is allowed to remain in a dry condition for any length of time. In bright weather syringing twice a day also enables the large and thin leaves to make good growth. Shading is also beneficial to ward off sunshine during the hotter hours of the day. The Cucumbers develop a fine green colour when not subjected to too much direct sunshine. It is easy to overshade the plants, however, in cold or wet weather, so that you must at all times guard against this, whether in the early or late part of the season. In houses where the plants are trained up under the roof, shading becomes much less necessary after the roof is covered with foliage, as the fruits are then well shaded with the leaves. Do not use permanent shading, but something that can be removed as soon as the sun is losing power.

Potting and Planting Vegetable Marrows.—*A. M. D.*: Unless you transplant the Marrows from the boxes into the open ground at a very early stage, many of them would be liable to die owing to the breaking of the roots, owing to their being interlaced with one another. It would be very advantageous to have the plants a good size before you put them into the open ground; hence it would be advisable to pot them up singly while still quite small. By so doing you would not only save the breaking of the roots when planting out, but you would avoid the check that they would otherwise get if transferred from boxes directly into the ground, in all probability without much, if any, soil about the roots. The best manure to use when planting out is farmyard manure, either from cows or horses. If you can manage to use half a barrow-load or so to each plant, it would be a good plan to dig out a hole and put in the manure, treading it down. It will then heat a little and help the young plants greatly by favouring root development in the earlier stages of growth. If the soil is slightly raised or mounded over the manure it will be all the better.

Strobilanthes dyerianus for Bedding Purposes.—*R. W.*: The method of procedure would be to get up a stock of young plants that will be more inclined to make vigorous growth than to flower. Old plants have an inclination to produce flowers, and when that takes place it spoils the colour of the foliage. Old plants may be cut back, if not already treated in that way to cause the development of young shoots. If you have to wait for the growth of the latter before taking cuttings, your plants will be very small at planting out time; but that may not be a disadvantage as you could use them where tall plants would be inadmissible or undesirable. Insert them in sand in a hotbed in the usual way; or if you insert them in pots, then the latter may be plunged where they will have bottom heat.

Irish Yew spread apart by Snow.—*H. W. M.*: You can easily rectify this by tying up all the longer stems. If they will stand upright when merely tied together then you need not use any stakes. Get some tar twine and tie the central shoots together. Then tie in the rest to them, not too tightly, but merely loop them up in such a way as to make a neat and symmetrical pillar or pyramid, according to the size of the tree. Tie in shoots to cover all the bare places. While doing this clean out all dead wood and foliage.

Practice of Vine Culture by Mr. Sanders.—*W. F. Self*: The correspondent who wrote the article in which mention is made of the small book on the practice of Vine Culture, by Mr. Sanders, of Wiltshire, has got a copy of it, which he is willing to lend for a short period on condition that he has it returned again as it does not belong to him. He does not think it can be bought. It will not compare in value, either with the book "Fruits under Glass," by Mr. David Thomson; "Vine Culture," by the late Mr. William Thomson; or "Vines and Vine Culture," by Mr. A. F. Barron.

Is it necessary to use Warm Water for Camellias?—*G.W.R.*: The question has frequently been raised, but it has never been shown if heated water is absolutely necessary for any class of plants growing in large bodies of soil, as the water gets cooled to the same temperature as the soil before it can penetrate the latter to any depth, and certainly before it reaches the roots. If you use water from the tank in the house that will certainly be sufficient for the watering of Camellias in tubs. We do not think any benefit would arise by attempting to stimulate the plants by any such artificial means as warm water.

Names of Plants.—*R. H.*: 1, Forsythia suspensa; 2, Viburnum Tinus; 3, Pyrus japonica; 4, Cotoneaster Simonsii.—*E. W.*: 1, Clematis indivisa; 2, Sparmannia africana; 3, Acacia Drummondi; 4, Acacia armata; 5, Begonia haageana; 6, Salvia Heerii.—*T. B. L.*: 1, Anemone Hepatica rubra plena; 2, Primula denticulata; 3, Omphalodes verna; 4, Saxifraga burseriana; 5, Saxifraga ligulata; 6, Vinca minor.—*Plants*: 1, Hyacinthus azureus; 2, Chrysosplenium oppositifolium; 3, Anemone fulgens; 4, Iris reticulata.—*T. M.*: 1, Dendrobium devonianum; 2, Cymbidium eburneum; 3, Odontoglossum Pescatorei; 4, Odontoglossum andersonianum.—*S. Jones*: The flowering plant is Saxifraga apiculata; the Fern is Polypodium subauriculatum.

Communications Received.—M. Temple.—N. F. (Next week).—Reader (Next week).—Doonfoot.—Rev. W. Wilks.—J. Williams (next week).—J. S.—E. T. D.—W. M.—R. M.—A. K.—E. D. M.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

APRIL.

18.—Royal Botanical and Horticultural Society of Manchester Spring Show (3 days).
22.—Chesterfield Spring Show.
23.—R.H.S. Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

MAY.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
7.—R.H.S. Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).
25.—Royal Botanical and Horticultural Society of Manchester, Whitsuntide Exhibition (25th to 30th).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show; Farningham Rose and Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days).
11.—Bath Floral Fete and Rose Show.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S., Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days).
24.—Strabane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Prescot Exhibition; Selby Exhibition.
30.—Buckingham Exhibition; R.H.S. Committees; National Sweet Pea Society (2 days).
31.—Wilts. Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldcarn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.
21.—Banffshire Exhibition; Eastbourne Exhibition; Hastings Flower Show.
27.—R.H.S. Committees.
28.—Henley-on-Thames Exhibition; Hinckley Exhibition.
29.—Dundee Exhibition; Thame Exhibition; Stirling Exhibition (2 days).

SEPTEMBER.

3.—Bicester Horticultural Society.
4.—Milton and Sittingbourne (2 days).
6.—National Dahlia Society (2 days).
10.—R.H.S. Committees; Durham Flower Show (2 days).
11.—Royal Caledonian Horticultural Society (2 days).
17.—Dahlia Show, Royal Aquarium, Westminster (3 days).
18.—Botley Show.
24.—R.H.S. Committees.

OCTOBER.

8.—N.C.S. Exhibition (3 days).
10.—Fruit Exhibition, Crystal Palace (3 days).
15.—R.H.S. Committees.
29.—Croydon Exhibition (2 days).
30.—Exmouth Exhibition (2 days).

NOVEMBER.

1.—Newport (Isle of Wight) 2 days; Cowes (2 days).
5.—N.C.S. Exhibition (3 days).
6.—Cardiff Exhibition (2 days).
7.—Doncaster Exhibition (2 days).
8.—Walthamstow Exhibition (2 days).
12.—R.H.S. Committees; Birmingham Chrysanthemum Show (3 days).
13.—Hull Exhibition (2 days); York Chrysanthemum Show (3 days).
14.—Barnsley (2 days); Devon and Exeter Fruit and Chrysanthemum (2 days); Royal Botanical and Horticultural Society of Manchester, Chrysanthemum Show (3 days).
15.—Brougbton-in-Furness Exhibition.
19.—Leeds Paxton Society Chrysanthemum Show (2 days).
21.—Norwich Exhibition (3 days); Launceston Exhibition.
25.—R.H.S. Committees.

DECEMBER.

3.—N.C.S. Exhibition (3 days).
17.—R.H.S. Committees.

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The Gardening World

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, APRIL 20th, 1901.

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NEXT WEEK'S ENGAGEMENTS.

MONDAY, April 22nd.—Chesterfield Spring Show.
TUESDAY, April 23rd.—Royal Horticultural Society's Committees.
WEDNESDAY, April 24th.—R.H.S. Examination in Horticulture; Chesterfield and District Chrysanthemum Society's Spring Show.
THURSDAY, April 25th.—Norfolk and Norwich Horticultural Society's Exhibition.

THE GARDENER'S ASSISTANT.*—Compared with the first and second editions of this standard work, the third edition will be notable for the great number of its illustrations, if the present status is maintained throughout the remaining three divisional volumes yet to appear. With the present volume the work is half completed, while the remainder will be published in more rapid succession. The third volume under notice deals with plants of all classes grown under glass for ornamental purposes; also shrubs and herbaceous plants for forcing; retarding plants; spring, summer, carpet, subtropical and winter bedding, to each of which a chapter is devoted respectively. It finishes up with a chapter on floral decorations. All of these subjects are dealt with by specialists, who have given great attention to the same for many years.

The long chapter on popular garden plants commenced in the previous volume is continued in this, and is the work of several writers according to the subject in hand. Popular plants, to which this special treatment is given applies to such as Cannas, Carnations, Chrysanthemums, Clematis, Clivia, Coleus, Crocus, Cyclamen, and Dahlia, &c., which have been so improved, and the varieties, both as to form, colour and habit, so multiplied that they could not receive justice if merely given in chapters of plants that have scarcely, if at all advanced, beyond the wild originals. Chrysanthemum indicum is given as the wild type from which the immense array of giants has been developed. An illustration of it alongside of a small bloom of Madame Carnot, furnishes a hint that if such gigantic blooms can be developed from so miniature a wilding, the possibilities of the floral world are yet far beyond the comprehension of the human mind. Many of our British wild flowers, often regarded as little more than wayside weeds, might, in face of the facts before us, yet respond to cross-breeding and selection, or even to hybridisation, in such a way as to become the most popular flowers of future generations. The Chrysanthemum was no doubt cultivated for centuries before it reached our shores; and the same might apply to the Chinese Primula, Moutan Paeony, and other plants from such an old country as China. Whatever is taken in hand with the view of improvement ought to be pursued with persistency for many generations. Differences of environment, abundance of food or moisture, cross-breeding and hybridisation, sooner or later assert their sway and bring about changes of greater or less importance.

Many of the most important and popular flowers have been largely the product of Continental workers, though one can point to some that have been worked up by the gardeners and growers of this country, while others have been carried to great perfection that had a fair hold upon popular estimation before they reached our shores. A feature of modern gardening is the impetus given to the cultivation of certain flowers by the development of really handsome garden races of plants from forms that were rejected by the florists of a former day because such forms did not conform to the canons and narrow confines laid down by the old school. The Dahlia is a case in point. There are few gardeners that would now deny the decorative value of Cactus Dahlias; yet the parent from which they originated would have undoubtedly been consigned to the rubbish heap by those who considered that show and fancy Dahlias were the one and only type worth cultivating. Some of the old time flowers have suffered eclipse, for a time at least, including Heaths, Camellias, and hard-wooded greenhouse plants generally, though a few of them worthily find a place in collections. Hardy flowers are greatly in the ascendancy at the present time, and possibly no greater number of them has ever been in cultivation at any one time, though there are many gardens yet where the old beds and borders yet require amplifying and extending. A half-page plate of the Iris garden at Kew shows a gorgeous wealth of flowers of bold and handsome form, that hundreds, possibly thousands, would desire to possess, and no doubt imitate if their season was a little more durable. The poor man's Orchid, someone has described the Iris, and the idea is not very far-fetched, as they are gorgeous and varied enough in colour, while at the same time botanically related to those hothouse plants. The large beds and the wealth of flowers give an impression that the grass area is very limited, but a similar effect could be produced in reality by having one large bed crossing the line of vision of the beholder standing some distance away. Every garden with a lawn of any extent should possess at least one good-sized bed of these early summer flowers. There are now many choice varieties in cultivation that will bear the closest inspection. A Walnut and some other trees, with No. 2 museum in the background, constitute an admirable setting to the Iris garden. Several of the species of Iris are illustrated, including the strange and striking I. susiana.

Lilies also come in for marked attention; many common and uncommon species, and some garden hybrids, namely, L dalhansoni derived from L. Martagon dalmaticum and L. Hansoni, as the name is intended to convey. A good few of the Daffodils are also represented. The gardeners of the rising generations have many aids to a knowledge of plants at their disposal which their superiors did not possess, thanks to the aid of the wood engraver as well as the photographer. A figure of Primrose Evelyn Arkwright reminds us that the flower is large enough until a longer and stronger stalk has been developed to increase the utility of the flower in a corresponding ratio by making it self-supporting and fit to

*The Gardener's Assistant. A Practical and Scientific Exposition of the Art of Gardening in all its Branches. By Robert Thomson, of the Royal Horticultural Society's Gardens, Chiswick. New Edition, revised and entirely re-modelled under the Direction and General Editorship of William Watson, Assistant Curator, Royal Gardens, Kew. Divisional Vol. III., price 8/- the volume. London: The Gresham Publishing Company, 25, Farringdon Avenue, E.C. 1901

cut for vase decoration. The colours of this large type might also be multiplied to advantage. The Rose is dealt with at considerable length, as becomes its importance, and as far as illustrations go the decorative element is brought into great prominence, the flowering sprays of Rosa centifolia, R. gallica, R. spinosissima altaica, R. Austrian Copper, R. repens, R. indica, and R. lutea being very beautiful. All these, be it noted, represent single Roses, including R. centifolia, the parent of the old Provence or Cabbage and the Moss Roses, in their many garden forms. One type of exhibition Rose is represented by a finely-formed bloom of A. K. Williams.

Amongst the figures of greenhouse plants, Moraea robinsoniana is represented in the bud stage, as if the photographer could not wait till it was in bloom. Other uncommon greenhouse subjects are Pentapterygium serpens, Olearia insignis, Protea cynarioides, Tecoma Smithii and Tricuspidaria dependens. Stove plants include Acalypha sanderiana, Ataccia cristata, Beaumontia grandiflora, Billbergia breautiana, Dipladenia atropurpurea, Gardenia stanleyana, and others that are by no means so common as the first named (Acalypha). Illustrations of Orchids are very numerous, and altogether the subject has received more ample justice than ever it did before in this work. The same may be said of hardy, greenhouse, and stove Ferns, Palms, Cycads, and Succulents.

National Auricula and Primula Society.—The southern section of this society will hold their annual exhibition at the Drill Hall, Buckingham Gate, Westminster, on the 23rd inst., in conjunction with the meeting of the Royal Horticultural Society.

Examination in Horticulture.—The Royal Horticultural Society's examination in horticulture will take place on Wednesday, April 24th, at various centres throughout Great Britain. Intending candidates are requested to forward their entries at once to the secretary, R.H.S., 117, Victoria Street, London, S.W.

Royal Horticultural Society.—At a general meeting of the Royal Horticultural Society held on Tuesday, April 9th, forty new Fellows were elected, making 288 elected since the beginning of the present year, among them being Lady Anstruther, Lady Hunter, Major-General Sir Francis Grenfell, K.C.M.G., Col. Spragge, D.S.O., and Samuel G. Buxton, J.P.

Reading and District Gardeners.—At the fortnightly meeting of the Reading and District Gardeners' Mutual Improvement Association a paper on "The cultivation of the Gloxinia with other plants in an ordinary greenhouse" was read by Mr. H. House, gardener to W. Pole Routh, Esq., Oaklands, Reading, in which it was pointed out that excellent results could be obtained with this beautiful flower, although the plants had to be grown with many different varieties of plants. The chief points touched upon were the culture from seed, by division of bulbs and by old bulbs. A discussion followed, in which the president (Mr. L. G. Sutton), Messrs. Neve, E. J. Dore, Baskett, Pigg, Exler, Wilson, Cretchley, Fry, Lever, Burfitt, Ager, Alexander, Cox, and Pole Routh took part. The exhibits were as follows:—Mr. F. Lever, The Gardens, Hillside, Calla elliottiana from seed (Cultural Certificate) and Gloxinia blooms and plants; Mr. E. S. Pigg, The Gardens, "Samoa," Seedling Amaryllis (Cultural Certificate); Mr. House, blooms of the following: zonal Geraniums, Crabbe, J. L. Baldwin, Madame Patti, Œnid, Olivia, La Norch, Mrs. Pole Routh, and Phyllis, as well as a number of Gloxinia plants. A hearty vote of thanks was accorded to Mr. House for his practical paper, and to the exhibitors. Three new members were elected. The last meeting of the present session will be held on Monday next, when Mr. W. P. Lasham will deal with early Potato culture.

Beckenham Horticultural Society.—On Friday, April 12th, at the above society, Mr. Harman gave his experience on the "Cultivation of Hardy Roses," and those he thought were most suitable for the Beckenham district. The usefulness of the Crimson Rambler was much commented upon. Many useful questions were asked and answered. A vote of thanks was accorded to Mr. Harman for his useful lecture on the Rose which is always very interesting to all members.

Royal Gardeners' Orphan Fund.—The thirteenth annual dinner in aid of the above fund will take place at the Hotel Cecil, Strand, W.C., on Tuesday, May 7th, 1901, under the presidency of the Hon. W. F. D. Smith, M.P. The secretary will be glad to hear as soon as possible from gentlemen who may desire to be present on this occasion; address, Mr. B. Wynne, 8, Danes Inn, Strand, W.C. The secretary will be pleased to send a collector's receipt book or collecting box for small amounts to anyone who may be desirous of helping to extend the usefulness of the Fund by increasing its annual income. All gardeners ought to do their best to help this Fund, as none can tell how soon those nearest and dearest to them may require its benefits. For every sum of 5s. collected or subscribed a vote is given at the next election.

Liverpool Botanic Gardens.—An imposing and highly creditable display of Amaryllis is now on view at the above gardens, the bulbs are in excellent health, many of the spikes producing six blooms and in one case two spikes carrying six flowers each. The bulbs are extra large which shows that the culture adopted by Mr. J. Guttridge, the able Curator, is of the right kind. There are some 2,000 seedlings and a similar number at Sefton Park in robust health, so that next year a very fine result may be expected. The houses are quite gay at present; Orchids, in which Dendrobiums predominate, with forced bulbs and plants, make an attractive and pleasing exhibition.

Viburnums.—They are more commonly known as Guelder Roses. The massive round heads of bloom obtained at the present time shows the work of the florist in improving on the wild forms of plants. When seen growing wild the heads of bloom present an entirely different appearance to those seen under cultivation. The centre of the head is a mass of inconspicuous blooms with complete sexual organs. Those round the outside have no sexual organs, the calyx is greatly modified and often suppressed also, the corolla is much enlarged and made conspicuous to attract insects to the small flowers in the centre. The florist has produced a head of bloom with all the flowers modified as in the outer rows of the wild form; therefore, all are sterile, having sacrificed their anthers and pistils for a large corolla.

The National Chrysanthemum Society.—We have before us the annual report of the above society. The members are to be congratulated on their society still maintaining its position at the head of the special floricultural societies of the United Kingdom. The finances are in a very satisfactory condition, having a reserve fund of £107 8s.1d. The society has our sympathy in the loss of their revered president, Sir Edwin Saunders, at the ripe age of 87. He was a man who always took a great interest in floriculture and was a great help to the society. During last autumn a deputation from the N.C.S. visited the Paris Chrysanthemum show at the International Exhibition. The following gentlemen constituted the deputation:—Mr. Percy Waterer, chairman of the Executive Committee; Mr. Thomas Bevan, chairman of the Floral Committee; Mr. Harman Payne, foreign secretary; Mr. J. H. Witty, and Mr. Runchman. The members of the N.C.S. collectively supplied an exhibit of cut Chrysanthemums as a token of friendly interest in the great undertaking our French confrères were organising. A grant of medals of the N.C.S. to be awarded to French exhibitors was also made, consisting of one large Gold, one small Gold, one Silver Gilt, one Silver and one Bronze Medal. The French National Chrysanthemum Society sent a deputation to the autumn show in London, at the Royal Aquarium. They much appreciated their friendly reception, and gave several awards. Mr. Vallis received the large Gold Medal of the French N.C.S. Mr. Norman Davis received a large Silver Gilt Medal. A report embodying their experiences appeared in *Le Chrysantheme*, the official organ of the French society.

Wheat to the extent of 44,000,000 bushels is grown in Africa; but only 35,000,000 in Australia, this being about the lowest amonnt for any great wheat-producing country.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tnesday, April 23rd, in the Drill Hall, Buckingham Gate, Westminster, in connection with which the National Auricula and Primula Society will hold their annual show. A general meeting of the Fellows will be held at three o'clock to approve or otherwise the proposal of the council to purchase land near East Darenth, in Kent, for the new gardens of the society.

A Garden in School.—The schoolmaster of Ash School, Whitchurch, Salop, gave a practical demonstration of the art of gardening some weeks ago in the school. He got a barrow load of soil, wheeled it into school, and having procured a Currant bush, set about planting it in the barrow in presence of all the scholars. The why and the wherefore of each operation was explained to the children as he proceeded. He afterwards planted out the bush with several others in his own garden. He thinks that by demonstrations of this kind, great improvements could be effected in cottage gardens in the near future.

The Fertilisation of Violets.—The Violet is a general favourtte, but the peculiarity of its fertilisation is not so generally known, said the Rev. G. Henslow, at a recent meeting of the R.H.S. If notice is taken of the plants when in bloom, it will be seen that the blooms that open do not produce seed pods. If the leaves are put aside, there will be seen numerous growths low down in the plant resembling buds; these are really flowers of a very peculiar structure, the corolla is missing and the calyx does not open. Inside, the anthers are curled up and pressed on the stigma. They do not shed their pollen, but the pollen tubes grow through the side of the anthers and fertilise the ovules. This is known as clelstogamous fertilisation, a word from the Greek meaning a hidden marriage. In Italy the ordinary flowers set in profusion. It is supposed that there are no insects in Britain that can fertilise the flowers and in Italy there are.

Educational Flower Show.—It is proposed to hold an annual reunion of all the friends interested in agricultural and horticultural education. At present the groups of teachers, managers and students are working in isolation. This is a very undesirable state of affairs, so means are to be organised to bring them together annually for a social consultation. The gathering is to centre round a large flower, fruit and vegetable show. Not only is it proposed to hold a meeting, but to organise a show for the various institutions which are affording scientific, technical and practical training to people connected with rural pursuits. The organisers of the One and All Indnstrial Flower Show have been consulted and are prepared to welcome such an allied exhibition. As the Surrey County Beekeepers' Association are to hold their exhibition and demonstration at the same time, it is evident the occasion will be an unique one for educational purposes. Lady Warwick has offered a handsome trophy to be competed for by students for the honour of the class or institution with which they are connected. She has also given a money contribution to start a prize list, and appeals to all friends and sympathisers to help. The show is to be opened on August 16th. In the evening a social meeting and conference is to be held, when it is proposed to elect a council and permanent officials to carry on the movement in future years and to submit suggestions for the constitution of a permanent federation. The trophy is to become the property of the Educational Institution, whose students head the list of awards for three successive years. Mr. W. Iggulden has promised to act as organising adviser, *pro. tem.*; the Countess of Warwick has promised to act as first president, *pro. tem.*; Miss Edith Bradley will act as hon. secretary, *pro. tem.*, with the help of Miss Crooke as assistant hon. secretary; Mr. Edward Owen Greening, chairman of the National Co-operative Festival, will act, *pro. tem.*, as chairman of the educational executive. Address for letters and communications:—Miss Edith Bradley, Lady Warwick Hostel, Reading. We wish the organisers of this important movement every success.

Jerusalem Artichokes did not come from Jerusalem, but from America.

"The Travelling Partner."—Smith's Advertising Agency, 100, Fleet Street, E.C., have issued the first number of an interesting little quarterly under the above name. It is a book for advertisers and business men. They invite all those requiring information regarding advertising to communicate with them, when they will be answered free of charge. The unique experience of nearly a quarter of a century will be requisitioned in dealing with all queries submitted. If the subsequent numbers are as instructive and interesting as the first issue it will prove a very valuable publication.

United Horticultural Benefit and Provident Society.—The monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last, Mr. C. H. Curtis in the chair. The minutes of the last meeting were read and confirmed. Two new members were elected. Nine members are on the sick fund, and five on the benevolent fund. It was proposed and seconded and unanimously resolved that a chairman and vice-chairman of committee be elected annually, at the first meeting after the annual general meeting. Mr. C. H. Curtis was elected chairman, and Mr. Winter vice-chairman for the ensuing year. It was proposed and seconded, and resolved that 1,000 agenda forms be printed, and that estimates be asked for from firms mentioned, for the printing of the same. It was unanimously resolved that the secretary's salary for the past quarter be paid. Other items of business were disposed of, and a vote of thanks to the chairman ended the meeting.

The Swanley Horticultural College.—We have before us the annual report of the above institution and note with interest the vast strides it is making, the number of students having steadily increased to eighty-three Owing to the increasing demand for women as gardeners, an additional house has been opened to accommodate the number undergoing training, and another is to be opened this spring. Five women who received training in this college were appointed to the position of head gardeners during last year. For the fourth time since 1895, a student from the Swanley College has gained the distinction of obtaining the highest number of marks in the Royal Horticultural Society's Examination. The Gold Medal was awarded to Miss E. Welthin Winlo, who obtained the maximum number of marks. This is a high distinction for the college as the examination is open to public competition, and 233 candidates were classed. There were thirty-six candidates from Swanley and thirty-five of these obtained a First-class Certificate, and one a Second-class. Miss Winlo also obtained a certificate in the British Bee Keepers' Association Examination, a First-class in the advanced stage for principles of agriculture, and a First-class in advanced botany. Mr. M. Wilson obtained the Queen's Prize for advanced botany, and Mr. J. Grime a Scholarship at the Royal College of Science.

Gentlemen Gardeners.—The following appeared recently in a daily contemporary:—"It is a great surprise now all professions are choked up that young men of good families are not encouraged as gentlemen gardeners. The profession is an honourable one, it dates from Adam, it is a pleasant one, and a good man rises rapidly. He becomes an employer of labour, and his services command a good price in the market. A college for gentlemen's sons, something on the principle of Lady Warwick's Hostel at Reading for lady gardeners, to learn gardening might be a success, and fill a want at home and abroad. How many of us would be thankful to have our gardens managed by gardeners who have taste as well as art." It looks very nice in print, but all must agree that they are off the track when they talk of the services commanding a high price in the market; for how many thoroughly good gardeners are eking out a miserable existence on less than £1 a week, awaiting an appointment, and then often glad to clutch at a 30s. chance. If they think that gardening can be taught in a year or two from books in a college they are greatly deceived. It is an art that requires a life-long study, and a man, after he has applied himself diligently to his work for ten or twelve years, can only be said to know the chief outlines of his profession, for it is really inexhaustible.

Cereals are so-called from Ceres, the goddess of Corn.

National Sweet Pea Society.—A meeting of the general committee was held at the Hotel Windsor, when the executive committee presented their recommendations regarding the schedule of prizes. The schedule and rules were passed, and will be printed and distributed at the earliest date possible. The show is to be held at the Royal Aquarium on Thursday and Friday, July 25th and 26th. Mr. H. J. Wright was appointed general secretary, Mr. R. Dean, exhibition secretary, and Mr. N. N. Sherwood, treasurer. The society has received the promise of a substantial amount of financial support.

Hybrid Nympheas.—In an article appearing in the *Garden* of January 19th last, dealing with the subject of the "Origin of the Hybrid Nympheas," F. W. Burbidge makes the following rather startling announcement:—"So far as I know but few, if any, seedlings are raised in America from American-sown seed, and there is a wonderful Marliacean 'look' or appearance about some of the so-called American seedling Water Lilies." Mr. Burbidge evidently needs some enlightenment, and this our Water Lily experts are no doubt in a position to supply.—*The Florists' Exchange.*

Lady Gardeners in Brittany.—It is a curious story about Lady Warwick and her lady horticulturists which is now going the rounds of the press. The Countess, we are told, is responsible for an official scare all along the coast of Brittany. The lady gardeners turned out by her classes have been trying to buy small plots in that country near the mouths of rivers, whence their produce might be marketed cheaply. They have even offered fancy prices for holdings not in the market. Nothing is known in France of Lady Warwick's educational zeal, or of the reasons why her pupils have found it difficult to buy land to their minds in England; and so there is an official circular to the notaries of sea coast departments instructing them to draft no more deeds of sale to foreigners, and to give an account of all such deeds drafted during the last ten years. For all that can be seen, Lady Warwick's young ladies may be preparing an English invasion.

Self-protecting Leaves.—Mr. Lloyd Praeger writes in the April number of *Knowledge* an instructive article on Flowering Plants. An insight into the multiple methods by which leaves are protected against the elements, is given by the following passage:—"The typical leaf has its upper surface built of strong closely-placed cells, to offer a stout resistance to rain and hail, and to frost or overpowering sun heat. In hot dry weather, when great evaporation is taking place, the plant can close up all its stomata—shut down, so to speak, all the sluices by which the water employed to convey dissolved salts from root to leaf is allowed to escape, and thus retain an abundant water supply in spite of parching heat. But in arid ground, such as sandy wastes or sea beaches, further protection against over-transpiration may be desirable, and this is frequently effected by impervious varnish-like layers on the upper surface of the leaves, or by dense coverings of hairs. Layers of impermeable corky cells in the epidermis or skin of the leaves are also frequently to be found in plants liable to excessive transpiration. Such impermeable leaves are beautifully developed in plants like the Stonecrops, which, growing in dry ground and on rocks, and being liable to long continued drought, store up in their leaves a copious water supply. Such reservoir leaves are greatly developed in the plants of desert countries. Protection against the often fatal effect of frost is likewise afforded by a thickening of the cuticle of leaves, and especially by felt-like coverings of hairs. In some noteworthy cases protection against cold is effected by means of movement on the part of the leaves. The most familiar examples occurring among our native plants are furnished by the trifoliate leaves of many of the Clover family. As evening approaches, the Clovers and their allies fold their three leaflets together by means of an upward movement; the juxtaposition of the leaflets retards loss of heat, and the vertical position which they thus assume has the same effect, tending to check the radiation of heat to the cold sky overhead. The Wood Sorrel, which, though of a quite different order, has leaves which resemble those of the Clovers, effects the same object by folding its leaflets *downwards*."

The Irony of Things!—"Iceberg, an American *Black*berry said to have *white* fruits."

Agricultural Land to the extent of 5,000,000 acres has been purchased by the Mormons in Mexico.

Strawberries at Goomalling.—Specimens of Marguerite Strawberries have, according to the *Journal of the Department of Agriculture of Western Australia* for December, been successfully grown by Mr. F. F. Rose, Hope Farm, Goomalling. Fruits were sent to the Agricultural Department, and arrived in capital condition. The note in the *Journal* mentions that this is probably the furthest east that Strawberries have ever been grown in the western colony. The fact is of special interest as showing the warm conditions under which the Strawberry can be successfully grown and fruited. Whether the stock will retain its vigour remains to be seen, but no doubt varieties adapted to the environs will accrue.

The Composition of Marmalade.—Mr. T. Jameson, public analyst to the city of Aberdeen, in his quarterly report to the Corporation, says *The Fruiterer*, raises the question of genuineness of a sample of marmalade, the fruit of which was found to contain nearly one half of Apples. By having Apples in the marmalade the purchasers are misled, as it is generally regarded that marmalade should consist of Oranges, and these only. Basing his definition of marmalade as given in the dictionaries, the seller in this case contended that he was entitled to use any bitter fruit he liked in the manufacture of marmalade. It appears that the term "marmalade" came originally from Portugal, where marmalade was chiefly made from Oranges, but sometimes from Quinces. It seems desirable, however, that the public, both buyer and seller, should be made aware of the position of the matter for future guidance.

CORONILLA GLAUCA.

This beautiful early spring flowering plant should be in every collection, coming into flower early without forcing, while it keeps up a succession of bloom for a considerable time. Its pleasant perfume is also a recommendation. The same plants will do service for many years. Pruned back after they have done flowering, and, after they have started again, potted on, they will make good growth out of doors during summer. To keep the plants in shape they may be stopped back two or three times during the season. Although old plants are serviceable, some young stock should be propagated annually. Cuttings taken from plants which have been cut back early in the season will root freely in moist pans of silver sand, and placed in a brisk bottom heat. Young plants require stopping frequently, and if grown in a cool place during the summer and kept from frost during the winter, they will make good plants for flowering in 5-in. pots the second year. A very good way is to propagate a dozen or two every year and you will find them more useful than Genistas. It is very seldom this plant gets the attention that it should get; and if once seen grown well, it will always be a favourite in future.—*T. S. Dick, Castlemilk, Lockerbie.*

APPLE "WELLINGTON."

This valuable Apple is extensively grown in this country and ranks amongst the most useful, being of good size, a free cropper, a splendid cooker, and also one our best late keepers. It is also known under the names of Dumelow's seedling and Normanton Wonder. This combination of good qualities should at once make it a general favourite were it not for the fact that it is extremely liable to canker. For this reason only it has been discarded by many large growers in favour of other varieties, without this drawback, but in other points unequal to it. It has been proved beyond all doubt that by the simple process of double grafting all tendency to canker can be averted and the small amount of extra trouble is fully repaid by the result. Warner's King is used for the first graft, the stock being the English Paradise, which is much to be preferred as it has a great affinity for Warner's King, is surface rooting and greatly facilitates fruitfulness. When a good union

between these has taken place after one or two years, the Wellington scion should be grafted or budded as preferred. Owing to the lateness of the season there is still time for the first stage of this operation. Care, however, should be taken that the true English or broad-leaved Paradise stock is used, and not the French variety, as where this is used disappointment is certain, as it is apparently unable to withstand our climate.—*J. W. M.*

THE TOMATO.

This is one of the most popular of our market crops. I intend in this article to deal with its culture under glass. First a good variety must be selected—Conference and Chemin Rouge are good reliable sorts. To have ripe fruit by the end of May seeds should be sown in shallow boxes early in January, and kept in a temperature of 60°. When the seedlings make their appearance place them near the glass to make them sturdy. When in the rough leaf prick them out 3 in. apart in boxes, where they may remain until ready for planting out. They may either be allowed to fruit in pots, or be planted out in the borders, the latter plan being by far the best. Plant them out 1 ft. apart along each side of a span-roofed house, using no manure at the time of planting. The plants are trained on a single stem, care being taken to rub off all laterals as they appear. Ventilate freely, keeping the atmosphere free from moisture. When the flowers have expanded they should be brushed over with a hare's foot in order to distribute the pollen. Treated in this way the fruit sets much more freely. After the first truss of fruit is well set and commencing to swell a good dressing of manure may be given. These are among the chief items in the successful culture of this valuable fruit-vegetable.—*G. H., T.*

GREVILLEA ROBUSTA.

In its native country (New South Wales) this is a stately tree, but here it is grown as a pot plant, and although there is no brilliant colour to recommend it, yet the finely cut drooping, Fern-like foliage produces one of the most graceful decorative subjects we possess. Its value is enhanced by the fact that it stands the baneful influence of gas and dust better than most table plants. Seedlings are easily raised in a little heat; and afterwards the simplest cool culture will suffice to grow handsome specimens. I do not know of any seed—not even the Auricula—which is so long and capricious in germinating. In all cases where seed is sown in pans they should be sown in a layer of sand with a slight covering of soil so that when the surface becomes green it may be removed and fresh soil put in its place, without detriment to the seeds. Sow at any time in small pans, and as the seedlings straggle through and show two pairs of leaves, pot singly and give them the shelter of a close pit until they are established. Never allow them to flag for lack of water. There is no necessity to give them manure water at any stage of growth. An occasional repotting is the only other attention they require until they reach the final stage which need not be large.—*Albert Marks, 4, Orchard Terrace, Chichester, Sussex.*

HINTS ON BOUVARDIAS.

This genus contains some of the most useful plants that can be grown, and to anyone who has a lot of buttonholes, shoulder sprays, &c., to make, they are simply invaluable. They are natives of Mexico but good varieties have been obtained by cross-breeding in England As young plants produce the finest bloom, cuttings should be inserted at once, round the sides of cutting pots filled with sandy peat and a layer of sharp sand at the top. As soon as rooted pinch out the top in order to produce side branches; these after making two joints should be pinched again, and so on till a bushy plant is obtained. As the plants increase in size they must be potted accordingly, and by the end of July they will be well established. They will have been in a close moist atmosphere; but should now be removed to a cool house where they can have free ventilation. This will mature the growth, and cause them to set flower buds. About the end of September place in a house where heat is at command, in case of wet or cold weather, and as flowers are required remove batches into the stove in order to keep up a succession. The soil they thrive best in is a mixture of peat, loam and leaf mould, with the addition of a little sand. Keep the syringe going frequently, or green fly and red spider will play havoc with them. Three good varieties are Alfred Neuner, double white; President Garfield, double pink, and Hogarth, brilliant carmine.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

ARALIAS

Are more grown for their decorative foliage than their inconspicuous flowers. A compost of loam, peat, mould and sand is consistent for Aralias. Their fleshy roots speak for abundance of water all through. We are all familiar with A. Sieboldi or its proper definition (Fatsia japonica). Its large, deeply lobed leaves of a glossy green colour are very attractive. It is classed as a greenhouse plant. There are also some variegated forms of Sieboldi. In the case of stove plants they are incomparable as table plants, that is, the small-leaved varieties. They were in grand form at the past show in Edinburgh, Aralia Veitchi and its exquisite offspring, A. Veitchi gracillima, being very conspicuous in the class for table plants. A. filicifolia is also a showy subject in the stove. Propagation of Aralias is often effected by cleaning the thick fleshy roots, cutting in lengths of 2 in. and inserting in sand with the end next the stem uppermost, plunging in a bottom heat of 80°. Plants from seed are also preferable, which must be new. The small leaved section mentioned have to be grafted. A. reticulata is easily increased and is used in some places as a stock for grafting these delicate subjects.—*A. V. Main, Coltness Gardens, N.B.*

THE HERBACEOUS BORDERS.

To those interested in the hardy flower borders, they will now have become a source of great pleasure. Although very early in the year we have several very beautiful plants flowering at this season, the chief amongst them being the lovely Pasque Flower, Anemone Pulsatilla, which cannot fail to be admired by all. Being of easy culture it should be grown more extensively, but as yet it is far from common. The Hepaticas or Anemones, as they are sometimes called, are too well known to need description. These are flowering very profusely, and the double forms are especially good; they are best when not disturbed. Anemone fulgens is a very bright scarlet, and worthy of a place in every garden. The Pulmonarias, of which there are several varieties, with their pretty drooping flowers and beautifully mottled leaves, which last all through the summer, are not the least interesting. The best varieties of these are P. sibirica, P. saccharata, P. officinalis, and the white variety alba. These make a much better show when planted in batches instead of singly, and increase readily by division of the roots. The hoe will have to be frequently applied, but great care must be taken that the young heads of the summer flowering perennials which are just coming through the ground are not cut off, which is often done by the inexperienced. —*A. E. Thatcher, Aldenham, Elstree.*

CANKER IN THE MARECHAL NIEL ROSE.

Many a lover of this sweet Rose has experienced profound regret because their favourite Rosebush has been attacked by that dreaded disease canker, which at first commences on one side of the stem, where a puncture is made by some fly, to lay her eggs in, and in about a week after, the canker begins to appear, as the larvae now are hatched from the deposited eggs, and are already able to gnaw through the soft tissues of the bark, and live on the sap for about three weeks. Then crawling out they pupate in the soil close to the stem of the plant, and in fifteen or sixteen days, the fly comes forth and acts the same way as the parents have done. A new generation deposits their eggs in the same place, which causes the ulceration to increase rapidly. As early as possible I take a knife and gently pare off the swollen part, keeping a careful look out for any of the intruders. They are very small and of a creamy yellow colour. I next take a small camel hair pencil, dip it into spirits of camphor, and paint as it were the newly pared surface, repeating it next day. The soil in the pot or border is then top-dressed with a mixture of freshly slacked lime and soot in equal parts. I syringe the plants once a week or so with Gishurst Compound. I have found this most effectual, as the Rose, that I have tried the operation on, is now doing well, and set with a fine show of flower buds, and pushing out fibrous roots from the pared canker nob into the lime and soot, etc., mixture.—*J. W. Graham, The Gardens, Inveralleen, Corstorphine, Midlothian.*

SWEET PEAS.

To grow Sweet Peas to advantage I would advise readers of The Gardening World to do as follows: —Get a trough made from 10 ft. to 15 ft. in length, 6 in. deep and 6 in. broad. Cut fresh turf in arm lengths, lay it upside down in trough, and lay on some good loam and sow Peas, covering them with good loam about 1½ in. Place the trough or troughs in a vinery passage and water thoroughly. When the Peas are about 2 in. or 3 in. in height place them out in a well manured trench. Earth up at once but be careful not to spoil the Peas in the act of lifting out of the trough. Discretion must be used on account of the weather.—*A. G. Ross, The Gardens, Terregles, Dumfries.*

CHEMISTRY FOR THE GARDEN.

XII.—Soils (*Continued*).

According to the research of our chemists, a good soil should contain the following minerals, or their oxides rather:—Alumina, silica, lime, potash, soda, magnesia, phosphoric acid, sulphuric acid, peroxide of iron and traces of chlorine. Along with these there also prevails organic substances in a humic form, which largely consist of carbon dioxide, nitrogenous matter and water. Water is as we all know not the least important of all these, and the value of a soil very much depends on its capacity for retaining a due proportion of moisture. Drainage is an all important matter in preserving a garden soil in good going condition. We do not think that this matter receives the attention it ought. From our observations we infer that it is considered to be sufficient to dig out a drainage system, when a garden is formed, and unless something approaching a partial submergency takes place, the drains are never examined.

Nothing can be more injurious to a soil than thus leaving the drainage to look after itself. Anyone who has had experience in this work knows how soon the drainage gets silted up with the fine soil which finds its way down. We are too ready to consider drainage in its primary aspect, that of taking away super-abundant moisture. The secondary one does not always receive the attention it deserves, that is, the aerification of the soil. It is a well known fact that where water can penetrate, air will follow, and consequently, heat follows both. There is no difference between the drainage of a good garden and that of a pot plant. As a plant after it is watered only retains a quantity equivalent to the absorptive nature of the soil in which it is potted, the rest passes out by the drainage. The same ought to take place in our gardens. If it does not, as we are afraid it seldom does after heavy rain, or a succession of heavy rains, the excessive moisture percolates but slowly, to a level somewhere below the surface, and perhaps may remain for months in that position. Some soils require more drainage than others, but we are of opinion that all soils, whatever their nature, ought to have a drainage system. In light or very light soils the drains should be put farther from the surface.

Soils are grouped into classes, and each receives its name from the form of ingredients that predominates, such as argillaceous, calcareous, arenaceous and humic. In these the percentage is often so great that they require other material to be added to make them productive. Clay soils require sand; sandy soils require clay; and peat soils may indeed require both to make them not only fertile, but workable. Again as will be apparent, soils are classed into sub-divisions of the above, for it is the exception, and not the rule to find soils, wholly or nearly so, consisting of any one substance. Therefore, we have sandy loams, vegetable loams, clay loams, marly loams. These loams may be considered very much the same as a compost we prepare artificially. We find them to contain due proportions of finely divided clay, lime, sand and decomposed organic matter. Such soils are always very productive, free and are adapted for all kinds of plants. Ordinary garden soil should be of this character, if possible. Much, however, can be done

to improve the most uncompromising description of soils. Clays can be burned into the most tractable garden mould. We have had ample experience of the beneficial nature of such a means for the conversion of untamable soil to that of the very best. As far as our observations go the burnt soil never again adheres as before. Then sandy soil can be turned into good mould by trenching all kinds of refuse into it, along with abundance of manure. In fact, by careful tillage, the good gardener can convert any soil into excellent mould.—*Oxygen.*

(To be continued.)

THE GREENHOUSE BOUVARDIA.

THE Bouvardia (named after Dr. Charles Bouvard of Paris) is a very popular Evergreen flowering shrub for the greenhouse. Its natural order is Rubiaceae and it is of the madder family. Its leaves are ovate, and its flowers are produced in trusses like that of the Ixora. Mexico was the home of this plant from whence it was sent over to this country in the year 1794, the first species being B. triphylla, with scarlet flowers. The original species are very attractive, but the hybrids raised surpass them. The plants grow between 1 ft. and 3 ft. high.

PROPAGATION is effected either by cuttings taken from the stem, or by the dividing up of the roots into pieces about 2 in. long; in this case only the large roots can be used. Cuttings may now be inserted in 5-in. or 6-in. pots, closely together, and placed in a temperature of 90° bottom heat, and 65° or 70° top heat. The soil the old plants were grown in will do very well for this purpose. When sufficiently rooted they should be potted off singly into small pots and kept in heat. A compost composed of peat and loam in equal parts with a little sand is what these plants enjoy. It is necessary that the pots should be washed inside and out before potting.

As the season advances the plants may be moved by degrees into a cooler temperature, so that by the middle of August they are in a light airy house where there is plenty of breeze to ripen them for the coming season of flowering. The pots should be kept near the glass to prevent the plants getting weak and straggling. The plants should also be frequently stopped by pinching out the top of the shoots. If the plants are shifted into a temperature of 70° as soon as the blooms appear they will continue to flower for a long time. The flowers are excellent for cutting purposes.

Insects such as thrips, red spider, and green fly are very troublesome to these plants, and will, if they get the upper hand, eventually ruin the plant and every other near it. These pests are generally encouraged by lack of water to the plants, and are destroyed by constant sponging or syringing with tepid water or weak insecticide. The old plants can be potted up in March.

Some good varieties are:—B. Alfred Neuner, double white variety; B. candidissima, pure white sweet scented; B. Dazzler, intense scarlet; B. elegans, bright scarlet; B. flavescens, pale yellow; B. Hogarth, scarlet; B. jasminoides longiflora, pure white; B. President Garfield, pale pink, double variety; and B. Vreelandii, white.—*G. Dickson.*

WORK UNDER GLASS.

WATERING, airing and shading will occupy a considerable amount of time from now onwards, avoiding cutting winds while they blow from the north. On mild bright days a little front air can be admitted in the Peach houses and vineries, but not enough to create a draught. Push on with the final thinning of Grapes started early in January, and in well drained borders water freely with drainings from the farm yard, but diluted according to strength of same, and let the water be chilled. A thin scattering of Icthemic guano or Thomson's should be given as a change. This also applies to the early Peaches, the thinning of which should have been finished here some few weeks back, as with healthy trees and well made borders with abundance of water at the roots, and one fruit to every twelve or fourteen square inches, no dropping of fruit during the stoning period should take place.

The earliest Melons are swelling away, and with succession crops endeavour to procure an even set of three to six fruits on a plant, pinching off all others as soon as can be determined the best to leave. Pinch the point the next leaf beyond the fruit, and support the fruit before too weighty; and feed with guano water every other watering. Sow every three weeks up to the middle of July.

In the plant department, push on with all potting operations as speedily as possible. With us the Ferns and Palms are being overhauled. Coleus are ready to be placed in pots varying from 5½ in. to 7 in. in diameter, using loam, leaf soil, a little peat and a peck of finely sifted fresh horse droppings to each barrowful of the former ingredients, adding a dash of soot as well as sand. Pot firmly, and shade as little as possible, as these plants unless well coloured are not worth the labour bestowed upon them, ignoring the room they occupy. Calanthes should have been potted up ere now; ours are making headway and require a little water twice a week and a light shade from ten o'clock up to three when bright.

Continue to prick off Verbenas, Nicotiana affinis, and sylvestris, Antirrhinums, Pentstemons, Lobelia, East Lothian and other Stocks. Place them 3 in. apart in cutting boxes, shade for a couple of days placing in a vinery that keeps about 55° during the night. Pelargoniums, unless spring struck, should be placed in cold frames and have the light tilted during the day, but closing at night. In a week's time the lights can be drawn off each day. Dahlias, Cannas, Salvia patens, etc., should all be placed under glass by now. A cold pit facing south answers our purpose for these, burying the roots or tubers with fine leaf soil, and keeping close before growth takes place, after which admit air, and water overhead lightly on bright days.

The earliest Calceolarias will soon be coming into flower, so should be fumigated twice before being taken into the show house or conservatory. Stake neatly before too much advanced and shade from the sun. Cinerarias, especially the star varieties, are still very gay and look well intermixed with Azaleas, White Hydrangeas, Roses, Cannas, Spiraeas, Genistas, Tulips, Jonquils, East Lothian Stocks, Oxalis or Bermuda Buttercup, etc. A light dewing overhead with the syringe, about nine o'clock a.m., will greatly benefit these plants on bright days, and assist to ward off thrips, red spider, etc.—*Grower.*

Kitchen Garden Calendar.

THE weather during last month was so treacherous that the work in the kitchen garden has been somewhat delayed. Now that the weather is more favourable, plants that are struggling for space in their beds and pans should be pricked out immediately, for if crowded in their early stages, their constitution is weakened and they do not quickly make it up.

SCARLET RUNNER BEANS.—If a warm position can be obtained, the first crop of these may now be sown. If the soil is cold or the position exposed, they will be better left for another week.

CELERY.—That which has been sown in frames for early use may be pricked out into some rich soil on a warm border, where it can be protected. Sowings may also be made in heat for later planting.

PEAS.—A further sowing of these should be made to keep up the succession. At one time, dried Peas were an important article of food for the working classes, but since the introduction of Potatos and their extensive cultivation by all classes, the Pea has not been grown so extensively for using in a dry state, but is used green. Since its introduction into this country in the time of Henry VIII., it has been improved considerably and the varieties that are now on the market are innumerable. It is a plant that requires a soil with plenty of calcareous matter in it and of a good depth, so that the roots can go down and obtain moisture during the dry season, for if they are allowed to suffer from drought the pods will not fill properly, and mildew will often attack the foliage. The best method to grow a good crop is to dig out a trench and put a layer of well decayed manure in the bottom. Old Mushroom bed manure is well suited for this purpose, as it supplies a large amount of nutriment and helps to retain the moisture. Although Peas are moisture-loving plants, they should not be grown on ground that has not efficient drainage and becomes sodden after rain. To obtain a very early supply great attention is required. The plan usually adopted is to grow them in short, oblique rows, on a warm, sunny border, the rows running from north-west to south-east. If they are very early they require some protection, which is best afforded by sticking branches of Yew along the rows. Mice cause a lot of trouble in many gardens by eating the Peas as soon as they are sown. There are several methods of preventing their depredations. One of the best and easiest is to put the Peas into a dish with a little sweet oil and then roll them in some dry red lead. It is advisable, too, to put a few lines of black cotton along the rows when the plants are just coming through, to prevent the sparrows, &c., from picking off the tops, which they are very apt to do, especially in the early part of the year.

When about 2 in. high, it is a good plan to earth them up a little by drawing the soil to them with a hoe, as this prevents them falling about. Peas very early in the season are considered a great delicacy, and many ways are employed to obtain an early dish. Many gardeners sow for their first crop in the autumn, but it not infrequently happens, if the weather is favourable, that the spring sowing overtakes those sown in the autumn. Peas will stand transplanting well, and the best means of ensuring a very early crop is to sow them in small pots—about a dozen Peas in a 60-pot. The pots need not be crocked, as the plants do not remain in them for long. A liberal supply of manure should be put in the soil, and the pots placed in a cold frame. In this way they may be got well forward, and as soon as the weather permits plant out into prepared ground. They should be kept to within an inch or two of the glass or they are sure to get drawn, which spoils them. It is a good plan to sprinkle them lightly with a dressing of soot and lime, as this wards off slugs, &c. Varieties are so exceedingly numerous that it is not necessary to give a selection, new and improved varieties coming out annually.

BEET.—If the weather becomes warm, the first sowing of Beet may be made on a warm border. Sutton's Blood Red is the best for early work.

CARROTS.—Some of the early varieties may be sown now. It will be best to leave the sowing of the main crop until later in the month.

ASPARAGUS.—If new beds are to be made, no time should be lost in planting them. If young plants are required for future use, the seed should now be sown in a light, rich soil, and as soon as fit the plants should be pricked out into small beds.

POTATO PLANTING may now be finished. Although the weather is mild now it must not be trusted for we may very likely have a return of frosts which often prove so destructive in the spring; therefore, care must be taken to have those that are through the ground earthed up and, where possible, protected by some means.

CAULIFLOWERS.—These may now be planted out, taking care that they do not suffer from want of water if dry weather should presently set in.

LEEKS.—A second sowing of Leeks should be made for a succession.

ONIONS.—Another sowing of these should now be made if the soil is fit for working. A dry day should be chosen when the soil is friable and easily fined down.

CABBAGE.—If not already done, sowings should be made of the Early Battersea and similar varieties for autumn use.

BROCCOLI.—The principal sowing should now be made of the late kinds. The first sowing of the Sprouting Broccoli should also be got in without delay.

SEA KALE.—Cuttings of roots should be put in now, the ground being previously well manured and dug.

RADISHES.—Sowings should be made frequently to keep up a succession.

MINT.—This should now be propagated, if desired, by dividing the roots.

LETTUCE.—Sow for succession, and plant out into warm positions those pricked off in the frames.

MISCELLANEOUS SOWINGS of Anise, Basil, Beans, Borage, Burnet, Caraway, Cardoons, Celeriac, Chervil, Chicory, Corn Salad, Cress, Dill, Endive, Hyssop, Kohl Rabi, Mustard, Parsley, Parsnips, Rosemary, Rue, Salsify, Sweet Marjoram, Tarragon, Thyme and Turnips should be made to provide the requirements of the place.

Canned Fruit to the extent of 50,000,000 cans is exported from California annually.

HINTS FOR AMATEURS.

A GARDEN OF NATIVE PLANTS.

At the present day there is such a craze for foreign plants that the beauties of our English flora are quite overlooked by most people. I hope that now the fashion is to have wild gardens instead of the formal arrangement, that our own plants will not be overlooked, for really beautiful gardens can be made containing nothing but native plants. In such a garden there are always a great many interesting features, and the plants recall many pleasant excursions into different parts of the country. What can be more pleasing when showing a friend round the garden than to say "This little Heath I collected when in Scotland; this tiny rock Fern I found growing in the Peak district; this is a native Orchid which I found growing on the Surrey hills, etc." By collecting and growing plants in this manner each will have a history and thus be as a living souvenir of some place of interest visited.

In gardens close to London, where the atmosphere is nearly always laden with sulphurous smoke no plants can be expected to thrive for long, and generally the owner of a small garden finds plenty of ways for the dispensation of his means without having to frequently renew the supply of plants in the flower beds. When this is the case the use of wild flowers and bushes for the adornment of the garden will be found to be both inexpensive and effective. When on a trip into the country a large number of suitable plants may be collected. What can look better in a garden in the springtime than a nice bed of Primroses, Violets or Bluebells. It is best to get the roots in the early spring before growth has commenced; or if the roots of many of our pretty little "natives" cannot be obtained seed may be gathered and sown in the autumn. Some of our wild Geraniums are very handsome, especially the deep blue of Geranium pratense. The wild Rose, Brambles and that beautiful climber Clematis Vitalba, known in the country by many different names, often as The Traveller's Joy, Old Man's Beard, Bocky, etc., look very nice rambling about of their own free will, and although smoke begrimed they look happier than many of their foreign friends do when growing under the same conditions. If the Primroses can have a little shade they will grow much better. The Bluebells also are shade loving plants and also moisture loving.

Country Gardens.—In gardens where the atmosphere is pure, and there is plenty of space at command, with good soil to grow plants in, an extensive collection can be made and rare plants grown and cared for. If the collection is to be a very varied one the garden will require making up according to their different requirements. If Ferns are to be grown moisture and shade must be provided, and a light peaty or leafy soil made up. The position most suitable for Ferns is on a low rockery. There are many rare Ferns to be found in Britain. Some of the best are to be found in the Peak district, the Welsh hills and Tunbridge Wells. There are many beautiful bog plants that may be easily grown if sufficient moisture is obtainable. For large, stately foliage nothing can beat the Great Water Dock, and the larger Carices. Equisetums or Horse-tails, Caltha palustris or Marsh Marigold and the large flowered Forget-me-not are all easy to procure and easy to cultivate. If aquatics are desired tubs may be sunk into the ground for their requirements if a pond is not to be obtained. The best plants that can be used for growing thus are a pretty little crested yellow Water Lily, Limnanthemum peltatum, Sagittarias and Utricularias or Bladder-worts, pretty and interesting insectivorous plants.

A dry part must also be reserved for plants requiring such conditions. When a plant is collected the conditions under which it is found thriving in Nature must be noted and followed out as near as possible when planted in the garden at home. If a shade loving plant, shade must be given or it cannot be expected to thrive. For climbing over fences, arbours, etc., nothing can surpass the beauty of the Clematis Vitalba. It is a very rapid grower and soon makes a large plant when once established. Many very pretty Geraniums may be found about the country that are well worth cultivating, especially Geranium pratense and G. sylvaticum. Genista anglica is a neat little free flowering shrub common in the south of England. It thrives in a light position when under cultivation. For covering arches and also for growing as a low bush the wild Rose makes a good display. The Ivies must not be forgotten as they are so useful for covering unsightly walls or for making clumps. There are many varieties, some prefering to climb upon trees, others choosing the ground; being evergreen they are very useful in the winter when other plants are bare.

Heaths require a peaty soil and plenty of light. There are many varieties found in the North on the moors. There is always something fascinating about Orchid growing as their requirements are so different to those of most plants. There are several species of Orchids to be found in Britain, all of which are rather difficult to manage when under cultivation. Some refuse to be cultivated, but these are not of much beauty. It is those that are parasitic on the roots of trees that refuse to be shifted from their natural habitat. The best way to grow them is to devote a piece of ground entirely to them. The soil should be a good meadow loam with plenty of chalk worked into it, as they are found growing best where the soil is chalky. If some short, stubby grass is planted amongst them it will keep the surface in a good condition in the summer and afford protection during the winter. When they are taken up to be planted in the garden great care must be exercised to avoid breaking their fleshy roots, as they are very sensitive to injury, and in planting the soil must be pressed round them very gently. Orchis maculata, when once established, makes fine plants. It prefers rather more moisture than the others, except Epipactis palustris, which likes a very moist soil. One of the best of our British Orchids has been exterminated as a native and is now only to be found under cultivation, the plants being imported from the Continent where it still flourishes. It is a Cypripedium and is equal to many of the species from warmer countries. It is known as Cypripedium Calceolus. It prefers a moist, loamy soil, with plenty of limestone added. It goes under the common name of Slipper Orchid. One of the best districts for Orchid collecting in Britain is on the Surrey hills and in Kent, where large quantities may be seen in bloom in summer.

Hollyhocks.—In many places it is impossible to grow these plants as they become crippled by the Hollyhock disease and soon go off. Where they will grow without disease nothing makes a more imposing sight in the garden than a group of these plants when well grown and in full bloom. The single Hollyhock is very easy to manage and only requires a moderately rich soil to grow in. It is best propagated from seed which should be sown in pans of light, sandy loam early in October, and placed in a house or frame where they can have a gentle heat. When large enough they should be pricked out, and ultimately hardened off in a cool frame to be planted out in the spring. The double ones are best propagated by cuttings to keep them true to name. The cuttings should be taken from the base of the flowering stalk about August, put into small pots and stood in a cool frame, where they will soon take root. They must be kept close to the glass to prevent them drawing. When in an exposed position they require a stout stake to secure them from breaking in the wind. The colours range from white to deepest red. —*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Cyanus or Centaurea.—*E. D. M.*: The reason why these two names are often employed for the same plant is that Cyanus was at one time employed as a generic name, but that is very old, and botanists have long been agreed that the plants classed under various generic names are all species of Centaurea, and the proper way of naming the plant you mention is Centaurea Cyanus.

Vine Leaves with Green Blisters.—*W. T.*: You have evidently been keeping the atmosphere of the house too moist during the long spell of relatively sunless weather we have had. The foliage and the atmosphere of the house should be relatively dry for a time once at least in every twenty-four hours. This can be done by syringing the vines in the morning, say about nine o'clock, and again after closing the ventilators for the day about 3, 4, or 5 p.m., according to the state of the weather and the amount of sunshine. Ventilation should of course be given as the temperature rises, as a result of sun heat; and in any case a little should be given about the middle of the day to dry and harden the foliage. If this is attended to the leaves that are produced after this time will have no green blisters upon them, while those already blistered will do no harm, if not allowed to develop further by the precautions just mentioned.

Basket Plants for a Greenhouse.—*A. K.*: Several of the Ferns might be used for this purpose, including Asplenium lucidum, A. flaccidum, Polystichum angulare, and some of the Maidenhairs, such as Adiantum assimile, A. aemulum, and some of the long fronded forms of A. Capillus-Veneris. Amongst flowering plants some of the drooping habited Fuchsias are very pretty and suitable for baskets. Other plants are Convolvulus mauritanicus (light blue), Tradescantia zebrina (valued chiefly for its variegated foliage and trailing habit), Campanula isophylla, C. i. alba, and some of the drooping habited tuberous Begonias, which make excellent basket plants, if you succeed in getting the proper varieties which some of the raisers select for the purpose. Two easily grown plants for basket work are Nepeta Glechoma variegata and Othonna crassifolia, the latter having bluish, succulent leaves.

Pyrethrums for Cut Flowers.—*Ed. West*: The single varieties are better adapted for vases than the double ones because they are more light and graceful; but as you say the double ones are bolder and more conspicuous. All the same we consider that as it is a matter of taste you may employ double varieties for home use where only your own people have to be pleased; and if they are all, then the matter is settled. You must also be guided by taste as to the colour of the varieties to grow. They range from pure white to deep purple and crimson, or some shade of dark red. The dark colours may be found useful to contrast with the paler colours which are by far the more numerous in this class of flowers than the dark ones.

Strelitzia Reginae.—*O. P.*: The best method of propagation is by suckers which are thrown up plentifully in the spring if the plant is in a flourishing condition. Seeds are not often procurable, and when they are to be obtained they are a considerable time before they will produce plants strong enough to bear flowers. If the plant does not produce many suckers, progagation by division may be resorted to. It succeeds well when planted out in a good loamy soil with sufficient sand, etc., added to keep it open. They require a liberal supply of water during the summer but should be kept drier during the winter months. A few plants may be seen growing luxuriantly planted out in the Mexican house at Kew. After what you say about the condition of your plant it would be advisable to carefully divide it and pot up again, placing them for a few weeks in a house with a little higher temperature, and keeping them well syringed, and taking care that in doing so you do not get the soil saturated.

Cacti going off.—*F.*: Undoubtedly the reason for the unhealthy state of your plants is a too liberal supply of water during the past winter. If the temperature has not been below 50° it cannot be that which has caused the rotting, for a temperature of 50° to 55° in winter and a summer one of about 70° in the shade is what they require. In the winter they require scarcely any water and if allowed to get too wet it is bound to act prejudicially on their health and in many of the tender varieties to cause them to loose their roots and rot at the base. They are very slow growing plants so do not require much water at any period. When they are making their growth during the summer twice a week will generally be sufficient. The majority of Cacti easily accommodate themselves to a general system of treatment and may be easily grown in a light window. Many varieties will grow outside if afforded protection by mats, etc., during severe weather. It is not a good plan to place the whole collection outside during the summer in consequence of the

variable character of our weather. The book you inquire after is "Cacti and their Culture," by Mr. W. Watson, of Kew, a book written specially for amateurs.

THE FRINGE TREE OF JAPAN.

About the end of May and the beginning of June, the shrubbery border is greatly enriched where this hardy shrub finds a place. At present herbaceous plants and shrubs are behind time, but possibly before the end of May a week or two of fine weather will bring flowering trees and shrubs more up to time. The shrub under notice is a native of Japan, and has been proved hardy in this country. Botanically it is Chionanthus retusus, the generic name being translatable as Snow Flower. Other names applied to it are Snowdrop Tree and Snowdrop Flower, which refer to the snow-white flowers which are borne in corymbose cymes at the apices of the branches. The four long segments of the corolla recall those of the Flowering Ash (Ornus), and the ovate shining leaves are opposite. It is, however, more closely allied to the Olive from which it chiefly differs in having its corolla cut almost into four petals. Besides its hardiness and conspicuous sweet-scented flowers, the shrub has a dwarf habit to recommend it to planters. The R.H.S. awarded it a First-class Certificate on June 9th, 1885.

JOHN CLAUDIUS LOUDON.

(*Continued from p. 526.*)

During the course of his long journey upon the Continent Loudon visited all the palaces and other establishments to which gardens of any note were attached, taking notes and sketches of those things which most interested him as a landscape gardener and draughtsman. Most of the eminent scientific men of the countries he passed through were also visited; and to all appearances he was well received, for he was made a member of the Imperial Society of Moscow, the Natural History Society of Berlin, the Royal Economical Society of Potsdam and many others. Although he made use of many of his descriptions and illustrations to some extent, he did not publish his travels in book form. Possibly his mind was diverted to other channels by the troubles that awaited him on his return. For more than twelve months he laboured under pecuniary difficulties, on account of losses he had suffered owing to the failure of mercantile speculations, such as underwriting ships at Lloyds. In 1815 he made one journey to Paris in order to recover some part of his property, but finally he lost almost the whole of it, which crippled him very seriously in more ways than one.

His mother and sisters left the country in 1816, and in order that they might reside with him he took the house at Bayswater, known as the Hermitage. Here was a large garden in which he spent a considerable amount of time in making experiments in the construction of greenhouses, different kinds of which he had fixed up in his garden. He had evidently been led to a study of this particular work by the reading of a paper on the form that forcing houses ought to have to receive most advantage from the sun, and which was published by Sir George Mackenzie, of Coul, in the *Transactions of the Royal Horticultural Society*. A globe was suggested as the best form, but this was more theoretical than practical. Loudon had some constructed with curvilinear roofs, and also tried the ridge and furrow system, which was afterwards put to practical purpose by Sir Joseph Paxton in the building of the great conservatory at Chatsworth. While engaged on these experiments he wrote and published a book entitled *Remarks on the Construction of Hothouses, &c.* This was in 1817. Soon after this he invented a new kind of sash-bar, which he described in a pamphlet bearing the title of *Sketches of Curvilinear Hothouses, &c.*, and published in 1818. During the same year he published another work, *A Comparative View of the Common and Curvilinear Modes of Roofing Hothouses.*

His bodily infirmities prevented to a great extent the activity necessary for attending to landscape gardening, but on the other hand drove him to a more extensive use of the pen. He now began to collect materials for his *Encyclopaedia of Gardening*. This seems to have been the most practical purpose to which he put the experience and knowledge he had gained while travelling upon the Continent. As is well known he commenced by giving a history of gardening, with descriptions of the various gardens he had visited. He illustrated the text by means of drawings or well executed sketches, engraved upon wood. The gardens of France and Italy had not been visited on the occasion of his first journey, so with this object in view he commenced a second tour of inspection The goal of his first move was Paris by way of Calais and Abbeville, and this he reached on May 30th, 1819. Armed with letters of introduction from his fast friend, Sir Joseph Banks, he left Paris on June 10th, for Lyons, in the Botanic Garden of which he noted living specimens of Valisneria spiralis, which, hitherto, he had only seen in the dried state in the herbarium of Sir Joseph Banks. From Lyons he went to Avignon, then to Nice, and afterwards to Genoa.

While progressing through France he made copious notes of everything of any importance in the numerous gardens he visited, just as he had previously done in Northern Europe; but on this occasion he had a more definite object in view, and worked at the subject perseveringly. At Genoa he also acquired a collection of Orange trees which he sent home for his greenhouse at Bayswater. At a private place near Genoa he saw Orange trees grown in slate tubs for the first time. Meeting his friend Capt. Mangles in this city he joined him and Capt. Irby in a voyage along the shores of the Mediterranean, starting on the 6th of July, for Leghorn, which they reached in the course of two days, and passing through Pisa reached Florence. Loudon's journal gave ample evidence that he utilised his time to the best advantage in making descriptions of the gardens he visited, and jotting down observations on various plants of interest that came under his notice. Saxifraga crassifolia was killed by a slight frost, though it proves hardy in the north of Scotland, even when the thermometer falls to zero or below it. Rome was the next place of importance in the course of this journey, passing thence to Naples, Pompeii, and Herculaneum in succession, returning to Florence on the 21st of August. In all these historical cities he felt greatly interested, but in the midst of many attractions he made the important gardens his foremost care to inspect and describe. The *Greffe des Charlatans*, as the French term the trick, was at that time much practised by the Italian gardeners. The plan they adopted was to scoop out the pith and other central portion from the trunk and branches of Orange trees, and introducing the shoots of a Rose or other subject, made it appear that these were grafted upon the Orange. The roots of both were carefully preserved so that the false scion and stock continued to grow and produce flowers and foliage.

For some time after this he was greatly delighted with the richness of plant life through which he passed. At Bologna he spent two days with an Italian family, busy with, and in the full enjoyment of the vintage. On his way through Ferrara to Venice, the first part of the road was lined with hedges in which Vines swung from tree to tree, presenting a picture of fertility not soon to be forgotten. Taking a boat at Deux Ponts for Venice he was delighted with the abundance of beautiful aquatic plants flourishing in the canal. Amongst them he noted the Vallisneria, for which by this time he had acquired a great fascination; and before leaving Venice he made a point of procuring a living plant, which he placed in a tin vessel and made it his own special care to see that no harm should befall it. "The best laid schemes of mice and men gang aft agley," as we shall presently see. Loudon was greatly charmed with Venice and the superb views which it presented. The post office of the city he observed was built on immense piles of Logwood. It was impossible he said to conceive what Italian paintings and architecture were like, without actually seeing those at Venice.

The Fringe Tree of Japan.

PRUNING.

That pruning is not so well understood as it ought to be is well illustrated by a walk through some of our large fruit-growing districts. There is a science and a philosophy in pruning that is not easily understood. The first thing to understand is the habit of the tree to be operated on, and no man ought to touch a tree with a view to pruning it until he thoroughly understands this. There are many schools of pruners about the country. Some allow the trees to grow almost wild, and ultimately the orchards in their charge develop into unfruitful forests; others hack off limb after limb, and twist and contort the remainder into all sorts of fantastic shapes, and thus sacrifice fruit for appearance. Be-

fore a branch is cut out, not only the present advantage is to be studied, but the future.

The thing to aim at for successful fruit growing is to produce a tree with well balanced limbs, with fruiting branches from the trunk to the ends. This can only be attained by allowing plenty of room for development and the easy penetration of light and air. Most gardeners know that the leaves are the respiring organs of plants, but not enough seem to comprehend the fact that it is only under the influence of plenty of light that the leaves can assimilate their food. Pruning is of great financial importance, for although the number of individual fruits is often lessened the actual weight is greatly increased.

A crop of small Apples takes just as much nutriment out of the soil as a crop of large ones, for in the large ones eighty-seven per cent. is composed of water—a plentiful and cheap food. It is the seed and the pulp that are such a drain on the soil, necessitating the frequent application of expensive manures to prevent the soil from becoming exhausted.—*F. C.*

PROPOSED SITE FOR THE NEW CHISWICK.

BUCKLEBURY PLACE, WOOLHAMPTON, BERKS,
April 12th, 1901.

SIR,—The notice given in your current number calling a special general meeting of the Fellows of the Royal Horticultural Society for April 23rd, to consider, and if approved, adopt the proposal of the council to purchase land on behalf of the society for the purpose of its new gardens, brings the Fellows face to face with one of the most important issues in the history of the society, upon which, with your permission, I should like to offer a few comments.

In the first place, it will be seen that whereas in the annual report, the adoption of which was proposed by the president on February 13th, 1900, the council recommended the purchase of a site (Limpsfield), *as the most suitable means of celebrating the Centenary of the Society*, in the present notice no reference is made to the centenary, the council merely proposing to purchase 48 acres of land at South Darenth "for the purpose of its new gardens." It is most important, therefore, to ascertain whether the council still consider the formation of new gardens to be the best means of celebrating the centenary, and whether the Fellows are also of the same opinion.

If the site now recommended by the council prove to be a suitable one for the formation of a garden, which shall in all respects be worthy of the society, and where gardening in all its branches can be carried out in the highest possible degree of perfection, and if the council are assured that they already possess, or can raise, not only sufficient capital to furnish and equip such a garden suitably, but to maintain it at the annual cost which would be necessary, no doubt at least treble that which Chiswick now costs (about £1,400 per annum), there may be no special reason why the scheme should not be carried out, if the Fellows generally consider this to be the best means of celebrating the centenary.

But whatever the feeling of the Council and Fellows may have been fourteen months ago, there can be little doubt that only a small minority of the Fellows now consider the formation of such a garden to be the best means of commemorating the centenary of the society. My reasons for so thinking are:—

(1). We have constantly been reminded that the society was formed with the distinct object and purpose of "promoting horticulture," and the Fellows have to decide whether a garden in the south of England, over twenty miles from London, however well appointed and managed, is the best means at their disposal for promoting the horticulture of Great Britain. It is true that with an ideal garden, where the best methods of forcing fruit, flowers, and vegetables of all kinds are carried out, in addition to outdoor operations, a certain number of students might be trained to become efficient gardeners: but it is at least open to question whether such a training would be superior or even equal to that which the same class of students can already obtain in the first-class private establishments of the country. It is important, moreover, to know whether the gardens, if once formed, would be utilised principally by those aspiring to become bona fide gardeners, or whether they would principally form a training-ground for the comparatively few men who are required to assist the neighbouring county councils in providing courses of lectures during the winter months.

In the case of the Limpsfield site, there was certainly an idea that the gardens might be quite as valuable to the county councils as to the Fellows of the society itself. However this may be, we have to compare the possible influence upon horticulture which such a garden might have, visited as it would be annually by scarcely one in 300 Fellows, with the very definite impetus to horticulture of every description, which the opening of a suitable horticultural building in London would afford. It is quite true that Fellows living at great distances from the metropolis are not often able to attend the exhibitions, but this objection applies with far greater force to a garden some twenty miles to the south of London. In proportion as facilities are given for exhibiting such high-class products of horticulture as are seen at the Drill Hall, so would the horticulture of Great Britain be distinctly promoted and advanced.

(2). Because the more the idea of celebrating the centenary by the formation of a new garden is considered and carefully examined, the more evident has it become that only an extremely small proportion of the Fellows generally would benefit in any degree whatever by such a garden, apart from the interest which might attach to reports of experiments published in the *Journal*. Such reports would, of course, possess [a] certain value, but this would depend entirely upon the experimental work attempted and carried out in the new garden. From the work done at Chiswick during the last twenty years, we must not, however, be too sanguine as to the result of similar operations elsewhere. It is not unreasonable to ask that in proposing the best means of celebrating the centenary the council should make it perfectly clear that the interests of the greatest possible number of Fellows will be considered.

(3). Because during the last fourteen months the Fellows have had further opportunities of carefully considering the financial aspect of the question, and very many—I believe a great majority—are not prepared to sanction so great an annual expenditure as would be necessary to maintain in a state of proper efficiency any gardens worthy of our national horticultural society, without evidence that the society has the means at its disposal. It may quite reasonably be supposed that the annual cost would be £4,000, or at least three times that of Chiswick.

Whatever scheme is ultimately decided upon as the best for celebrating the centenary of the Royal Horticultural Society, a large sum of money must be raised, and therefore it would obviously be desirable that the scheme be one which will commend itself to the greatest possible number of Fellows, and I venture to think that the establishment of a permanent home for the society, with a suitable hall for exhibition purposes, committee rooms for the various committees, whose work is so important to the society, and which is at present carried out with so many discomforts; and also a lecture hall for the fortnightly lectures, and in which the Lindley Library might be housed, is one which would have the hearty sympathy of an immense majority of the Fellows. The sum of money now annually spent on Chiswick would be more than sufficient to pay the interest on any loan that might be required for the acquisition of the necessary site and cost of building. —*Arthur W. Sutton.*

P.S.—Since writing the above letter I have, by the courtesy of Mr. Wilks, had an opportunity of visiting and examining the proposed site near Farningham Road, in company with Mr. Wright, the superintendent of the Chiswick Gardens.

There is no doubt that, so far as the soil is concerned, and the approach to the site, it is decidedly preferable to that at Limpsfield. Water and manure, too, are easily obtainable. This is, however, almost all that can be said in its favour. The best trains take an hour to cover the twenty miles from London, after which there is a walk of about half-an-hour, and very little, if any, opportunity of getting such refreshments as Fellows who spent a day or half-a-day in the gardens, would need. The site is a very open one, and as there are no trees upon it, there is, of course, no shelter, except on the south-west side; neither do buildings of any kind at present exist there. At the same time, as the soil is undoubtedly good, there would be no insuperable difficulty in forming the garden if a great majority of the Fellows wished to celebrate the centenary in such a manner, and at such a distance from London.

It seems strange that it should not be possible to obtain 15 to 20 acres in the Feltham neighbourhood, or other districts where market gardeners, seedsmen, and nurserymen have already found the soil and situation suitable for horticultural operations. The cost per acre would undoubtedly be greater, but then a much smaller area than 48 acres would suffice for all the necessary purposes of a garden.—*A. W. S.*

AMARYLLIS AT CHELSEA.

THE Amaryllis house in the nursery of Messrs. J. Veitch & Sons, Ltd., King's Road, Chelsea, is now a gay sight and worthy of going a long way to see. Botanically, the proper name for the plants is Hippeastrum or Knight's Star, in allusion to the white band along the midrib of the segments, forming a six-rayed star. Of course, in a great many of the improved varieties which have been raised by Mr. John Heal, the star has been obliterated. We remember when H. vittatum, one of the parents of the modern race, showed its lineaments visibly in almost every variety exhibited before an admiring public. That was a long time ago, and the collection, as now seen at Chelsea, includes many self-coloured, scarlet, red, crimson, and other richly coloured varieties. The flowers themselves have been largely increased in size, while the tube has become more flattened out and thereby apparently shortened. The striping, shading, marking, and other features of the flowers have also become marvellously multiplied, so that the casual observer having seen the originals only would be puzzled to know from whence the wonderful colours have come.

At present there are 1,500 flower spikes in the house, most of them flowering for the first time. The bulbs were repotted about the second week of February, ever since which time the amount of sunshine has been very limited indeed. Under such conditions one might have expected that the flower scapes would be drawn and weak. On the contrary, we have seldom seen them so dwarf, and they are stouter than ever, some of the stronger ones being like a polished Malacca cane. The foliage also is good, so that when one comes to consider it, the marvel is how such small bulbs could give rise to such a bulky growth in stems and leaves in the course of two calendar months. They are grown singly in 4-in., 5-in., and 6-in. pots, according to the size of the bulbs.

A two-year old bulb in a 4-in. pot carries two very large flowers of a dark orange-scarlet. The size of the bulb is often a question of variety, but in this case it is remarkably small, and the flowers correspondingly large, especially when one considers the small quantity of soil in which it is growing. Two scapes from a bulb of Rialto carry eight large, deep crimson flowers, shaded with maroon in the throat. An Award of Merit was accorded this fine variety at the last meeting of the R.H.S. Very choice and handsome as a light coloured variety is Sirenes, with bright scarlet tips, the rest being white, with a light green throat. The pure white edges of Agneta set off the bright scarlet segments admirably. Peteon is red, deeply shaded with rose and forming a rather distinct colour, rose being an uncommon colour in the genus. Scindia is a large, open and smooth flower, of a rich crimson-scarlet, deepening to maroon in the throat and glossy as if polished.

The difficulty of obtaining a pure white is remarkable. Some of the lines of colour that have descended from the original parents are almost sure to make their appearance in greater or less numbers. Armoire is pure white, with the exception of a few red lines on each side of the midrib of the segments. Another very distinct variety is Nota, slightly veined with rose on a white ground. Clarice is white with a few red spots on the segments and a pale green throat; it also has a crimson eye-like ring at the very base. At the time of making these observations this is the nearest approach to a pure white which has turned up this year.

A beautifully open flower is Osiris, having a white centre, bright scarlet towards the apex of the segments, and mottled. A very regular and evenly formed flower is Hybia, with scarlet tips, and other-

wise lined with crimson on a white ground. A similarly formed flower is Pinzon, of a rich crimson-scarlet. The inner as well as the outer segments are very broad, making a wide departure from the original introductions. Zoilus is of a soft orange-scarlet, with broad, white rays extending about two-thirds down the segments of a regular, well shaped flower, to which the name Knight's Star would be very applicable. Quite of a different type is Taxlla, of a maroon-crimson, and paler towards the edges, with very marked veins.

Evidently the flowers of this handsome garden race are still capable of improvement in the widening of the segments, if all are to be brought up to the dimensions of Dolores, a huge, wide open flower of a rosy-scarlet. The outer three segments of the flowers are 4⅛ in. wide, yet the bulb is a very small one. The stems of Aladin are remarkably stout, while the flowers are rose, slightly flnshed, with scarlet, and having rose-coloured rays to the inner segments. A beautifully shaped flower is Orneus, of a fiery scarlet, shaded with maroon in the throat. These dark flowers seem to find great favour with the pnblic, which, independently of their beauty, may be due to their relative scarcity by comparison with the average run of Hippeastrums. All the same the Chelsea collection is rich in these colours, and the high qnality of many other collections in the country is due to crossing with dark varleties raised here.

The bell-shaped flowers of Titan are pure white, with the exception of a few rosy velns on the upper segments. A bold contrast to it is found in Marathon, which has brlliant scarlet flowers, shaded with maroon towards the base, large, bell shaped and well expanded. The port wine colour of Geticns shows off the six-rayed white star, making a strikingly distinct combinatlon. The broad segments are slightly undulated at the edges. Acadia is white with rosy veins. The flowers of Arturo are of huge slze and bright scarlet. Media has red veins on a white ground, and is shaded with scarlet at the tips.

Another wide open crimson scarlet flower is Opertus, shaded with maroon. The remarkably stont stems are purplish and glaucous.

Nearly the whole of the above are new varieties flowering for the first time; and although we selected them as the best, one must always make a little allowance for the taste or necessities of collectors. who might select many others equally as beautiful or desirable as the above. Nearly all of the flowering bulbs are arranged on the elevated and wide central staging so that they present a striking and gorgeous dlsplay quite unlike any other class of garden flowers. The young bulbs are also grown in pots, plunged on the side benches, and even in this case some of them are producing flower spikes.

HAILSTORM INSURANCE CORPORATION, LTD.

The annual meeting of this corporation was held on Friday last at their Head Office, 41 and 42, King Street, Covent Garden, when the slxth annual report on the business of the corporation for the year ending February 23rd, 1901, together with the audited accounts, were snbmitted to the shareholders.

Mr. Harry J. Veitch (see portrait) of Messrs. James Veitch & Sons, Ltd., Chelsea, was in the chair, and, in moving the adoption of the report, called attention to the increased strength and satisfactory growth of the corporation. During the past year thirteen claims were paid, and as the chairman pointed out there is no certainty when claims may be made, as last year the dates of the storms ranged from February to October, and the districts where damage was done, from the farthest north to the south coast. One claim was paid last year at Kirkwall, in the Orkney Isles.

The revenue account showed a substantial increase. The expenditure was a little heavier than last year, bnt this was owing to the expenses incured by moving in to larger offices, and the payment of the thirteen claims, none being claimed the previous year.

The assets show a slight depreciation, but it is hoped that the investments will soon be up again to their cost price, as the principal is in Consols and India 3% and 3½% stock which accounts for the depreciation. The other investment ln freehold ground rents stands well. The report was proposed for adoption and seconded by Mr. J. Rochford. It was proposed and carried unanimously that the trustees should be paid £1 1s. for each attendance. The Board was re-elected *en bloc*. The auditors, Messrs. Baker, Haward, and Watson, members of the Institute of Chartered Accountants, were re-elected at a fee of £10. A vote of thanks was given to the agents and representatives for their valuable assistance. A dividend at the rate of 5%

Mr. Harry J. Veitch, F.L.S., F.R G.S., F.Z.S., &c.

per annum for the past year on the paid up capital, and also a bonus of 2½% free of income tax, amounting altogether to £750, was recommended by the directors; they also suggested that a sum of £840 be placed to the reserve fund, thus making up the reserves to £3,500, and that the balance of £576 12s. 3d. be carried forward.

There have been hailstorms of exceptional severity during the past year. On July 20th, a hailstorm occurred at Northampton which practically wrecked every glass roof in the district. Some of the hailstones weighed six or seven ounces. On the 12th of June, during a storm, hailstones measuring 1¾ in. in diameter fell in Lincolnshire, causing wholesale devastatlon amongst the nurseries. A special advantage offered by this corporation, and of which increasing numbers of insurers are availing themselves, is that those insured can replace immediately their glass broken by hail, the Corporation paying them promptly. They can also cover wholly or partially the value of the contents of their glass-houses by increased insurance of their glass. This is an advantage offered by no other insurance company.

The insurers are valuing their glass at 4d., 6d., 7d., and in cases 8d. per square foot.

The growth of the business during the six years has been gradual and progressive, year after year, as shown by the figures for each year ending February 23rd.

Yr.	Policies in force.	Sq. ft.	Value. £ s. d.	Premiums. £ s. d.
1896	235	10,408.161	132.215 16 0	681 1 9
1897	346	13,886,095	179,366 11 1	889 11 5
1898	550	20,098,104	263,590 19 1	1360 17 0
1899	749	25,619,760	343,439 7 8	1736 0 6
1900	825	28,855.076	391,202 15 4	1962 0 1
1901	925	30,826.958	418,644 2 3	2092 1 10

The working expenses amounted to a ratio of £21 per cent. on the income for the year.

The interest on invested funds had increased from £20 16s. in 1896 to £426 11s. 10d. in the year just ended, and would be sufficient during the next year to pay 4½ per cent. on the paid up capital without touching premium income.

The balance-sheet showed the satisfactory fact that after the payment of the proposed dividend there would be £1 8s. invested or in cash for every £1 of paid up capital.

The cost price of invested funds amounted to £14,427 13s. 3d.

The Cinchona Tree grows at elevations between 7,000 ft. and 10,000 ft. in the Andes. Quinine is extracted from the bark.

THE APIARY.

In the British bee journals of the past few weeks there has been a great discussion in regard to sections. Can our popular 4¼ × 4¼ × 2 be lmproved upon? A few good practical bee-men think that it can, and they advocate one 4¼ × 5 × 1⅜.

Amongst others they claim the following advantages: In a poor season the bees draw them out more readily, filling them better than the old style. They have a better appearance and therefore command a readier sale, "which if true is a great polnt in their favour"; and by nailing a strip of wood ⅜ thick on top of the old sectlon racks they will hold twenty-four of the new sections. This section is used to a certain extent ln America and appliance dealers in this conntry are importing a few o them for trial the coming season. Those of a go-ahead nature should order a few for trial seeing that they are little or no extra expense.

Uniting Bees.—Any weak stocks in the apiary should be joined now as soon as possible provided they are healthy. One strong stock is always better than two weak ones, and lt is a foolish idea to try to keep them separate and expect honey from them, except in a very favourable season. Various methods are employed in joining stocks together, and I will glve one or two of the most popular. In the first place special stress is laid on the following points:—Stocks to be joined should be together for a day at least. They should be as near the same condition as possible. Both should have queens; the inferior one may be removed when joining or it may be left for themselves to settle. If one has brood and the other none, give it a frame to ensure success.

First method: If the stocks to be joined are a distance apart they should be gradually brought together, shifting a yard every flying day until they are close together. Choose a warm day for the operation, when bees are flying freely. Give both stocks a puff or two of smoke at the entrance, and spread a piece of pack sheet in front of hive—right up to the entrance—that you wish to join all the bees to. Give a little more smoke and remove roofs and quilts from both hives; take a frame alternately from each hive and shake the bees from each upon the racksheet, brushing the stragglers off the comb with a feather. The bees are so confused and frightened that they never think of fighting, and by the time all are into hive they are good friends. Glve them no more frames than they will comfortably cover and place slow feeder on top.

Second method: Bring stocks together as before, give a little smoke, and take frames from one hive with adhering bees, give them a dusting of flour from pepperbox, and mix frames well amongst others, giving both lots another dust of flour; close up and feed slowly.

Third method: When the hives are together, remove all frames from the two stocks, except two or three at the most. Place the frames with bees, of the one you are to join, in centre of hive, and cover lightly with quilts. Early next morning, the cooler the better, provided there is no wind, go to the hives, give no smoke, but remove roofs and quilts quietly, seize the two frames, or three, with thumb and keep apart with fingers, lift all bodily at once, and place at back of others, then close up. This can be done without a bee taking flight. Pack up warm and give slow feeder.—*Doonfoot.*

METHODS OF PROPAGATION.

(*Continued from p.* 488.)

Ringing

is another mode practiced by cutting an lnch or so of bark clean away around the branch or stem, and placing soll over it or tying moss up, and keeping it well moistened. Dracaenas, Crotons, Aralias, Vines, Roses, and many others, are increased in this way, but in all these methods just mentioned make qulte sure there are plenty of roots made before severing the tops from the mother plant; and even then it is sometimes necessary to give the plants, taken off a close frame for a week or so, to avoid any foliage being lost with such stove plants as have just been enumerated.

Leaves

make still another way, and much of late has been written anent this mode of propagation, in one of our gardening papers. It is usually plants under glass that come under this headlng, such as Begonias,

Gloxinias, Gesneras, and a few others. These are best put in early in spring as they are apt to damp or decay during the dark days of winter. Such leaves must not be too young neither too old. The petiole, that is the leafstalk, should be removed, and the lamina, that is the blade of the leaf, inserted about half its depth in pure sand, cocoanut fibre, or soil, in pots or pans, kept fairly moist but not too close, or they are apt to decay. A great part of them will callus and eventually form a shoot, at the back of the leaf generally; and as soon as roots can be perceived pot up singly, and treat as for plants rooted from

CUTTINGS,

upon which we will now dwell for a few minutes. These are and can be put in at all seasons, with a fair amount of success, and it is by selecting growing shoots with leaves attached, and as healthy as possible, that we are enabled to keep up a true stock of a great many of our flowering and foliage plants. As a rule shoots that make the best cuttings are those of medium strength, and neither too young, nor on the other hand too old. The former are too placid, that is soft or flimsy, and unable to keep plump long enough for the base to emit roots. The latter would in the majority of cases prove too hard, so the propagator has to hit on the happy medium. Speaking roughly in preparing a cutting for insertion, a cut is made immediately under a leaf, though some plants, notably Euphorbia, Dipladenia, Bougainvillea, Dracaenas, and a few others, emit roots much better, if what we call a heel of old wood is attached; and while some are benefited by bottom heat, others are indifferent, in fact better without it. But time will not allow, neither is it necessary to give them in detail, one way or the other. Very little experience is necessary to teach us whether the cuttings require top or bottom heat, or to be placed outdoors, or under a cold frame. Some are the better for a fair amount of overhead moisture, and to be kept close; while others would soon decay if so treated. All cuttings should be well watered in at first, and in the majority of instances require to be shaded during the brightest part of the day. Pots, pans, and boxes are all suitable for inserting cuttings in; and a finely sifted light soil, with a fair amount of sand incorporated, and a ¼ in. on the surface to work down at the bottom of the hole made for the cutting to rest on, gives the best results. Here let me remark that the hole be made no deeper than is necessary, and that the base of the cutting *does rest* at the bottom, and not get *hung* as we term it. This is a mistake often made by beginners, with the result that the greatest part fail to form roots at all. Cuttings are always better for immediate insertion, with but one or two exceptions; as if allowed to droop much they never recover their former freshness; consequently they wither up or rot away. In taking shoots of Euphorbia, Allamanda, or any such that exude a kind of milky substance, they should be dried at the base before inserted. Dipping in dry sand is a good plan for these. One other matter to bear in mind is not to bruise the cutting with the dibber when making it firm, or decay soon sets in.

GRAFTING.

This is a very ancient way of propagation, and was practised as far back as the 14th century, though no doubt imperfectly understood at so early a date. Yet from them we have had handed down to us a most convenient way of doubling our stock, and one that is largely practised to day in the nursery as well as the private garden, and most likely in an improved form, from what it was about the date just mentioned. It is done in many ways, usually in spring just as the sap is rising, and is effected by two cut pieces placed so as to unite, eventually growing into a bush or tree. The graft we term the *scion*, and is worked on the *stock* or stem of a rooted tree, so that nourishment can be supplied through the stock to the graft, and very often it increases the vigour of somewhat delicate varieties, and on the other hand reduces grossness in others. There are some six different ways to graft, all more or less successful. First let us consider saddle grafting as it is frequently practised down this part of the country. It is best for the stock and likewise the scion to be of about equal size or thickness, as the stock is cut wedge shape, while the graft or scion is split up the centre and pared down thinly on one side so as to fit astride the stock. The rind of the latter is opened on one side and the thickest part of the scion so cut, is let in between the bark and the wood, while the thinner part is carried astride the stock and let in the other side in a similar way but in a lesser degree. This is a bit tedious work, but the graft is made most secure this way. Of course care must be taken that no dirt creeps in between these cuts, and that the bark of the scion and the stock *meets*, on one side at any rate; better if both, but this cannot always be done.

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned here were made by the Royal Horticultural Society on the 9th inst.

Orchid Committee.

ODONTOGLOSSUM DENNISONIAE NEBULA. — The flowers of this natural hybrid are of large size with long, acuminate segments, which are white, flushed with rose on the back, and having a wide cluster or cloud of small, pale brown spots in the centre of the sepals and petals. The lip also has a few spots in front of the crest. (Award of Merit.) de B. Crawshay, Esq. (gardener, Mr. W. J. Stables), Rosefield, Sevenoaks.

ODONTOGLOSSUM LOOCHRISTIENSE MRS. CRAWSHAY.—The sepals are deep golden-yellow, with one large chestnut-red blotch above the middle, and smaller ones at the base. The petals have several smaller spots. The lip is white, with a brown blotch on the upper third of its length; and the column is white. (Award of Merit.) de B. Crawshay, Esq.

ODONTOGLOSSUM RUCKERIANUM MRS. R. BROOMAN-WHITE —The creamy ground colour of the flowers is shaded with rose, chiefly on the back of the segments, which are spotted all over the face with reddish purple spots, making it a fine variety. (Award of Merit.) R. Brooman-White, Esq., Arddarroch, Garelochead.

LAELIA JONGHEANA ASHWORTHIAE.—The flowers of this chaste and beautiful variety are white with an orange blotch in the throat of the lip. (First-class Certificate.) E. Ashworth, Esq. (gardener, Mr. Holbrook), Harefield Hall, Wilmslow.

CATTLEYA MISS HARRIS VAR. E. ASHWORTH.—The parentage of this plant was Cattleya schilleriana × C. Mossiae. The sepals and petals are rosy-purple, while the lamina of the lip is of a rich crimson-purple, giving place to a yellow blotch in the throat. The tube is lined with purple veins. (First-class Certificate.) E. Ashworth, Esq.

EPIDENDRUM CLARISSA SUPERBUM.—The flowers of this fine variety are twice as large as those of the original E. Clarissa, which is remarkably variable as to colour. The long sepals and petals are suffused with pale red on a yellow ground, and finely spotted with crimson. The lip is violet, edged with white, and slightly fringed at the edges. (First-class Certificate.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

MASDEVALLIA ALCESTE.—The seed parent of this hybrid was M. Asmodia (itself a hybrid between reichenbachiana and Chelsoni); while M. veitchiana was the pollen bearer. The upper sepal is hooded, and rich red with a violet plush of fine hairs on the face. The lateral sepals are orange, overlaid with red, and having the same violet plush on the face. The tails are 1¼ in. to 1½ in. long. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

MILTONIA VEXILLARIA GIGANTEA.—The flowers of this variety are of large size and handsomely coloured, all the segments being of a uniform rich rose. The triangular yellow disc is surrounded by a broad white band, making the flower conspicuous and handsome. (Award of Merit.) H. T. Pitt, Esq. (gardener, Mr. F. W. Thurgood), Rosslyn, Stamford Hill.

ODONTOGLOSSUM ADRIANAE MRS. SIMONDS.—The sepals of this beautiful variety are primrose, with one or two brown spots on the middle, or entirely unspotted. The petals are simply primrose-yellow. The lip has numerous small reddish-brown spots. This is the most nearly self-coloured variety of this Odontoglot which we have seen. (Award of Merit.) H. F. Simonds, Esq. (gardener, Mr. G. E. Day), Woodthorpe, Beckenham.

Floral Committee.

HIPPEASTRUM (AMARYLLIS) RIALTO.—An exceptionally strong plant of this new variety was shown by Messrs. J. Veitch & Sons, Ltd. It had two scapes and eight flowers of large size, well expanded and of a rich crimson-scarlet, slightly shaded with maroon in the throat. (Award of Merit.)

HIPPEASTRUM (AMARYLLIS) AVERUNICUS.—The well expanded flowers of this fine variety are of a clear scarlet, with a broad white star running nearly to the apex of the segments. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

HIPPEASTRUM (AMARYLLIS) MARATHON. — The flowers are widely funnel-shaped, and of a rich crimson-scarlet, deepening to dark crimson on the base of the inner segments. (Award of Merit.) Messrs. J. Veitch & Sons, Chelsea.

TULIPA VIOLACEA.—The flowers of this pretty Persian Tulip are of medium size, and violet-purple, with a very large black blotch at the base, edged with a white line. The filaments are pubescent near the base. The leaves are lanceolate and about 1 in. wide. (Award of Merit.) Messrs. Barr & Sons, King Street, Covent Garden.

Fruit and Vegetable Committee.

PEAR BERGAMOT D'ESPEREN.—The fruit of this fine old variety is shortly Pear-shaped or turbinate. The skin is yellow at this season but almost covered with small brown markings. The flesh is white, very sweet, slightly gritty, but buttery and melting. Only some years seem to suit it, but it is good then and in season from January to March. (Award of Merit.) The Earl of Ilchester (gardener, Mr. Charles Dixon), Holland House, Kensington. Since then we have received the following communication:—"I am directed by the Council to inform you that they have not felt able to confirm the Award of Merit recommended by a majority of the Fruit Committee to-day to Pear Bergamotte d'Esperen. The award therefore falls to the ground.—*W. Wilks, Secretary.*

By order of Council."

NOTES RELATING TO WOODS AND FORESTS.

THE disastrous effect of the great storm which swept over the British Isles five or six years ago is still manifestly visible in many parts of the country. Probably nowhere in the kingdom was its terrific violence more severely felt than in the counties of Fife and Forfar, as the total destruction to woods and forests in these counties is simply appalling. Let us commence in Forfarshire at the Lake of Lintrathen, from which the city of Dundee obtains its water supply, a distance of fully twenty miles. This water track was laid a number of years ago, at a cost of £300,000. The lake itself is beautifully situated among the northern mountains, and a few years ago was almost surrounded with a wide expanse of dense forest, but to-day desolation reigns supreme, as there is scarcely a standing tree to be seen within miles of it.

Here on the vast estates of Airlie Castle, "The Bonnie House o' Airlie," some hundreds of acres of valuable timber were completely levelled by the storm. Following the track of the great hurricane southwards the tourist will cross Strathmore, then commence to ascend the slopes of the range of Sidlaw Hills a little to the north-west of Dundee. From the Sidlaw Hills the tourist can distinctly see that the great hurricane had swept across the River Tay with unabated violence to the Fife shore. Descending the southern slopes of this range of hills the tourist will enter the city of Dundee from the north-west, and must cross the River Tay either by means of the Tay Bridge or Tay ferry steamers into Newport. Arriving in Newport he can at once observe that the first woods and forests, which the great hurricane had struck in Fifeshire, were those on the St. Fort estate, near Newport; and here, as in Forfarshire, dire destruction is manifestly visible in all directions. Some hundreds of acres of valuable timber on this grand estate were also completely uprooted by the storm.

From St. Fort estate the tourist can distinctly see that the next woods to suffer were those on St. Michael's Moor, by the side of which is situated the famous old St. Michael's Inn, the property of Mrs. Fenwick. This famous old hotel, which underwent extensive alterations and improvements a few years ago, is charmingly situated in a prominent position on rising ground which faces the mid-day sun, and by the side of a beautiful young plantation of fine Coniferae, comprising many varieties of Pines, Picea, Cupressus, Retinospora, and many other choicer sorts contained in the same family; and it is, as

might be expected, the favourite resort of the cyclist and tourist during the months of summer. These parts, too, are the happy hunting ground of the angler, and visitors to the hotel are provided with excellent sport on two streams in the immediate vicinity, notably the Motray and the River Eden. The former with its winding course flows past within a few yards of the hotel gardens, whilst the River Eden, a little further to the south, flows much in the same direction, and on the banks of this famous river many splendid trout are daily landed by the crafty hook of the angler. The landscape surrounding the hotel can lay claim to considerable grandeur, and under the shade of the spreading Pines, companies of cyclists and anglers may be seen resting awhile before they resume their homeward journey. Fox-hunting too is followed with considerable spirit in Fifeshire, and once in every week during the hunting season, the "meet" is in front of this fine old hotel; and on those days the frequent sound of the hunting horn, and the scarlet coats of the huntsmen, seen bounding over hedges and ditches, announce the fact that Mr. Reynard is being pursued in hot haste through the woods of St. Michael's.

Probably nowhere in the kingdom will "beauty in negligence" and desolate grandeur be seen to better advantage than in some of the secluded corners in these counties.

Following the banks of the river, along an untrimmed path, still yet strewn with the brown leaves of autumn, and withered stems of reeds and Bulrushes, we have the antique bridge, the old crumbling and disused mill wheel, with the uncultivated garden in the background, with the moor hen and wild duck on the pools, the familiar note of the lapwing and curlew overhead, and the loud song of many wild birds on every side, the massive boughs suspended in great profusion from the banks above to the stream beneath, and with the glorious waterfall sounding in the distance, with its precipitous rocks protruding in prodigious piles on either side, and artistically furnished with the ubiquitous Furze, Heath, Scolopendrium and Polypodium. In the deeper cavities of the rocks Ivy, Rhododendron, Hawthorn and Laburnum intermingle, and add their quota to the landscape scenery, rendering it a rare picture for the artist with brush and canvas.

Immediately to the north of the hotel is situated the superb estate of St. Fort, and a more finely situated and more commodious country residence is not to be found in the kingdom. In the grounds around this princely mansion there are many specimens of Coniferae of sterling merit, comprising Thuja, Cupressus, Retinospora, Cedar, Wellingtonia, &c., and also several fine specimens of Araucaria, studded over the park. One fine plant in particular, growing near the house, was planted by the old gardener fully sixty years ago, is indeed worth going a long distance to see, as probably there is not a finer of its kind within the kingdom.

For several generations past, the numerous and extensive parks of verdant pasture, with their grazing herds and flocks, have constituted one of the principal features of this grand estate. Under the covert of the vast forests on this same estate, the pheasant and wood pigeon abound in countless numbers, and many other species of game and wild birds too numerous to mention.—*John Peebles, St. Fort.*

MARKETING.

The hard task of the market gardener to make a living by it, is much handicapped by the *not* small number of private places where marketing is done to a great extent. Very often the gardener takes what price the florist or fruiterer offers him, whether it be its value or not. I am to speak of green stuff where it is grown almost wholly for market, in a private place surrounding the Scottish capital. The first is Asparagus plumosus. The border of a back wall of a long stove corridor is planted with Asparagus. The young shoots are trained up on twisted matting, fastened on a wire at the top of the house. The height I would say is 12 ft. or 14 ft. In a short time the Asparagus will reach the end of its tether, when matured cut down, the fronds taken off and bunched or it will sell as readily if cut in trails. There is always a succession of growths springing up. So we have a plant that can amply reward us for our labour all the year round, especially in winter. All that is essential for its well-being is an occasional mulch of loam, soot, Mushroom dung and liquid manure. Syringing and a little shade are necessary on scorching days.

Smilax (Myrsiphyllum asparagoides) is a useful plant for decorative use. Seed sown early in the year will make suitable plants for planting on the back wall of a vinery or a span-roofed pit 6 ft. deep. It will depend on the size of the pit how many rows are to have space, allowing plants 18 in. between the lines. Affix wires to a number of lines underneath the woodwork so as not to interfere with the ventilation. Train the Smilax up on common thread and fix to the wires. Tie your thread on the base of the young growth, when it will soon run to the top. The threads may be quite close. If weather is not severe, it can be kept quite fresh till Christmas, when it is so much in use. Old plants, if protected from frost and kept dry, will come up strong a second season. The above compost for Asparagus with an addition of leaf mould, will grow Smilax. Shading must be attended to when in frames.

In herbaceous plants there are two excellent substitutes for Maidenhair Fern, namely, Thalictrum adiantifolium and Gypsophila paniculata. The hardy bouquet is considered imperfect without the latter.—*A. V. M., Coltness Gardens, N B.*

THE JUDICIOUS PLANTING OF ORNAMENTAL TREES IN PARK SCENERY.

Park and avenue trees both for timber and ornament are a valuable addition and objects of permanent interest in every gentleman's demesne These trees judiciously placed may be made to cover either a large or small extent of landscape as required and should be so arranged in their relative positions as not to appear crowded together in an undistinguished mass, but so as to open up vistas of beauty in various directions to an appreciative eye. This object cannot be accomplished by planting timber trees alone or avenue trees alone, but by a judicious selection and combination of those varieties of Coniferous and other trees suitable both for ornament and timber.

As an illustration of this we will select a large plantation of that noble tree Araucaria imbricata. To such a plantation I can now point in Snelston Park, about two miles from the picturesque town of Ashburne. It is really a fine sight and such as cannot be seen, I may venture to say, within a radius of 100 miles. But this plantation, consisting as it does of one kind of plant, certainly lacks beauty and interest to an appreciative eye. This feature which is lacking is made up however by the following judicious arrangement. On the open spaces of ground between the large trees there has been planted a fine undergrowth of choice Rhododendrons and other evergreens. These when in bloom have a very striking effect and contrasting with the dark, sombre hue of the larger trees, the beauty of the whole is made more apparent. I believe this fine park was designed, laid out and planted by the late Mr. Pontey, of Plymouth, well known at that time as an able and practical gardener.

There are some noble specimens of the forest king, also of English Elms, Sycamores and Beech in this park. Plantations of Larch, Spruce, Scotch and Austrian Pines form the outside boundary. There are two fine avenues also that I might specially name in this district, one of Limes at Osmaston Manor. In this fine park there are also some magnificent timber trees. The other avenue is at Lissington Park and consists of English Elm and Limes combined. In reference to Snelston, as a great many of the trees are of such magnitude, it is becoming rather overcrowded. Still where there is such a great variety of trees and colouring given to the scenery by the splendid arrangements and mixing of the trees, we must be slow in finding fault with minor matters

I would suggest that round the specimen Coniferous trees a belt of double Gorse be planted. These would not only be an improvement in appearance when planted, but would have a very pleasing effect when in bloom. Of course in all park scenery, to make an effective finish, there should be an ornamental lake or piece of water. This planted round with hardy Rhododendrons and Azaleas with double or single Gorse round the margin would add decidedly to the scenic effect. To protect the stems of the park trees from injury by cattle, another consideration of importance is having nice light tree guards.

Nice compact specimens of Picea nordmanniana and nobilis in prominent situations, combined with the drooping Cedrus Deodara would have a very picturesque effect. If there are any small water-courses or rivulets running through the park, plant along the margins the dwarf species of Willows to droop over the waters. I have noticed here also some fine varieties of ornamental Oaks, and among these the scarlet-leaved Ilex is a prominent object. The grounds and gardens at Snelston are also very picturesque both in themselves and their outward surroundings and would well repay a visit; but if I may be allowed to pick the one spot of ideal beauty, it is the rock garden. Here Nature and art have both combined to help the effect. The time to visit Snelston is either in the spring-time of its loveliness or the autumn of its decay, when the foliage is changing its tints preparatory to the stern approach of winter.

We will now turn our steps to the village end of the park and here the eye will rest at once on two magnificent specimens of Wellingtonia gigantea, and several other fine Coniferous trees. We then come in view of the pretty rustic lodge, and passing out of the gate we notice in a corner of the church-yard, a very ancient specimen of the English Yew. We will now bid our readers farewell, and trust those men specially interested in this subject will give the matter their practical attention.—*A. W. Godwin.*

SOCIETIES.

IPSWICH SPRING FLOWER SHOW.—*April 10th.* The organisers of the above show are to be congratulated on the success of their first exhibition. It was held in the Corn Exchange, Ipswich, which was filled with magnificent exhibits of spring flowers. The building has been the scene of many flower shows, but we venture to say that never before has it held such an attractive collection of flowers as was seen there on Wednesday, April 10th. The result exceeded all expectations, as all the best growers of spring flowers sent contributions. The exhibits of Daffodils were quite fascinating, and there is little rashness in saying that the Daffodil show will soon become as popular as the summer Rose show and the show of Chrysanthemums in the autumn and winter. The principal promoters of the show were Mr. John Andrews and Mr. A. E. Stubbs. The prize schedule contained over thirty classes. The feature of the show was the section for floral decorations; Miss Steward, of Ipswich, won the first prize with a very delicate arrangement of three varieties of Daffodils. A special prize was awarded to Miss Barber, of Woodbridge, for a table adorned with small Irises.

Daffodils.—Hon. W. Lowther, first for six bunches of Lent Lilies; six bunches of Daffodils, first, Mr. J. Andrews; three vases of Daffodils, first, Miss Grainger.

Floral Decorations.—Hand bouquet of spring flowers, first, Mrs. Gilbert; centre-piece of Daffodils, first, Miss M. Carter; basket of Daffodils, first, Mrs. Betts; bowl of cut Daffodils, first, Mrs. Allen Turner; group of any but spring flowers, first, H. W. Lowther; three sprays of Lily of the Valley: first, Mr. W. Sharpe; a study in Violets, first, Mrs. Allen Turner; six cut Arums, first, Hon. J. Lowther; basket of arranged Primroses, first, Miss Betts; study in spring flowers, first, Miss Steward; arrangement of Violets and Primroses, first, Mrs. C. E. Fisher.

Market Salesmen's Class.—One box or basket of cut bloom, careful packing and freshness being the consideration: First, Mr. G. Woodcock, St. Mary, Scilly Isles.

Honorary Awards of Merit.—Messrs. Cutbush & Son, Highgate, Gold Medal for collection of Tulips, &c.

Messrs. R. Wallace & Co., Colchester, Silver Gilt Medal for collection of Tulips, Irises, &c.

Mr. R. C. Notcutt, Woodbridge, Silver Medal for collection of flowering and foliage plants.

Mr. L. Brown, Brentwood, Silver Medal for Daffodils in pots.

Messrs. C. H. Croydon & Sons, Ipswich, Silver Medal for rustic table decorations.

Messrs. T. S. Ware, Ltd., Feltham, Silver Medal for collection of cut Daffodils.

There were several other honorary awards, but space will not allow of their mention.

Messrs. I. House & Sons, Coombe Nurseries,

Westbury-on-Trym, Bristol, had a specially attractive display of Violets in variety, which they make a speciality of.

Another interesting feature was a remarkable form of variegated Scotch Kale; the heads were so splendidly coloured and exquisite in form it would seem positively barbarous to put them in the cooking pot. They were shown by Mr. A. Andrews, gardener to the Hon. W. Lowther, Campsea Ashe.

The band of the 1st Suffolk and Harwich Volunteers Artillery were in attendance and went through an excellent programme of popular music during the afternoon and evening.

Although rain fell heavily during nearly the whole of the day, the attendance was both large and fashionable, indicating that the shows will prove a financial and popular success if kept up to the standard of this first.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. T. W. B., for his article on "How to grow Cyclamen from Seed," p. 522. The article on "Mignonette for winter Blooming" is by a different writer, and though the initials are the same, the names are different, and the writers separated by several hundred miles. Some good articles on the same page were considerably over the limit for words to be eligible for the prize.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Fruit Tree Flowering but not Fruiting.—*N. F.*: This might be owing to some fault of cultivation, the result of the conditions under which the tree is grown, or it might be that the variety is naturally barren unless fertilised with the pollen of some other variety. It is rather wide guessing at what might be at fault seeing that we do not know to what kind of tree you refer, and whether grown in pots, planted out under glass, or growing in the open air. Whether the tree is growing under glass or in the open air, you might fertilise some of the clusters of flowers with pollen off the same tree, and other clusters of flowers with pollen taken from different trees. A small label bearing a number might be attached to each cluster fertilised with any particular pollen to see what results are obtainable from the different lots of pollen. Jot down in your notebook the particulars referring to each number you write on labels. This may give you some clue as to the reason why the tree does not bear fruit. We should have liked to know what kind of tree you referred to, and the conditions under which it is growing.

Peach Fruits Ceasing to Swell.—*Subscriber*: The embryos or kernels in the fruits sent us were dead, which would appear to be caused by some fault of cultivation. Judging from the size to which some of them have attained, and the well formed condition of the embryo, the flowers have been well enough fertilised; but there must be some deficiency of certain constituents of plant food, unless it be that you have been giving too high a temperature in an attempt to make the fruits swell. A high temperature should never be given to Peaches until they have finished stoning, and have begun to take the second swelling. Early Peaches frequently behave as yours are doing. The remedy would be to ventilate as freely as the state of the weather will permit, and not force too hard. It is just possible that some elements of plant food are deficient. Stone fruits like a fair amount of chalk or lime in the soil, and if you have not given any to your trees it would be advisable to do so. This should, of course, have been done in the autumn when repotting, if the trees are in pots. Potash should also have been given in fair amount, at the same time. If you have no kainit nor muriate of potash a good plan would be to mix a fair quantity of wood ashes with the soil. If the trees are planted out you should mix some soil with chalk or lime rubble and wood ashes, applying the same to the soil at once, so that the soluble portions may get washed down to the roots when watering. We examined the fruits microscopically, but could find no fungus.

Planting Bulbs in the Grass in Autumn.—*N. F.*: There are two or more methods of planting bulbs in the grass during autumn and which you might adopt. If you want to plant a large patch in any particular part of the grass, a good plan would be to line the turf with an edging iron or a turf cutter, and then lift and roll up the whole of it so as to leave the ground bare. You could then take off a couple of inches of soil and plant the bulbs as thickly as you want them, returning and levelling the moved soil, then relaying the turf and beating it firm. This will give you an unbroken surface of grassy sward after the operation is completed. Another method is to get a crowbar or a stout piece of wood shod with iron. By means of these you can bore holes in the grass, in the autumn after the rains have softened the ground. Drop a bulb into each hole and fill the latter with some good soil. You may then be able to close the month of the hole by pressing down the turf with the foot. In spring you could sow some grass seeds over the holes if this appears at all necessary. In the case of small bulbs such as Scillas, Snowdrops and Crocuses, an ordinary dibber may answer for making holes, without disturbing the turf very much. If you think it worth while you might add some fresh and rich soil to the ground after lifting the turf. You might even dig the soil breaking it up fine. The dibber would then make holes for the bulbs.

Peaches Coming Double or Twin.—*Subscriber*: It is rather strange that half your crop of Peaches should come double, that is, contain two fruits from the same flower. The theory is that there were at one time five carpels to a flower and that under the normal state of things four of these have disappeared. We have frequently seen twin fruits, but never so many as your trees have developed. Of course it is a defect and you will have to remove these twin fruits if a sufficient number remains to constitute a fair crop of Peaches. The Tomato often behaves in the same way when growing very luxuriantly, and the top flower is most liable to this deformity, presenting the appearance of two fruits having grown together. It may be that your trees are over luxuriant owing to an abundance of stimulating plant foods containing too much nitrogen; or the trees may be young and the soil too rich for trees in this stage. These are merely hints thrown out for you to think over and determine whether you have not been overfeeding. If so, the remedy would be to check over luxuriant growth by stopping or better still bending down some of the more rampant shoots till autumn, when they could be raised again to their proper places. You could also check over luxuriance by allowing a greater number of shoots so as to have them just slightly crowded for a year or two till the trees have gained size, and the roots have taken a thorough hold of the soil. The shoots will by that time be more equalised, and less rampant.

Fruiting Wood of Peach Trees.—*Reader*: On fully furnished trees one shoot from the base of the fruiting wood and one from the top to extend the same would be sufficient; but it all depends upon the amount of space at your command. If there are gaps in the trees to be filled up you must leave a sufficient number of shoots to fill them; and the nearer the base of the fruiting shoots you can get the young growths so much the better. Thus you see it all depends on the space you have to fill with young shoots as to the number to be left. All the others should be pinched at once to save wasting the energies of the trees. No breast shoots standing away from the trees should be left, as they are troublesome to tie in without breaking.

Names of Plants.—*E. D.*: 1, Pyrus japonica; 2, Spiraea confusa; 3, Forsythia suspensa; 4, Ribes sanguineum; 5, Azara microphylla.—*R. M.*: 1, Acacia linearis; 2, Erica willmoreana; 3, Daphne indica; 4, Sisyrinchium grandiflorum; 5, Akebia quinata; 6, Eupatorium riparium.—*A. D. K.*: 1, Dendrobium devonianum; 2, Cattleya Schroderae; 3, Odontoglossum ruckerianum; 4, Oncidium ampliatum.—*R. T. W.*: 1 Ionopsidium acaule; 2, Crocus vernus var.; 3, Narcissus minor; 4, Primula verticillata; 5, Anemone Hepatica rubra plena; 6, Anemone Pulsatilla.—*C. Dixon*: Helxine Soleirolii, a member of the Nettle family and a native of Corsica and Sardinia. It has also been named Soleirolia corsica, but the former is the correct name.

Communications Received.—H. J. C.—J. W.—T. B.—R. E. S.—C. Macquarie.—J. C.—A. L.—M. D.—J. B. (next week).—Tennis (next week).—A. J. B.—W. M.—R. S.

An Indiarubber Tree, 15 in. in diameter, will yield three pints of juice, from which about 1 lb. of rubber can be made.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

APRIL.

22.—Chesterfield Spring Show.
23.—R.H.S. Committees.
24.—R.H.S. Examination in Horticulture.
25.—Norfolk and Norwich Horticultural Society Exhibition.

MAY.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting
7.—R.H.S Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).
25.—Royal Botanical and Horticultural Society of Manchester, Whitsuntide Exhibition (25th to 30th).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show; Farningham Rose and Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days).
11.—Bath Floral Fete and Rose Show.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S., Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days).
24.—Strabane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Prescot Exhibition; Selby Exhibition.
30.—Buckingham Exhibition; R.H.S. Committees; National Sweet Pea Society (2 days).
31.—Wilts. Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldcarn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.
21.—Banffshire Exhibition; Eastbourne Exhibition; Hastings Flower Show.
27.—R.H.S. Committees.
28.—Henley-on-Thames Exhibition; Hinckley Exhibition.
29.—Dundee Exhibition; Thame Exhibition; Stirling Exhibition (2 days).

SEPTEMBER.

3.—Bicester Horticultural Society.
4.—Milton and Sittingbourne (2 days).

TO LET, in the neighbourhood of Worthing, Sussex, a particularly good Farm of about 200 acres with first-class residence, almost all the land is thoroughly suitable for Market Garden purposes. Rent, £500 per annum. Apply to—POWELL & CO., The Estate Offices, Lewes, Sussex.

"Gardening is the prrest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, APRIL 27th, 1901.

The Editorial and Publishing Offices are now **removed to 4, Dorset Buildings, Salisbury Square, Fleet St., London.**

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All other communications and Remittances must be addressed direct to the Proprietors—

HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS.

THURSDAY, May 2nd.—Linnean Society Meeting.

SATURDAY, May 4th.—Royal Botanical Society Meeting; Société Francaise d'Horticulture de Londres Meeting.

THE SITE FOR THE NEW CHISWICK.—Many of our readers and Fellows of the Royal Horticultural Society in particular will have been surprised at the suddenness with which this question has again been brought to the front, and the shortness of the time left for a free discussion of the subject. The Horticultural Hall of which we heard so much about a decade ago seems to have been definitely shelved or shunted on to a siding, nothwithstanding the fact that a large number of the Fellows, who really have the welfare of the Society at heart, are not in any particular hurry for the acquirement of a new garden, but would like to see the society comfortably housed in London before a country residence is thought of at all. There can be no doubt that the society must have its headquarters or home in the Metropolis, whether that is rented or freehold, but preferably the latter. Land is always a safe investment, it is said, because it endureth for all time and may be put to any purpose, but particularly for the cultivation of some particular product of real value to human-kind. Some say, like the Americans, that land in course of time becomes exhausted and valueless. Others, even some Americans, admit that land cultivated in the neighbourhood of London and in the valley of the Thames for the last 1,000 years is as productive to-day, if not more fertile, than the first year in which the sod was first turned. Those who use the old fashioned stable manure assert that the fertility of the land may be maintained by it, under a good system of practical tillage. The advocates of chemical manures maintain that all the plant food taken from the land may be returned to it by means of artificial manures; and under an intelligent and scientific system of application of these artificial plant foods, they have, at the least, a great deal of testimony in favour of their views. Nature herself pooh poohs the idea of land becoming exhausted, as it is a perpetual storehouse of plant food, continually being restored to its pristine fertility by the agency of the elements continually at work night and day, summer and winter, through all the centuries. On the other hand the atmosphere may and does become greatly polluted, and thereby rendered injurious to plant life through the agency of man when crowded together in millions in relatively small space, and pouring coal and other smoke into the atmosphere from thousands of chimneys, domestic and utilitarian or commercial.

The Council of the society, after a great deal of inquiry and research after a suitable site for the new Chiswick, unanimously come to the conclusion that they have at last found what they wanted, in the form of an eligible site at South Darenth. There is an unfortunate stipulation attached to its acquirement; namely, that it is only open for purchase by private agreement up to the 30th inst., and that if no agreement is come to by that date the land is to be put up for auction by the middle of May. Even then we think it is possible for the society to acquire it unless there is a particular demand for the land in this quarter. This is, of course, the excuse put forward by the Council for the apparent haste with which they have put the matter before the Fellows. The meeting called for on Tuesday last gave more than the actual time stipulated for by the Bye-laws. On the other hand the step to be taken was a very momentous one for the society to undertake, and should in any case be taken with all due deliberation. Compared with the Limpsfield site, the South Darenth one is considered to be in every way more elegible, though there are drawbacks of a minor character. It seems to us that the most important of them is the distance (21 miles) from London, the halting place being some distance beyond Swanley Junction, on the S.E. and C. Railway, a fact which will give pause to a good many who might otherwise be disposed to undertake the journey, because, whatever the company may break it is not reputed for breaking records at fast travelling. The time table indicates, we understand, that the journey may be accomplished in 55 minutes; but little value may be attached to that if the return journey has perforce to be commenced 20 to 30 minutes behind the stipulated time. How many of the Fellows are likely to undertake the journey for the purpose of inspecting or enjoying the garden? Many of the committee who manage to attend the meetings in London would be unlikely to undertake many journeys to Darenth in the course of a season for the purpose of examining the trials. That, of course, remains to be proved, but that is what a good many of them think.

The land on Rabbit's farm proposed for the site runs to 48 acres, and the price at which it is offered is £80 per acre—not a large sum certainly, but in the aggregate £3,840 exclusive of Land Tax, and Vicarial Tithe. As there are no trees of any kind on the land, shelter must be provided, as the land reaches an elevation of close on 250 ft. above sea level, and must of a necessity be breezy when south-western gales are blowing, and which are of frequent occurrence, both when fruit trees may be in bloom, and again when in fruit. Glass houses would have to be erected, also a dwelling for the superintendent, offices and bothies for the gardeners and students, as there are no dwellings or resident population in the immediate vicinity. All this, independently of the furnishing of the garden would mean a great initial expense, which it would seem is to be accomplished gradually, that is, the expenses would be distributed over a number of years. After being fully furnished, it is estimated, as expressed in last week's issue of THE GARDENING WORLD, that the upkeep of the establishment would be trebble that of Chiswick. A large return of something would naturally be expected as some satisfaction to the Fellows for the sum expended. The worded expression that it is intended for the benefit of horticulture, has a meaning of very wide application, and many of the Fellows fail to see in what practical form this is to take place. Kent is only a small part of England and under very favourable conditions as to climate and possibly to some extent in the matter of soil; but after all the results of experiments can only indicate what certain trees, shrubs and herbaceous plants can do in that particular part of the country. Even that, however, would be an advantage of no mean order, and the practical value of it to Kent or the country at large can only be demonstrated by actual experiment carried out under scientific and intelligent practical methods, *quod est demonstrandum.*

Geologically the proposed site overlies the upper cretaceous or chalk formation, after which it is hardly necessary to assert that it enjoys a porous subsoil. Moreover, the actual fertility of land so situated would depend upon the depth of the residuum of earthy deposit from the dissolved carbonate of lime, plus any superficial deposit laid down by water, and the accumulated humus, artificially applied or otherwise. On this point it is certified that 2 ft. to 3 ft. of good loam overlies a thin layer of gravel, below which is the live chalk rock. That seems good enough for fruit trees, Roses, and many other subjects likely to be cultivated. All the same, we believe the society would require to provide an ample supply of water for the necessities of a well stocked and cultivated garden. The site is on the slopes of the valley of the Darent, which has here cut deeply into its chalk bed, and possibly a supply could be raised from this source. Company water has, however, been brought within a short distance of the proposed site, but that would in itself form a considerable item of expense, even after being laid on to the garden.

The financial aspect of the question does not give the Council any great anxiety; and they advise the Fellows to sanction the purchase, as such a reasonable offer is not likely to recur. Land within easy reach of London is continually increasing in value, so that this, if purchased, must prove a safe asset from a financial point of view, that is, we suppose, if it were decided on any future occasion to resell the purchase.

The Fellows of the society and others interested in the welfare of the same mustered in great numbers on Tuesday last, and everything during the early part of the day indicated a stormy meeting at 3 p.m.; and this indication only proved too true, so that the society cannot say that its proceedings are looked upon with apathetic indifference. Never in our experience do we remember a general meeting of the Royal Horticultural Society so full of animation, and actuated by a zealous regard for the welfare of the society, though the two opposing parties had their respective views on the point. The room in which the meeting was held was far too small to accommodate the company that assembled. The seats were filled, standing room everywhere at a premium, and an overflow crush at each of the two doors. The president, Sir Trevor Lawrence, took his seat punctually at the appointed time, and after he had given an eloquent exposition of the situation, he was followed by Mr. Harry J. Veitch and Mr. C. E. Shea in succession, while other speakers were animated with an intense desire to interpolate a few remarks as the various crucial points in the discussion were raised. The objects of the society, in asking the Fellows to sanction the desire of the Council to purchase 48 acres of land for a garden at South Darenth, were to advance the cause of horticulture, to conduct trials of fruits, flowers and vegetables, to have demonstrations for the benefit of the Fellows, and have better means at command for the education of young gardeners. The site was exposed but that was all to the advantage of the proposed trials. They had inspected many sites but this was the best

they had seen for the objects in view. Any site selected must be at least 20 miles from the London of to-day in order to secure the benefits of an open country free from the buildings and smoke that were so detrimental to gardening at Chiswick. In the meantime they intended to lay out the garden systematically on a definite and regular plan with departments for different cultures, to lay down walks, to plant trees as a shelter belt, and certain other trees and shrubs which they might deem necessary to establish at once. No glass was to be put up in the meantime, but all appliances deemed necessary would follow in due course and upon mature deliberation.

The case for the Council and their recommendations was to all appearances very strong, and the crowded assemblage of Fellows listened with breathless attention, but mutterings were struggling for vent and the president was taxed to keep the great body of excited listeners in order, but managed the reins admirably. Nevertheless there was calm discussion, alternating with animated outpourings of argument and protest, alternating with orations of a highly amusing character according to the bent or particular style of the speaker, enlivened with cheers, applause or laughter in response to the arguments vouchsafed or the language in which they were couched. Mr. Harry J. Veitch proposed the case for the Council, which was duly seconded. Mr. Arthur W. Sutton proposed an amendment that the society should not purchase ground for a garden, that a home, or in other words, a Horticultural Hall, was the first requisite of the society, which was seconded by Dr. Masters. In a trice three gentlemen, namely, Mr. A. W. Sutton, Mr. N. N. Sherwood, and Mr. H. J. Elwes offered £1,000 each in support of the proposal for a hall. Finally on a show of hands being asked for by the president about 275 of the 300 persons present, or something like those figures, that is about 91 per cent., voted for a hall as the greatest need for the society. We think the Fellows ought now to come forward with a scheme for the proper housing of the society.

Potatos, when first introduced to Russia in 1769, and being known as "devil's Apples," gave rise to serious rioting.

Tropical Plants.—It is often a matter of conjecture among visitors to botanical gardens and elsewhere, that collections of tropical plants are grown, as to the reason for so many of them being armed with thorns, spikes, and prickles. It is now generally conceded that these members of the torrid zone have got to arm themselves thus against the eternal preying of the herbivorous animals. In some parts where vegetation is scarcer, and where the mammalia are hard pressed for food, the plants are found to be very strongly endowed with these spines. This fact has led some to the foolish question, "Do plants think?" The thorns or prickles serve as protective armour for preserving the plants from extermination.

Dry *v.* Damp Storage of Potatos.—An Irish paper thinks that the English farmer has peculiar ways of dealing with his Potatos. In Ireland Potato growers make it a point to have their tubers taken up and stored in as dry condition as possible experience having shown that such treatment is specially conducive to long keeping in sound condition. In a communication to one of the Lincoln papers, observes our Irish contemporary, a contributor says:—"The past fortnight has witnessed a rapid clearance of the Potato fields. The Potatos have gone into clamp dry—too dry according to some growers who prefer more mould and moisture. One extensive grower has in his time thrown water over his heap previous to graving down. The Potatos are said to come out all the better for it."

The Easter Trade in cut flowers by the florists in the larger cities of the United States, has been greater this year than there is any record of previously.

Royal Gardeners' Orphan Fund.—The thirteenth annual dinner in aid of the Royal Gardeners' Orphan Fund will take place at the Hotel Cecil, Strand, W.C., on Tuesday, May 7th, 1901, under the presidency of the Hon. W. F. D. Smith, M.P. A large number of gentlemen have kindly consented to act as stewards and will be glad to receive subscriptions for the chairman's list. The secretary is Mr. B. Wynne, 8, Danes Inn, Strand, London, W.C.

Effect of Lightning on Trees.—On some occasions when a tree is struck by lightning the latter converts the sap into steam, which shatters and scatters the pieces of wood in all directions. The cambium layer is rich in sap, and very often the lightning elects, or cannot help, travelling down this layer. The result is that only the bark is thrown off and the wood beneath it ploughed into a furrow of greater or lesser depth from the point at which the lightning entered down to the ground, which it enters and becomes dissipated.

Primrose Day.—The simple Primrose flower was much in evidence again this year on the 19th, especially in the neighbourhood of St. Stephen's Square, Westminster, where a multitude of pilgrims annually assemble to do homage to the statue of the great statesman. To wear a bunch of Primroses on this day is becoming a custom, and departing from its taint of party politics, for the wearing of the simple flower is now adopted by men of all parties and women also. A large number of M.P.'s were seen wearing bunches of various sizes. Mr. Chamberlain did not forsake his customary Orchid, but he wore one of a primrose hue.

Crabs as Gardeners.—A crab is one of the last things one would expect to find laying out a garden. There are several species that do this by planting seaweeds on their horny carapaces. They generally cultivate the common Wrack. Pieces are cut off with their claws and fixed on peculiar hooked spikes. A seaweed, if fastened firmly, soon takes root on any hard substance by means of suckers, so that the upper surface of the crab is quickly a wavy mass of vegetation. In consequence of this disguise they are unrecognisable when mixed with plants on the bottom, and so escape pursuit from their enemies. The crab does not suffer much inconvenience by this strange partnership, as the plants obtain their entire food supply from the water.

Japanese Acers.—In Switzerland large quantities of Maple remains are found when deep excavations are made. They differ from our British Maples by being less lobed, only having three, whereas ours have five or six. The Japanese forms are much more lobed as is seen by the plants now so extensively grown for decorative work. It is supposed, says the Rev. Professor G. Henslow, that during the evolution from the time when the Swiss specimens were flourishing they have gradually become more divided in the leaf, and that our present form of Maple or Acer is later than the Swiss, and those of Japan are Nature's latest efforts. On the remains found in Switzerland are found traces of the black spots made by a fungus which up to the present day attacks and disfigures our Acers, thus showing how persistently the fungus holds on, for it is doubtless millions of years since the Swiss remains were flourishing.

Broughty Ferry Horticultural Association.—The monthly meeting was held on the 16th inst., Mr. Wm. Grant presiding. The essayist for the evening was Mr. A. Duncan, landscape gardener, Carnoustie, his subject being "Market Gardening for Profit." To make it pay he advocated a high standard of cultivation, saying it was better to make a speciality of a few things and do them well than to attempt the culture of a vast number. He made strong comments on the want of a covered market in Dundee suitable for the display and sale of horticultural products. A feature of the meeting was a competition for one vase of cut flowers for effect. There were six competitors. The first prize and medal was awarded to Mr. David Meston, gardener, The Lodge; the second to Mr. James Fairweather, Airlie Park Gardens, West Ferry; third to Mr. W. Laing, Monifieth Road.

Land for Labour.—In Sweden it is said that a farmer in some cases gives so many acres of land to a tenant in return for so many days' labour for so many years.

The Bee Orchis.—In nearly all the Orchid family self fertilisation is impossible owing to structural peculiarities. The Bee Orchis is one of the exceptions; it is so constructed that the pollinia become detatched and swing backwards and forwards, and in so doing strike the stigmatic surface and leave some of the pollen which fertilises it.

Flowers from the Scilly Isles.—The cultivation of early spring flowers is one of the chief industries of these isles. The quantity brought over for Easter decorations, &c., was phenomenal. In one day thirty-three tons of blooms were landed at Penzance and dispatched to the various markets. The total consignment for the week preceding Easter was over seventy-two tons. When it is considered how little a quantity blooms weigh the quantity can be better understood. Although the quantity was five tons in excess of last year the prices commanded were much higher, owing to the enormous number of orders from all parts of the country.

Richmond Horticultural Society.—This well-known society is again adopting an active and progressive policy in regard to its forthcoming annual flower show. Last year the Royal Horticultural Society's Council and Committees were invited to Richmond, and were treated right royally. This year the National Rose Society will hold its show in the Old Deer Park, Richmond, Surrey, on Wednesday, June 26th, when an exceptionally large number of visitors and exhibitors is anticipated. Between the two societies about £300 will be offered in prize money, so that there is sure to be keen competition. Schedules have already been sent to former exhibitors, but the hon. secretary (Mr. C. R. King, 61, George Street, Richmond, Surrey) will be glad to post copies to other intending exhibitors for the June show.

Croydon and District Horticultural Mutual Improvement Society.—A meeting was held in the society's room at the Sunflower Temperance Hotel, on Tuesday evening, 16th inst, when Mr. W. J. Simpson presided over a capital attendance of members. Orchids formed the feature of the evening. The chairman introduced Mr. H. J. Chapman, gardener to R. I. Measures, Esq., Cambridge Lodge, Camberwell, who gave a most valuable and practical paper on "Cypripediums," or Slipper Orchids. The lecturer, whose knowledge of Orchids is extensive, dealt with the introduction and geographical distribution of the Cypripediums, noting the different sections into which they are divided. Fertilisation and hybridisation were most ably treated upon, and the parentage of some of the most important hybrids noted, Mr. Chapman having himself raised some notable hybrids. The cultivation next claimed attention. Here the lecturer's skill as a cultivator, as well as a writer, was in evidence, and his happy way of conveying to those present his experience and replies to questions met with hearty applause, and on the proposition of the chairman, seconded by Mr. Turney, a unanimous vote of thanks was accorded Mr. Chapman. The lecture was illustrated by about fifty paintings of Cypripediums by Miss N. Roberts, artist to the R.H.S., kindly lent by the artist and R. I. Measures, Esq., to whom the society's vote of thanks was given. Mr. W. E. Humphreys, gardener to A. H. Smee, Esq., The Grange, Hackbridge, exhibited a beautiful group of Orchids in flower, including Cattleya Trianaei, Queen Empress, Catt. Schroderae Perfecture, Scuticaria Hedwenii, Masdevallia Shuttleworthii, Pleurothallis tridentata, Odontoglossum nevadense pictum, Halli, Lycaste Skinnerii bella, Cypripedium Thomsoni Hookerae, &c. Mr. W. J. Simpson, gardener to C. H. Walker, Esq, staged twelve very fine flowers of Cypripediums. By the side of these stood four charming seedling Auriculas, exhibited by Mr. F. C. L Wratten. To the exhibitors a hearty vote of thanks was accorded. The Secretary (Mr. John Gregory) announced the next meeting to be held at the Art Gallery, Park Lane, on May 7th. Subject: "Gardeners Feathered Friends and Foes," by Mr. Percy F. Bunyard, illustrated with lantern slides by Mr. R. B. Lodge, of Enfield. All interested in horticulture are cordially invited.

Plants with Souls.—Some of the most advanced theories in botany are looked at doubtfully by many, but Professor L. Errera, of the University of Brussels, heads all for being doubtful. He proclaims that Lilacs have embryonic souls, with rudiments of memory, germs of habits and preception, and the outlines of every other essential requisite of soul life. No doubt the learned professor has made the matter quite clear to himself, but we are afraid it will be a long time before it is universally believed.

New Zealand Veronicas.—An interesting feature about the Veronicas of New Zealand is the wide difference of structure and habit shown by those growing on the mountains and those growing on the plains. The latter grow to a large size and have large flat leaves, but those found 5,000 ft. up the mountains are entirely different and do not look like the same family of plants. They are dwarf and compact with very small leaves. The only reason that can be given, says the Rev Prof. G. Henslow, for this remarkable diversity, is that like the Alpines and other plants growing at high altitudes, they have adapted themselves to the climatic conditions.

Plants of the High Andes.—At a meeting of the Linnean Society of London, on April 4th, a paper was read by Messrs. W. B. Hemsley, F.L.S., and H. H. Pearson, F.L S., on a small collection of dried plants made by Sir Martin Conway in the Bolivian Andes in 1898-99. This collection contained but forty-six species, but these were of special interest from the great height at which they were found, *i e.* between 18,000 ft. and 18,700 ft. above sea-level. The highest Andine plants on record were stated to be Malvastrum flabellatum, Wedd, and a grass, Deyeuxia glacialis, Wedd.

Rubber-trees of Tropical South America.—At a meeting of the Linnean Society of London, on April 4th, Mr. W. B. Hemsley, F.R S, exhibited specimens of Sapium and Hevea (Euphorbiaceae) and Castilloa (Artocarpaceae), with a view to clear up certain questions concerning the Rubber-trees, by examining a large series of plants and seeds forwarded by Mr. Jenman, Government Botanist in British Guiana. The genus Hevea included ten or a dozen described species inhabiting eastern tropical South America, but none in the West Indies. Hevea brasiliensis, the source of the true Pará rubber, was not very different from Hevea guianensis, which is restricted to French Guiana, the differences between them being shown in the figures given of the floral structure and seeds in Hooker's Icones Plantarum, plates 2570-2577. It was formerly supposed that two species of Hevea might be distinguished in British Guiana, one (Hevea pauciflora) having thin leaves and a hairy ovary, the other thick coriaceous leaves and a glabrous ovary; but after examining a large number of specimens, Mr. Hemsley had come to the conclusion that the differences were not constant, and that all the specimens exhibited might belong to one species, and merely represented individual variation. The exhibition demonstrated the difficulty of determining species of Hevea from imperfect specimens, and especially from seeds alone. A discussion followed in which Mr. F. N. Williams, the Rev. F. C. Smith, and the chairman took part.

GARDENING MISCELLANY.

PRUNUS TRILOBA FLORE PLENO.

Of all the Prunus family there are none to excel this variety when well grown. It makes a grand show in the spring, being literally covered with its double rosette-shaped blooms, which are of a delicate pink colour. It is perfectly hardy, and can be grown as a standard in the pleasure grounds, where it is a great acquisition, as it comes into bloom so early, when the other trees are still in their winter sleep. It is like many others of the Plum family, it will thrive in any ordinary soil. It does well as a standard, but the effect is nothing compared with those when the trees are trained against a south wall. There is a fine specimen grown in this manner in Kew Gardens, and during the flowering season it is no small attraction to camera fiends, both amateur and professional. It has been figured in many horticultural papers both in this country and in many others.

BOTRYCHIUM MATRICARIAEFOLIUM.

Dr. Underwood, of America, in his latest edition of "Native Ferns," intimates the non-existence of this species in the United States. He states this in the face of the fact that all the leading authorities recognise the identity of the European and American plants. His position has now been made indefensible, as some specimens of the European B. matricariaefolium have been sent from Berlin and prove identical with Wood's B. neglectum. *The Fern Bulletin* is quite correct when it says there is a disposition to recognise mere geographical differences, and the mere fact of two plants being found growing in widely separated sections of country, is not a good reason for considering them distinct species. At a meeting of the Linnean Society on June 15th, 1899, Mr. W. Whitwell, F.L.S., exhibited the only known British specimen of B. matricariaefolium, gathered by Mr. A. Braun in July, 1887, on the seashore of Stevenston, Ayrshire.

PLATYCERIUMS.

It is strange seeing how easily they are grown that these interesting Stag's-horn Ferns are not more generally cultivated, as there are few plants better suited to impart a rustic gracefulness to the stove or warm fernery. They are best propagated by division as the seedlings are very slow growing, and it is not until the plants attain a large size that they are of any service. They do best when fastened on blocks of wood. When they are fastened on only enough peat should be put behind them to retain sufficient moisture until they get hold. In their native habitat they grow on tree trunks and are surrounded by an atmosphere that is laden with moisture; these conditions must be supplied to them when under cultivation if they are to be grown well. Two of the best species are Platycerium alcicorne and P. Willinckii. Owing to the drooping habit of the fertile fronds the latter variety should be grown in an Orchid basket.

CHEMISTRY FOR THE GARDEN.

XIII.—Manures.

Experience has taught the tillers of the soil that by cropping, in the course of time, it becomes exhausted, and that if no compensation is made for what it has lost in the operation, little or no produce will be derived therefrom. To avoid therefore symptoms of sterility becoming apparent recourse is made to regular manuring, and this is usually done with a view to restore as near as possible the constituents equivalent to those the crops have assimilated during the period of their growth. At one time when there was no reliable scientific principles to guide the tiller of the soil in this matter, his work was necessarily a process of groping in the dark. The result too, necessarily was one full of the game of chance.

Know your soil, know your crop, and manure, are considerations which invariably never entered into the calculations of those bygone tillers of the soil. Happily nowadays mostly everyone who in any measure has the least pretentions to a knowledge of land tillage, has also some idea of what kind of manure suits best for a certain crop, in a certain soil. It will be acknowledged that this is a move in the right direction, and that it is as it ought to be. The manuring of the soil if it is not so already, ought to be a science, and it is in this light it must be regarded, if the most should be made of the land. The mere addition of manure to the soil, because we think it requires manure, may be quite wrong, simply because we may be adding ingredients which are in abundance there already. It may, however, do good, but it would also do good were the superabundant ingredient absent, and probably help to diminish the cash account which is of prime importance.

At one time in medicine infusion of Cinchona was our only means of deriving the beneficial properties of that plant, but now we have the valuable property isolated in the form of quinine, and we are consequently saved the horror of imbibing quarts of useless, not to say nauseous matter to attain the desired result. All the extractive matters, tannic, gallic, and malic acids had to be swallowed to get the advantage of the one necessary dose of quinine. The case of manuring the soil is in some respects analogous.

No doubt very many more ingredients are forced upon the soil (the plant's stomach) than the crop requires. The result is not immediately injurious, for nature has providentially prepared for such breaches of her laws, both in soils and animals. Each has a certain recuperative power for throwing off any redundant matter which may have entered into their organisation. The soil gets rid of much of its burden through its natural arteries, the drains, and it finds its way ultimately into that great cesspool which knows no corruption, viz., the sea. True, some soils do not so readily part with manurial ingredients which have not been necessary, and therefore not utilised by a crop, during the season of winter and consequent floods, but the greater part of soils we fear are of a nature that the retention of manurial ingredients in a soluble form is an impossibility.

In the case of farmyard manure or dung, as it is commonly called, the above noted dangers are not likely to occur. This form of manure is not in a highly concentrated state at any time, and should the salts not used up by a crop be washed out of the soil during winter, the soil is more than compensated for such an event by the way it is enriched in humus. There appears to be some ground for believing that it is on this account that the general results got from this form of manure are more reliable and constant under all conditions than those derived from any other. The amount of undecayed substances which enters the soil in the form of dung is the means of setting in motion a great chemical process, which may be regarded, to all intent and purposes, as a laboratory for the preparation of plant food.—*Oxygen.*

(To be continued.)

COLUMBINES.

Few plants are more showy than the hybrids given us during the past few years, and though chiefly grown for the herbaceous border, they are none the less admired in the cool house during the end of April and the two first weeks in May. Their colours are of the brightest and vie with the showiest Orchid for the time being. To have such plants now, seed must forthwith be sown in sandy soil, lightly covered, placing in a temperature of 55° at night, shaded until through the soil, when remove to a cool frame, due attention being paid to watering and pricking off, which should be done as soon as fit to handle, in cutting boxes 3 in. to 4 in. apart, and again shading for a few days. Before crowding takes place plant out in an open position 9 in. as under, water in if the soil is dry, and keep the flat hoe going amongst them a few times during summer. A few may flower towards autumn, but the majority not until early summer next year. Pot up as many as may be required, in the month of November, using loam, leaf soil, a little soot, and sand enough to keep the compost porous. Plunge the pots 1 in. above the rim in coal ashes. This keeps slugs at bay. Cover with a frame but air daily unless the weather is severe, or they may be potted up in February from the open ground.—*Experience.*

PEOPLE WE HAVE MET.

Mr. Alexander James Monro.

On several previous occasions we have referred to Mr. A. J. Monro in connection with the Nurserymen, Market Gardeners' and General Hailstorm Insurance Corporation, Ltd., founded a few years ago, but already a well established and thriving Institution, thus demonstrating its utility and the great need for it by the florist and market garden industry in this country.

Mr. A. J. Monro is a son of the late Mr. John Monro, of Potters Bar, Hertfordshire, and a brother of Mr. George Monro, of Covent Garden, whose portrait we gave on a previous occasion. The subject of our present sketch is the general manager and secretary of the Hailstorm Insurance Corporation, Ltd., and by his ability and energy has already made himself felt in the management of its affairs. He came to London thirteen years ago, but the Insurance Corporation, with which he is now connected, was only instituted six years ago. Previous to that, in the way of glass insurance, there were only two companies in existence which charged £1 per cent., and which reserved the right to replace the glass after accidents, at their own convenience, thereby often causing much delay, consequently much damage to contents of houses.

In 1889 Mr. Monro took up an agency with one of these societies and after a deal of pressure obtained a reduction in the rate from 20s. to 16s. per cent.,

and was appointed Assessor of Damages for the metropolitan district.

In October 1894 it was considered advisable in the interests of nurserymen and glass owners generally that a company should be formed to cover the risk of damage by hailstorms at a lower premium, and

Mr. Alexander James Munro.

under conditions whereby the assured could cover the contents of their glasshouses and replace their own glass immediately. Mr. Monro was instrumental in forming the Corporation he still continues to serve, which through the influential Board, comprising as it does, the pick of the best nurserymen in the country, met with entire success.

After the lamented decease of Mr. Roger Cutler, the first secretary of the Gardeners' Royal Benevolent Institution in 1891, Mr. Monro was called upon to fill up the breach thereby caused; and this office he successfully held until the appointment of Mr. Geo. Ingram, the present able secretary.

In addition to the management of the Hailstorm Corporation, Mr. Monro is a Fellow of the Incorporated Society of Accountants and Auditors, and conducts an accountancy business under the style of Wheeler and Monro, of which he is the surviving partner.

Notwithstanding his wide and general experience, and the aptitude he has shown for the management and control of public business in the lines above indicated, Mr. Monro is still a young man, and in all human probability has a long career before him, during which he may render society indebted to him for services ably and willingly rendered. The portrait which we herewith present our readers, will serve to fix the personality of the gentleman of whom we speak on their minds, and to which they may refer when on future occasions we speak of him or the doings of the Corporation with which he is associated.

PEPEROMIAS.

Although some score or more species of this genus are under cultivation in botanic gardens, but few can lay claim to any horticultural value. The species under notice, however, are exceptions, being worthy of a place in any representative collection of stove plants on account of their beautifully variegated foliage. P. Saundersii is probably the most familiar to gardeners. Its dwarf neat habit, and green and silver variegated foliage, render it a very desirable plant for decorative work if grown in small pots. P. metallica, a beautiful little plant of dwarf free branching habit and dark green leaves beautifully veined with red, is seen to the best advantage if grown in pans, four or five plants in a 6-in. pan producing a good effect. P. maculosa, a strong growing species, having green leaves, with gray veining, is also worthy of cultivation. The natural habitat of these plants being the hot and moist regions of tropical America and West Indies, a stove temperature is necessary for their successful cultivation. A suitable compost will consist of equal parts loam and peat with sufficient leaf mould and sand to ensure porosity; it is advisable not to pot too firmly. Propagation may be effected by seeds or cuttings which root readily in a propagating case.—*E. C.*

GAILLARDIAS.

A most important and showy class of plants from North America. The flowers are extremely showy, and suitable either for room decoration or exhibition, lasting a very long time in a cut state or on the plants. The genus is not a large one—half-a-dozen species or so—but there are many garden varieties, grandiflora and hybrida being the best. They are perennial in most dry soils, but I treat the hybrids as biennials and find it the most satisfactory way. Procure at once a packet of seed from a reliable firm, sow in shallow boxes of nice free soil, place in a vinery or Peach house till germination takes place, afterwards removing them to a cold frame to harden. Allow them time to get strong before pricking off (I consider a great many young plants of all kinds are lost by attempting this operation too soon) in a sheltered spot in the reserve garden, or other convenient spot, till the end of August, when they should be planted. Where possible, they should be planted in bold groups or beds as they have a much finer effect, and thrive better by themselves than in the mixed border. They need nothing further but hoeing to keep down weeds. In hot, dry weather do not spare the watering can, as the Gaillardia is a strong rooter and gross feeder, and will well repay any extra attention and feeding.—*Brightspade.*

VIOLETS FOR FRAMES.

Runners of Violets should now be encouraged to root by sprinkling some fine soil between them. When rooted, select the strongest ones and plant out in a part shady place, about 9 in. each way. When the plants show signs of growth, stir the soil with a small hoe, and syringe them in the evenings of dry, hot days, to prevent red spider, which is the Violet's greatest enemy. Three runners should be left, and all off-sets and suckers should be pinched or cut off. If it is a dry summer, mulch with spent mushroom bed or short manure. In September, prepare the frames or pits (facing south) with 12 in. of soil from an old Cucumber bed, mixed with a little leaf mould, and placed on litter and leaves 15 in. or 18 in. for bottom heat, which will suit them admirably. The plants are then carefully removed into the frames, with as large a ball of earth as possible and planted in rows close together, but not touching. They should be as near the glass as the leaves will permit. Give a copious watering and keep the frames close for a few days. Admit plenty of air when there is no sign of frost, and take off the lights in showery weather, which will give the plants a fine healthy appearance. Remove dead, decayed and turning leaves as soon as they appear. Three of the best Violets for frame culture are Marie Louise, Comte Brazza and Neapolitan.—*T. W. B.*

WATERING PLANTS.

This is one of the most important operations in connection with the cultivation of plants, and for the benefit of young men in particular I should like to see some articles on the subject in the columns of your valuable paper. There are numerous subjects that may easily be injured or even killed by receiving too much or too little water. As a rule softwooded and those of a quick growing nature require more water than those of a hardwooded nature; while the latter require even more careful treatment in this respect. Seasons of growth and of rest have also to be dealt with and the supply of water given accordingly. Plants growing in pots, when watered, should be well soaked and not merely a dribble applied to the surface, which is very deceiving. Newly potted plants in most cases have to be simply sprinkled overhead (especially in bright weather) for a few days to keep them from flagging, otherwise sprinkling or watering overhead with the rose of the watering pan should be avoided. Soft rain water being best for every description, provision should be made in every garden for collecting as much as possible from all glass structures, sheds, &c. Water should not be applied at a lower temperature than that to which the plants are subjected, particularly those growing in a high temperature. A good rule is always to water a plant thoroughly when it requires water but not unless.—*D. Buchanan, Ayrshire.*

PEACH DISBUDDING.

This is one of the most important items in Peach culture, and by judicious disbudding is the framework of a young tree formed. When we notice that a Peach tree forms as many buds as it does leaves on shoots of the current year, it stands to reason that a goodly number will have to be removed to prevent it becoming a disorganised mass. Disbudding from start to finish occupies about three weeks, the first half being done by the finger, the latter half with a sharp knife, as the shoots gain strength. If any of the young shoots which it is desired to remove have fruit at the base, they should be pinched back to three or four leaves, and finally removed after the fruit is thinned. If the bearing wood in fan-trained trees was properly thinned at the autumn pruning, a young growth near the base should be selected, others about 18 in. apart, and the terminal bud, of course. All the others should be taken off gradually, the fore-right and back shoots first, then after a short interval one-half of these should be removed, and finally the remainder that are not required. Care should be taken, and the operator should not be too hasty, as if disbudding is done before the sap is active, the tree receives a somewhat serious check. It is a common mistake to tie in more shoots than are really wanted, and, as a consequence, the wood is very weak, and also shades the fruit and spoils its flavour. Some trees have a preponderance of flower buds over wood buds. The fingers should be drawn down the under sides of the branches before the buds open, as there is not such a tax on the resources of the tree as when the flowers are expanded.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

HARDY FRUIT GARDEN.

Fig trees should now be pruned at once, and tied up. They are gross feeders so will be greatly benefited by a good mulching of dung. If on a border that is shallow, attention should be paid to watering or the fruits will not swell properly.

Apricots.—Those that are in sunny positions will have set their fruit by now. As soon as they start to swell they should be thinned, taking care to allow for loss in stoning. See that they do not suffer for want of water. When the weather is bright they should have a thorough spraying with an insecticide, or quassia and soapy water to prevent the attacks of green fly.

Apples and Pears.—It is not too late yet to graft these if it is desired, as the season is very late this year. Tie wet moss over the clay to prevent the drying winds that prevail at this time of the year from drying it up.

Peaches.—The protection should still be kept on Peach trees. Attention should be paid to disbudding, which should be done as early as possible, so that the wounds on the branches will only be slight.

Strawberries.—If it has not already been done they should have a good mulching of manure, so that the showers ca wash down the nutriment, and stimulate them in their growth.

Gooseberries and Currants.—If these are attacked by birds and the buds destroyed, a good sprinkling of soot and lime will prove a very effective means of preventing their depredations. It is best applied made into a solution with water and syringed over the bushes.

Insects.—As the season advances the pests put in their appearance and begin their work of destruction. One of the first to put in its appearance is the Apple Aphis (Aphis Mali), then the troublesome American blight (Schizoneura lanigera). If Apple trees are seen to be infested with this latter, steps should immediately be taken to exterminate them. This is best done by scrubbing the bark with a hard brush and sand, and then well scrubbing it with a strong solution of quassia, or soft soap and water.

Grafts must be watched to see that they are not attacked by the stem-boring weevil (Rhynchites Alliariae), which bores into the scion and deposits its eggs there. When this hatches the grub feeds on

the pith. The only effective means of destroying this seems to be by cutting off the parts attacked and burning them.

Another very destructive pest is the caterpillar of the Winter-moth (Hybernia brumata). The female moths are wingless so must crawl up the trunk to lay their eggs; they may consequently be caught by a band of canvas covered with bird lime in the autumn.—*F. J.*

THE PLANT HOUSES.

At this time of the year there is always a great rush of work, and the gardener does not know which way to go first. In the spring everything seems to require attention at once, for with the lengthening days and increasing power of the sun, everything is moving rapidly. In establishments where large amounts of Grapes are grown, the services of the men from the plant houses are required to help in the thinning, and things are apt to get in a bad state in the houses thus left, for at this time of the year not only are the long dormant plants stimulated into growth, but also green fly, mealy bug and other familiar pests; and it is not an uncommon sight in the best kept establishments at this time of the year to see the young shoots of plants suffering from the attacks of green fly or being sapp d y whole colonies of mealy bug. Young gardeners having a pride in their charge may generally be found at this time of the year working hard in their own time as long as daylight lasts to try and keep matters going straight, working from the early morning, often just after four, until dark, and what is his reward for all this? Nothing, only seeing his plants in a better condition, for there are not many establishments in the United Kingdom that pay their gardeners for overtime, or supply them with a respectable bothy in which to live.

The Greenhouse.—The forced hard-wooded plants should have their old flowers removed as soon as they are over, especially Azaleas, or they will cause obstruction to the new growths. The plants that have finished flowering should receive a thorough syringing whenever the weather permits to insure a clean growth, well spraying the underside of the foliage, especially of Azaleas, which are very susceptible to the attacks of red spider owing to the woolly nature of their leaves affording good protection. These plants should not be coddled when making their growth or it will not be sturdy; but on the other hand, do not allow them to be subjected to extremes of temperature or cold draughts, which very often cut through the houses if the ventilators are not properly regulated. All hard-wooded plants that are making their growth and have not been potted should be helped by occasional applications of weak liquid manure, cow, or sheep dung being preferable, as the soil gets exhausted after a year's growth and it is not advisable to disturb their roots any more than is absolutely necessary; for no matter how careful the potter may be, many of the best feeding roots are bound to be injured and a check is inevitable. Great care must be taken when watering those plants that have been freshly potted for they do not root very quickly and the soil is very liable to get sour before it has been in the pot many weeks if water is given too freely, and as when once potted, the plants are expected not to require potting again for two or three years, this is very undesirable. Any pruning that they may require to maintain their shape should be done at once before too much growth is made or the nutriment taken by it will be wasted. If any cuttings are required they should be taken at once and inserted round the sides of small pots containing a light porous compost, and placed in a cold frame.

Shading.—Many of the occupants of the greenhouse will require shading now, but too much shade should be avoided as it only encourages a weak, straggling growth.

Richardias.—These are perhaps better known under their old name of Calla. They are gross feeders and their masses of thick fleshy roots soon exhaust the small amount of soil in their pots, so that it becomes necessary to supply them with fertilisers. A good watering with liquid manure twice a week made from fresh sheep dung, will be found to give as good results as anything, but care must be taken that it is clear, or the soil will soon get clogged and sour.

Cyclamen.—If late batches are assisted with a little manure their flowering period may be extended for some time yet.

Coleus thyrsoideus.—Cuttings of this handsome free flowering plant should be taken and grown on into large plants to brighten the greenhouse in the winter.

Calceolarias.—A sharp eye must be kept on these now for green fly which seem to have a weakness for this particular plant, and if not kept down by frequently fumigating they soon spoil them.

Roses.—These are very liable to be attacked by mildew. This should be prevented if possible by keeping a free circulation of air about them, and not to allow crowding. If it does make its appearance either syringe immediately with soapy water and sulphur; or if this is not desirable, with a good fungicide. Many growers are recommending that they should be grown as standards, even those recognised as climbers, such as Climbing Kaiserin, Madame Morceau, Maréchal Niel, Climbing Niphetos, and the like.

Clematis indivisa.—Of all the spring flowering plants in the greenhouse there are none to surpass this easily cultivated climber for the profusion and beauty of its white flowers. It strikes readily from cuttings, but the best way to propagate it is by grafting small pieces on to the root of som other strong growing kind. It is well adapted for training along the roof and hanging down in festoons. For covering a large area of bare wall nothing is better than this Clematis, as it grows so quickly, and is not troubled with insect pests except red spider, which troubles everything.

The Stove.—Things that were potted last month are now in full growth, and must be carefully watched to see that this is made even, as often one shoot will become rampant and grow away and leave the others, thus spoiling the symmetry of the plant.

Airing.—During the hottest part of the day a little ventilation is now required to keep the growth sturdy. If possible it should be supplied by the bottom ventilators, as the atmosphere in the house is not then dried so much. When air is given, plenty of water should be kept on the paths, and the stages kept well damped to counteract its drying influence, for if the air is dry and parched it not only encourages red spider, &c., but is very injurious to the young growth.

Shading.—Many of the plants will now require a little protection from the direct rays of the sun. This should be afforded by some light, and easily removed material, which should only be on during the brightest part of the day. Many people paint green or white matter on the glass to keep off the sun. This may be suitable for a fernery, but to paint the glass of a stove is one of the greatest mistakes that is made, as in dull weather it cannot b removed. It excludes a great amount of light which the plants then require. Stove plants should not be subjected to more shade than what is absolutely necessary to prevent them from scorching.—*C.*

Gleanings from the World of Science.

The following subjects were discussed at a meeting of the Scientific Committee of the Royal Horticultural Society on the 9th inst.

Pseudo-fasciation of Ash.—A specimen was exhibited of a diseased Ash bough by Mr. Odell, who described it as follows:—"This is a diseased condition of the inflorescence resulting in the fusion of the pedicels into a thick and shapeless mass, which hardens into quite a woody structure. These sub-fasciated clusters are said by Professor Kerner, and also by Mr. A. Murray, F.L.S., to be due to the attacks of a minute Phytoptus. The accompanying specimens were obtained from trees growing by the river Ouse at Olney in North Bucks, where I recently observed that this diseased condition was common to the Ash trees growing along the valley of the Ouse; in some cases only slightly, in others the trees were thickly covered with the "fasciated" clusters. It did not appear that the trees were in any way stunted or affected by the disease; but as the result is to prevent the development of seed, it may be that the vegetative processes are stimulated by the partial and abnormal suppression of the reproductive functions."

Masdevallia, sp.—Mr. Chapman brought the following species, upon which Mr. Rendle reports as follows:—Masdevallia Lowi, *Rolfe*, in *Gardeners' Chronicle*, 1890, i. 416, is said by Miss Woodward, in her monograph of the genus, on Consul Lehmann's authority—"who has had the advantage of examining Prof. Reichenbach's dried specimens"—to be the same as M. trinema, *Reichenb. f*, in "Flora," 1886, 538. As M. Lowi was not described till after Prof. Reichenbach's death, when his dried specimens were no longer to be consulted, Consul Lehmann's opinion would seemed to be based on memory. A comparison of the flower of M. Lowi with the description of M. trinema suggests that Mr. Rolfe was justified in regarding his plant as a distinct species. The sepal tails of M. trinema are said to be much longer than the triangular bodies, whereas in Lowi they seem to be always markedly shorter. The bidentate tip of the column marks another discrepancy, that of Lowi bearing several fimbriations. Moreover, Reichenbach's statement that the dimensions of M. trinema are those of his M. gaskelliana points to a smaller flower than that of M. Lowi.

Cypripedium with two lips.—He also showed this not uncommon phenomenon. As the flower had three sepals and two petals beside the lips, the result had occurred in consequence of, or in correlation with, a bifurcation of the axial cord belonging to the lip. This was borne out by a dissection of the flower.

Poterium speciosum.—Mr. Saunders exhibited a plant of this species covered with spiny branches and minute leaves with inrolled margins. These features are very characteristic of many plants growing in deserts and other excessively dry localities. It is native of Palestine, &c.

Epidendrum hybrids.—Mr. Veitch exhibited and described the following new hybrids:—E. Wallisi × E. Endresi = E. Endresio-Wallisi. This hybrid × E. Wallisi = E. elegantulum, E. Wallisi × E. elegantulum = E. Clarissa. E. Wallisi grows to a height of 5 ft. or 6 ft., whereas E. Endresi is not more than about 1 ft. in height. The first hybrid was about 2 ft. in height; the second, E. elegantulum, grows 3 ft. to 4 ft. There are many varieties among the Clarissa progeny, one being very much finer than all the rest, called C. superbum. E. Endresi is a native of Costa Rica, and E. Wallisi, of New Granada. The hybrids partook more of the flower of E. Endresi than of E. Wallisi, which was a much larger blossom than the former.

Peduncles of Grapes becoming tendrils.—Mr. Hudson exhibited some specimens from a vinery in which the whole crop had degenerated into quasi tendrils, but bearing small groups of buds upon them. It is well known that peduncles and tendrils are homologous in the Vine, and therefore interchangeable. The cause was presumably an arrested growth by excessive chill, as the roots were said to be healthy.

Fasciated stems.—Mr. Burbidge sent a series of examples of this peculiarity, remarking upon a branch of Cotoneaster microphylla, which had the buds continually rubbing on a roof, that this irritation possibly caused the fasciation, adding—"I am led, after considerable observation, to believe that irritation of, or injury to the normal terminal or lateral buds, whether by friction, insects, or other causes, is at the bottom of the phenomenon." He adds, "That besides being hereditary by seeds in the Cockscomb, the 'Stag's-horn' Ash—a fasciated condition—can be perpetuated by grafting." Mr. O'Brien referred to his experience that Ferns standing near an entrance of a conservatory, and continually "brushed" by passers, become more or less fasciated and crested. Mr. Druery mentioned how Ferns if tripinnate became crested in each degree. Mr. Hudson observed, that of some Water Lilies which produced fasciated stems, portions of the rhizomes were transferred to Kew; they also produced them there, showing that fasciation may be an acquired habit, and transmitted either by the vegetative or reproductive organs.

Fasciation and allied phenomena.—Mr. Henslow explained how fasciation arose from a continual bifurcation of the fibro-vascular bundles of the stem without forming cyclinders for axillary buds. A similar cause gave rise to "multifold" flowers as distinct from "synanthic." It also applied to fimbriated and crested flowers, as well as multifold axes in Pears and carpels in Tomatos. Being an "affection" it would be hereditary, as in the Tomato and the campanulate terminal flowers of Foxgloves. (Further details will appear in the paper to be published in full in the *Journal* R.H.S.).

HINTS FOR AMATEURS.

THE GRAPE VINE OUTDOORS.

At one time the Grape Vine was cultivated extensively in the open in this country, but on the advent of cheap glass indoor culture was found to give much more satisfactory results. At one time large vineyards existed in this country especially in the neighbourhood of Ely. Grapes were grown in large quantities in the grounds attached to the monasteries, but the suppression of these led to their cultivation being neglected as was a great many other branches of horticulture, the monks being enthusiastic gardeners; and in 1560 we read that Grapes were very scarce. They have been cultivated for thousands of years, as records of their culture are found on the tombs of Egypt, some of them dating back six thousand years. That it is still possible to grow Grapes in the open is shown by the vineyards of the Marquis of Bute at Cardiff, where large crops are grown annually for wine making, &c. Most people have the means to grow splendid crops of Grapes. I refer to wall culture on the sunny side of the house, but many amateurs may have a small greenhouse. If grown in a house one of the lean-to type is preferable.

Soil.—The Vine should be planted if possible about October in well prepared soil, that is, soil that has been well dug, and if poor enriched by the application of well decayed manure, and if inclined to be a bit heavy the addition of a quantity of lime rubble and broken mortar will be beneficial.

Planting.—Always choose a young Vine for planting as old ones will not stand transplanting. It must not be planted deep or it will suffer through the roots not being sufficiently warmed by the sun in the summer. The roots should be spread out very carefully in a horizontal position and the soil pressed down on to them firmly.

Pruning.—If planted in a position where the sun can get down to the base of the stem, it should be cut back to within a foot of the soil in the following spring, just before the sap begins to rise. To the uninitiated this may seem a great waste of growth to cut off perhaps seven or eight feet of nice healthy stem. No matter how strong the plant may be this must not be neglected if successful culture is to be obtained. The reason for this apparent barbarous treatment is simple. During the first year's growth the Vine is allowed to grow of its own free will and receives no stoppings and pinchings. While it is making all this rambling growth it is also making a corresponding amount of roots. When it is cut back in the spring the roots are still there and with such an increased root system it is able to make great headway during the next year, when it must be carefully attended to, as regards stopping and training, which processes I will endeavour to make clear this week. During the second year's growth it is best to confine it to a single shoot or if desired to two; these should be allowed to grow ahead freely but do not allow too many side shoots to break out. If there is a tendency to produce these they should be cut back to about three or two joints and make spurs of them. It is on these spurs that the fruiting shoots will be produced. If there is plenty of space on the wall some of the shoots may be left a little longer and a shoot carried on from them the next year, but too much hurrying should not be done when covering space or the fruiting will have to suffer. The shoots from the spurs in the third season's growth will produce bunches. It is at this point where so many errors are committed. Only two shoots should be allowed to grow from a spur, if there are more, two of the strongest must be selected and the remainder rubbed off, which they will do quite easily when young. The remaining two should be carefully secured to the wall, taking care that room is allowed for the swelling of the shoot during the season. When it has made three or four leaves beyond the bunch the end should be pinched out. It is a great mistake to neglect this operation for if left it grows on and takes the nourishment which would otherwise go into the bunch. Sometimes more than one bunch will be produced on a shoot; when this is the case the strongest bunch should be selected when in bloom and the other one cut out. The amateur is generally very reluctant about thinning out fruit but it should be borne in mind that in whatever case it may be one good fruit is worth two inferior ones. If the foliage gets too thick in the summer it should be tied back so that the bunches obtain all the light and heat possible. At the next year's pruning it is often the question "What shall I do with the shoots that produced the bunches last year?" They should be cut back to within two joints of the base, and the shoots they produce treated as recommended for those the previous year. This is often neglected and the result is that we see so many houses covered with a Grape Vine certainly, and looking very picturesque with such a mantle, but the fruit has been sacrificed for the luxuriance of growth. If bunches are produced they are of a very inferior size and quality, and are generally smothered by the foliage and do not obtain sufficient sunlight to ripen them, or are disfigured and rendered useless by being attacked by mildew, a disease the Vine is very much subject to, both indoors and out. The spurs should not be allowed to be too close together, 15 in. to 18 in. should be allowed between every two.

Training.—The best method where only one Vine is to cover the wall is to have two main perpendicular branches and then extend the side ones gradually at about 18 in. apart in a horizontal direction, which allows plenty of space for the fruiting laterals and crowding is avoided.

The Bunches.—When the flowers are set and the little berries begin to swell, the bunches should be gone over with a pair of very fine scissors and all the berries in the centre of the bunch removed, taking care that in doing so the others are not marked as they are very susceptible to injury at this stage. The berries in the centre require taking out as they do not get any sun and our season is very short, therefore they do not ripen properly, and take nourishment which might have gone to those on the outside. By thinning these middle berries out the bunches are not made hollow, as the remaining berries fill up the space as they swell up.

Watering.—The Vine requires a large amount of moisture in the growing season, and if allowed to get dry at the root the effect is soon apparent by the premature discolouring of the foliage, and the shrivelling of the berries. That Vines succeed best where they can obtain plenty of moisture at the roots, was well known to the early cultivators, as in the earliest known writings we often hear of Vines flourishing by the waters.

Varieties.—Those recommended by authorities on outside Grape growing are Chasselas de Fontainebleau or Royal Muscadine. Chasselas Vibert is a better variety than this as it ripens its fruit earlier and produces larger berries, the early ripening being a great consideration in this country where we often get early autumn frosts. Black July and Espiran also do well outdoors, and in warm positions the Black Hamburg may be brought to a high state of perfection.

Mildew.—This is a difficult disease to deal with indoors, but it is more difficult to deal with outdoors. Prevention is always better than cure, so means must be employed to prevent it getting any hold. The best means of prevention is to have a free circulation of air amongst the foliage by keeping it from crowding, for wherever it is thick mildew is sure to appear. One of the best cures for mildew attacks is applications of sulphur on the parts affected. There are several ways of applying it, the best and simplest being to mix it with a good solution of soft soap and water, and apply frequently with a syringe.

Manures.—Liquid manure drained from manure heaps is a great help in the growing season; it should be applied well diluted with water. If artificial fertilisers are required a glance on to the cover of any horticultural paper will supply the names of purveyors.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Camellias.—*G. D.*: You do not give any details as to how you have been treating your plants, so it is impossible to say precisely what caused the buds to drop off in the early stages. It is natural for Camellias to shed many of their buds if they are too thick. A careful attendant does not leave it for the plant to decide which it should dispense with, but selects one or two of the plumpest buds on each shoot and rubs off the remainder. Care should be taken that the plants do not get dry at the root, as after being for several years in a tub or pot the roots get matted round the side, and when the ball dries it contracts and pulls them away, so that when once allowed to get into this state it takes immense quantities of water to soak the ball again, as it flows down between it and the pot, the matted roots preventing it soaking through the sides. When they are making their growth, plenty of air should be given to ensure sturdy shoots but avoid draughts. On bright days the plants will be benefited by a thorough syringing. If they can be placed outside when they have completed their growth it will give it a better chance of becoming well ripened.

Imported Orchids.—*P. R.*: By the description you give of your plants they are most likely a species of Dendrobium. If so you will find them easily cultivated if given the proper treatment The plants should have their old roots placed in pots containing small crocks and broken charcoal, and placed in a moderately warm house. They must be syringed several times a day to keep them moist and they will then soon put out new roots when they should be potted into Orchid-pots, using sphagnum moss and peat. As growth increases give abundance of water, when complete it should be withheld, and the plants rested through the winter by keeping them dry, they will then produce their bloom early in the spring, after which they will start to grow again when they should be repotted.

Palm.—*Enquirer*: By the description you give of your Palm it is not a species adapted for room culture. It is either Cocos weddeliana or Geonoma gracilis; but whichever it is, it is unfitted for house decoration, as they both require plenty of heat and moisture. Never choose a Palm for your rooms that has very finely cut leaves as they are not fitted for such positions.

Seedlings Damping Off.—*Annual*: They are most likely going off through the attacks of a very minute fungus. It is caused by too much water, and the plants remaining wet for long periods, probably through the moisture in the frame condensing on them. The atmosphere must be kept drier, and where the plants are large enough to handle they should be pricked off, or if crowded in their seed pots they should be thinned out.

Rose Briers.—*Rose*: It is late now to get in stocks for budding, it is best to get them in during the autumn or winter, but with careful treatment and attention to watering they may still be planted.

Potting Compost.—*Potter*: A general potting mixture is two parts of good fibrous loam and one of well decayed leaf-soil, or leaf-soil and peat, with enough matter added to keep it sufficiently porous to allow the free passage of air and water. The substances generally used are silver sand, charcoal and burnt earth. For very young plants it is advisable to have more leaf soil. Some plants require a peaty soil especially Azaleas, Rhododendrons, and Heaths. Artificial manures should not be added when repotting, the new soil ought to be sufficiently stimulating for a time, unless it is for fruit trees, when a few ground bones, or a little bone meal may be added.

Cacti going off.—In reply to "F.," page 540, the book by Mr. Watson is not as you say, but "Cactus Culture for Amateurs." Secondly, Cacti do not require so high a temperature as 50° in the winter. They will do as low as 35° providing you do not give them any water, and they will be much stronger and healthier if kept so than those that are kept in a higher temperature. Your insertion in your next issue of the above will oblige.—*H. N. Ellison, F.R.H.S.*

Cockroaches.—*Pest*: They are very difficult to get rid of when once they enter a greenhouse, especially if there is much hot water piping or flues. They do not seem to have any natural enemies like most other pests have, so if not checked they multiply considerably in a very short time. There are several means of trapping them; the simplest and most effective is in glass preserve jars. These

should have about two tablespoonsful of sweet oil put into them, and placed in positions where the cockroaches are most plentiful, with pieces of lath or stick against them for the cockroaches to climb up, In this manner large quantities may be captured. Phosphor Paste is also sold in large quantities for poisoning them. Arsenic mixed with boiled Potatos or roasted Apples destroys a large quantity. It should be remembered that they are like many other pests, they will not always eat the same thing, therefore, if one remedy falls another should be tried.

"THE PLEASURE GROUNDS"

CALL for much care and attention from now up to the month of October. Every eight or ten days the mowing machines must be on the go, if the gardener is to keep all in good trim. Men with smaller machines as well as scythes must follow in the train to cut near trees, shrubs, and close to flower beds, edging the latter, also verges each time the grass is cut, or else the work looks but half done. Stir the soil between beds full of Tulips, Polyanthus, Myosotis, Silene, Daisies, Aubrietia, Arabis, Pansies, Violas, Wallflowers, &c. The continual downfall of rain during March and the first half of this month has almost washed the plants out of the beds, leaving the surface more or less caked over and preventing sun and air from penetrating the soil. This stirring will help the plants the better to throw up their flowers.

Delay no longer the sowing of grass seeds, well firming the ground before and after sowing by plying the roller several times over it. Let the surface be as fine and as even as possible, raking the seeds well in before the final rolling takes place. The relaying of turf should have been finished ere this, or it is apt to suffer from drought during summer.

In the herbaceous beds or borders the respective plants should be examined, especially where they are massed, and if found encroaching on their neighbours cut back the same with the spade, or the arrangement will soon get out of order. Here, again, as soon as the plants are well through the soil the flat or Dutch hoe will be requisite.

Remove all weeds from walks where weed-killer is not allowed to be used (as here) before the busy time of bedding out arrives, well rolling the same after. Get all new gravel laid down as expeditiously as possible before very dry weather sets in, or it will be found impossible to get it to bind, unless the same is watered in, and this is not always convenient. Keep the centre of the walk a trifle higher, but avoid rounding too much, as such walks, though drier, are anything but pleasant for two or more persons abreast to walk on. The trimming of the verges with the edging iron should be done every spring, straight lines be made as true as possible, while curves or bends must be pegged out. Place the line close up to the same before cutting, avoiding too sharp turns which prove objectionable.—*Grower.*

"SWEET SCENTED VERBENA."

THIS old fashioned plant (Aloysia citriodora) has had a struggle in many gardens to maintain its existence. Its sweet scented foliage makes it useful at any time for intermixing with sprays, buttonholes, etc. Of course, there is always reversion of taste, but I think that this "lemon plant" will always be sought after. In many favoured spots it will thrive well out of doors where planted at the foot of and trained against walls. Cut it down pretty hard after the wood has ripened, and cover only in very severe weather, with some rough bracken. If it is fortunate enough to escape the first winter it will have a better chance to survive in the future. As a pot plant it is worthy of more recognition than it receives, if treated more after the style of the Fuchsia. For mixing with groups of pot plants in conservatories it is well suited. This plant is by no means to be despised for the sake of its flowers alone, for although the blossoms are minute, their profusion in long graceful spikes make a pleasing effect. Take cuttings in early spring of nice young shoots, dibble them in pans of sand and leaf mould, place on a shelf in greenhouse, water and shade from sun. When rooted pot off into 3 in. pots, adding a little turf to your mixture this time, afterwards into 5 in. pots. You can either pinch every now and then for bush plants, or allow only one stem until it reaches 3 ft., when it might be pinched and allowed to form a standard. It can also be used for pillars or archways in verandahs, or planted at the foot of rustic seats, where perhaps the convalescent would get the benefit of nature's perfume.—*T. S. Dick, Castlemilk.*

WATERFALL AT BICTON, DEVON.

THE accompanying photograph shows the waterfall at the bottom of the pleasure grounds at Bicton. The water finds its way into the river Otter, eventually adding its little to help swell the briny ocean 2½ miles distant. It is really the overflow of the many lakes scattered over the Bicton grounds, while on the banks of the stream Gunnera manicata and scabra, Spiraeas, Bambusas, Irises, Arunda conspicua and Donax, and Gyneriums, Eulalias, Phormium tenax variegatum, &c., are thrifty and happy. On either side of the waterfall can be seen Phormium tenax, each carrying a flower spike (though only one is clearly shown in the photograph), flourishing and full of beauty; also huge masses of Rhododendron arboreum and R. nobleanum with banks of Camellia japonica in all its many colours, the former now in flower, the latter to follow and carry on the floral display well into June.

WATERFALL AT BICTON, DEVON.

Fruit from the West Indies.—The first consignment of fruit from the West Indies, by the Imperial Direct West Indian Mail Service, has been, as anticipated, an immense success, and very soon we may have an abundance of fresh fruit on our markets that have only hitherto been obtainable in a preserved form. It included 18,000 bunches of Bananas, which were not packed as is usual, but came loose and caused some little difficulty with the railway companies at this end of the journey, as they were used to receiving them carefully protected. The consignment also included large quantities of Pineapples in two varieties, the Ripley and the Smooth Cayenne, Pomelos, Mangos, and Oranges. In due course it is intended to import Limes and several other choice fruit, up to the present strangers to the British market.

HELIOTROPES.

THE Heliotrope or Cherry Pie, as it is familiarly called, is a favourite in most gardens on account of its delightful fragrance. It is also a very accommodating plant, either for bedding or pot culture; and well grown plants in pots are very attractive indeed. Away back in the eighties fine specimens used to be shown in the Falkirk district of Stirlingshire, and just the old Heliotropium peruvianum, a favourite of mine still on account of old associations.

There are few such sturdy specimens, however, to be seen as the one described by Mr. Blair on page 506. I was particularly struck by the abnormal girth of the stem, 19 in.; surely it is no stripling of recent planting. The area it covers is nothing unusual. I know at least three in south Ayrshire as big in that way, one each trained on the gable end wall of span-roofed greenhouses at Pinmore, Trochrague, and Glendoune. I am not sure if there is one at Bargany, but think there is one there on the same site. If there is, and it is treated in the able way Mr. Buchanan does all under his care, it, too, will be a giant among its fellows. The one at Glendoune I measured, after reading the article

referred too, and find the dimensions as follows:—height 13 ft., width, 14 ft., but the stem, alas, no thicker than a good broom handle, having been only planted some seven years ago. The conditions under which the latter plant grows are pretty much like those at Binny, and the treatment corresponds in every way with Mr. Blair's. Though quiet in colour the Heliotrope is a charming subject grown as a wall plant indoors, and associated with more showy subjects has a most pleasing effect. I must confess that my experience in regard to insects is not the same as Mr. Blair's, as I find greenfly often on the Heliotrope when grown indoors, but a good syringe with a prepared mixture, or a dose of XL All, makes short work of master Aphis, while the Heliotrope looks fresher than before.—*Brightspade.*

METHODS OF PROPAGATION.

(*Concluded from p.* 544.)

Whip or Tongue Grafting is the most general, especially in the nurseries, and if stock and sion are nearly equal in size so much the better. A slip of bark and wood is removed with a sharp knife upwards, making a little cleft or notch on the top. Then take the graft and make as nearly a similar cut as possible, then a thin tongue cut upwards to fit into the cleft at top, making quite sure the barks come in direct contact with each other when tied. This notch is merely made to hold the graft in position better, so is more a matter of convenience than necessity.

Cleft Grafting is occasionally practised on old stocks, and is done with a mallet and chisel, and the scion cut wedge shape, is fitted into the cleft. One on each side is often done, but as in other modes make sure the barks meet or no union will take place.

Crown or Rind Grafting is to be preferred to the one just alluded to, and is easily accomplished by making an upward cut on the bark of the stock, and a splice taken off the scion on one side and inserted between the bark and the wood. This is a successful way of grafting either young or old trees, especially the Apple. Now in all these different ways the graft must be made secure in its place by tying with cotton, raffia, or something similar, and covering with clay or grafting wax to exclude air, or union will fail to take place. Neither should the ties be made too tight, especially on young trees; and the trees operated on must be examined every few days to see all is right, as if clay is used it is very often liable to crack, especially if a dry hot time sets in. If such occurs thoroughly soak with water and smooth over again. If time would allow it is not a bad plan to syringe the clay every morning; but where hundreds are done this could not be well carried out. The past year's growth is generally the best wood for scions, though we have used shoots made the previous year, but they are not to be preferred. Also choose your grafts from as healthy a tree as possible, fighting shy of cankered or exhausted trees, and the same might be said in regard to choosing stocks. My remarks as to grafting apply solely to fruit trees, not having had any experience with Coniferae.

Budding.

Now let us study the art of "budding," and though it is placed last on my paper it is not the less important. It is largely practised among fruit trees and Roses. A bud is an eye as it were with a portion of wood attached, and is inserted beneath the bark of another plant or tree usually; in fact, budding is closely allied to that of grafting, though it is done later in summer, and a good deal depends upon after results as to when this operation is performed.

July and August are the two best months, early or late according to the weather, and how the sap is running. If the bark can be easily raised from the wood, and the bud cut out easily, then is the right time to bud, though one wants to study the weather a bit as well. Cloudy days are the best, and when little or no wind is blowing, as the latter soon withers up a bud when prepared. An expert budder will place this in his mouth after being made, and while he is preparing the stock for its reception, or put it in a can of water. The shoots containing the buds should be placed in water as soon as cut from the tree or bush.

As soon as you have decided the exact position where the bud is to be placed, and in Roses, standards especially, it should be as near the stem as possible. Make a cut across the stock, less than an inch. Then make a similar cut lengthways so as to take the bud. This cut must be fairly deep, and can be opened out a little on either side by the haft or handle of the budding knife, when it is ready to receive the bud. As I said just now the latter is generally made first, and should be chosen from wood of the current year's growth. The leaf is generally removed, but the petiole or stalk of the leaf is left, so that the bud can be more conveniently handled. In cutting out a bud a clean cut is necessary, and should be made at the back of the leaf stalk, and bringing the knife towards you, from 1 in. to 1½ in. in length being usually sufficient. A little wood is cut with the bud, and it is generally necessary to remove a part of the woody substance from the centre, with the point of the knife and the thumb. The bud is then ready for insertion under the bark, which should be carefully closed and tied with cotton or raffia fairly tight to exclude air, as in grafting, or failure will take place. If only a few dozen are worked and could be shaded with a few large leaves for a few days should the weather be very bright, better results will follow. I allude to Roses mostly.

Of course after attention is necessary as with grafting. See that the ligatures do not get too tight. In a month's time you will be able to judge whether the buds have taken or not. If the leaf stalk has dropped away all is right, but if it has withered up and remains on you will find the bud has failed to form its part, and no union will take place, so loosen the ties as soon as you see the buds are taking. Early in spring or before the sap rises, th shoots must be headed back so as to push the whole energy of the bush or tree into the bud. Later, as growth extends, support each with raffia or sticks as the case may require, for the young growth is very brittle and easily snapped off with the wind.

In budding of fruit trees care is necessary that the bud chosen is a wood and not a fruit bud; but if any do fail to take, these can be grafted next spring following. Where grafting close to the ground is practised it is a good plan to earth them up with soil after claying; it will prevent the latter drying up and cracking. Budding is sometimes adopted on espalier fruit trees, if one branch should die back or be broken off; or if grafted in early spring and fail to unite by encouraging a young growth from the old stock, the same may be budded in July or August and replenish the gap, and so save a season.

Well gentlemen, I think I have touched upon most methods of propagation adopted in this country at any rate. Our cousins, the Americans, may have more expeditious ways and means of increase from a horticultural standpoint; but of this I have yet to learn. And while I do not claim to have brought forward anything new or sensational in my paper, something will have been achieved if only gardeners, especially the younger generation, will take a deeper interest in the reproduction of fruit, flowers, and vegetables, striving to cultivate the very best varieties only, as they take no more space than the inferior kinds, and are of infinitely more value, and give far more credit to the grower.—*James Mayne.*

JOHN CLAUDIUS LOUDON.

(*Continued from p.* 541.)

From Venice he proceeded to Padua, then famous for its Botanic Garden. From here to Vicenza the Syrian Mallow (Hibiscus syriacus) constituted the hedges, and being in season presented a delightful, as well as a gorgeous appearance. He was also in the silk-producing country, and had the pleasure of seeing vast plantations of White Mulberry trees grown for feeding the silkworms. Milan was the goal of his next journey; and later on he visited the celebrated gardens of Monza, with which he was particularly delighted. The people here seem to have been imbued with a strong feeling of the necessity for economising space in the greenhouses, for they used square pots so that no space should be vacant. The tubs occupied with Orange and Lemon trees were sunk in the ground to keep the roots moist. Luxurious plantations of Tuberoses were scenting the atmosphere. The Milan Botanic Garden was small but well filled. From this place he went to the Borromean Isles, but was not particularly struck with the reputed beauty of Isola Bella.

The Vallisneria he procured at Venice caused him a great deal of inconvenience while journeying through the northern part of Italy; and when he commenced crossing into Switzerland by the Simplon, it became still more troublesome, from the fact that he had to accomplish the journey on mule-back. Notwithstanding his difficulties, he arrived safely at Geneva on September 13th with his precious charge. In visiting the Botanic Garden here, he made the acquaintance of the late Professor de Candolle. From here he proceeded to Basle, where he inspected the establishment of M. Fellenberg, before continuing his route to Strasburg and Paris. The gay city was very crowded at the time, and only a small bedroom was at his disposal, while the hotel was crowded. Himself, feeling the atmosphere close and stuffy, he imagined that his precious Vallisneria was in the same fainting condition, and, opening the window, placed the tin vessel containing it on the window sill, securing it so that it might not fall. In the morning he awoke to find the tin can only remained, the Vallisneria having mysteriously disappeared, leaving no clue as to its whereabouts. The rascally sparrow got the blame for the misdeed, whether deserving it or not.

Having had enough of Paris, Mr. Loudon directed his face to Belgium, halting at Brussels. He thought little of the Botanic Garden of those days, being more pleased with the park and promenade on the ramparts to which the Garden was afterwards removed. The Botanic Garden at Ghent pleased him better, as did the various subjects cultivated in private establishments in the neighbourhood of that city. On his way to England he halted at Bruges and Ostend, but found little to interest him; and reached Bayswater on October 9th.

Loudon now had the necessary information wherewith to write his history of gardening, which he intended to form the introduction to his compendious work, an *Encyclopaedia of Gardening*, commenced in 1819, and first appearing in 1822. He worked assiduously and continuously at it, notwithstanding the fact he suffered excruciating pain from chronic rheumatism in his right arm. This continued till 1820 when he felt compelled to call in medical assistance. He went to Brighton to try a course of Mahomed's vapour baths on the recommendations of his advisers. Here he submitted to great tortures from the shampooing and stretching operations till they actually broke his right arm close to the shoulder blade; and though it so far healed that he was able to use his hand for writing for several years, a proper union was never formed. As above hinted, the *Encyclopaedia of Gardening* appeared in 1822, and fully established the literary ability of its author, the sale of the work being described as extraordinary. It was a laborious work and full of useful and practical information, independently of the historical matter it contained. The large number of wood-cut illustrations, intercalated with the text, instead of being on separate pages, was looked upon as an innovation in those days. Early in the following year (1823) he wrote a book on "*The different modes of cultivating the Pineapple, &c.*"

A small work published about this time and entitled "The Greenhouse Companion," was believed to have been written wholly or in part by Mr. Loudon; but if so, he must have worked under great difficulties, owing to the fact that he suffered excruciating pain during the whole of 1823. His right arm he was obliged to keep in an iron case night and day, while the rheumatism settled in his left hand and so contracted his thumb and two fingers as to render them useless. Notwithstanding all this, he got up at 4 a.m. daily in order to superintend the building of his houses in Porchester Terrace, Bayswater, as soon as the men commenced work.

The second edition of his *Encyclopaedia of Gardening* was published in 1824, the greater portion of it having been rewritten and extensive additions made to it. The *Encyclopaedia of Agriculture* first appeared in 1825, having been written during the same year. Not long after this, his right arm was broken a second time, and he was obliged to submit to amputation. Landscape gardening was abandoned, in order that he might devote his time more constantly to his pen. By this time only two fingers on his left hand were of service to him, so that he was obliged to employ both an amanuensis and a draughtsman. In order to deaden the great pain which he endured, he resorted to the use of

laudanum as a potion, and became so habituated to the use of the drug, that he drank a wineglassful every eight hours. He was fully aware that it was injurious to health, and resolved to cure himself of the habit after the amputation of his arm. Every time he took a glassful from the bottle, he filled up the latter to the same extent with water, so that the drug became weaker and weaker every day, till little or nothing but water was left. Thus he gradually cured himself of the habit without feeling inconvenienced.

Loudon's next venture was *The Gardeners' Magazine*, the first publication entirely devoted to horticulture. In this he had a channel through which he could convey his ideas and the results of his experience to the public. Noting how well the gardeners were supplied with information about London, and what little chance the gardeners of rural districts had in the matter of education, his sheet was mainly intended for their especial benefit; but it soon proved a medium of general utility for all gardeners. It also proved a source of great inspiration to mere lovers or amateurs of gardening, and no doubt became the means of imparting to others a taste for gardening. In one of the issues he wrote that "In an art so universally practised as gardening, and one daily undergoing so much improvement, a great many occurrences must take place worthy of being recorded, not only for the entertainment of gardening readers, but for the instruction of practitioners in the art." The first number of 4,000 copies was sold out in a few days, and the periodical at once became popular, continuing so for a period of nineteen years, till, in fact, the death of its conductor.

RESOLUTION BY THE FRUIT COMMITTEE, R.H.S., AND THE CAUSE OF IT.

Proposed by Mr. J. Wright, April 9th, 1901.

At the meeting of the committee held on April 9th, the Chairman, Mr. Geo. Bunyard, was understood to say that it was his duty to place the recommendation of an Award of Merit to Apple Lamb Abbey Pearmain, voted for at a previous meeting (March 26th) before the Council, and also to signify his objection to the proposal. Still the honour was allowed—Votes for, 11; votes against, 7.

The specimens of this late dessert Apple were unusually fine, and in that respect, also in quality, were by far the best Apples that had been placed before the committee after the middle of March. This Apple is not commonly grown, and may almost be classed as a "novelty," not only because of its comparative scarcity, but also because it originated as a seedling from the Newtown Pippin and possesses more of the texture and quality of that famous Apple than does any other variety grown in this country. It is described by Dr. Hogg in the *Fruit Manual* as of "first-rate quality; very valuable for its richness and long keeping—namely, till April. Tree, a free healthy grower and good bearer." Mr. A. F. Barron describes it in *British Apples* (Royal Horticultural Society), as "very firm, sweet, late, first quality." True, it may not be a "nurseryman's Apple." It is not included in Mr. Bunyard's and some other catalogues, though Messrs. Cheal list it as of "first quality."

The Society's Regulations say that the committees are to consider "novelties," and make awards according to their merits. Is not this done in the case of plants, and awards made whether nurserymen possess them or not? But this Apple, though a "novelty" to many, is very much more, but all the members of the committee may not have proved its merits and therefore, very properly, did not vote. But though the honour recommended by a comparatively small majority was allowed, a rebuke of the Council was conveyed by the chairman to his fellow-members of the committee for their action in the matter, and they evidently felt that they were told, in a courteous way, not to do anything of the kind again. Yet they had infringed no rules, regulations or instructions whatever!

At the same meeting (April 9th) a dish of the valuable late Pear, Bergamotte Esperen, was placed on the table, and the fruits were obviously enjoyed by the committee. On ascertaining that the variety had never been honoured, an Award of Merit was proposed, and only one hand held up against it; yet the recommendation was peremptorily rejected by the Council. Thus one of the very best late Pears was denounced as unworthy of recognition, and the committee, with the greatest possible haste, pilloried in the Gardening Press as incompetent judges of fruit.

This public notification was, and could not well be otherwise, regarded by at least a large section of the horticultural public as a vote of "want of confidence" on the part of the Council in the committee. This seems to have been so self-evident to one gardening journal, that the letter which the secretary was instructed to send for publication was headed in bold, black type

"WILL THEY (the committee) RESIGN?"

No member of the committee will for a moment imagine that Mr. Wilks was the author of that heading; he simply did his duty. For "sitting on" the committee the Council admit that the award was recommended by a majority, but did not say it was a majority of *eleven* to *one*.

In taking the extreme step they did, whether or not on the advice of the chairman of the Fruit Committee, it will be noticed that the Council have not given a remarkable example of consistency. They have in their wisdom (or haste) arrived at the conclusion that the committee, in giving a *few* votes—a comparative small majority of four—in favour of an award for a particular fruit they were *right*; whereas, by voting in an overwhelming majority—eleven out of twelve votes—in favour of a fruit of much more widely recognised value, they were *wrong*, for in the former case the Council allowed the award, but in the latter stamped it out.

The Council of the Royal Horticultural Society has always been held in the highest esteem by the members of committees because of the uniform courtesy extended towards them, and the graceful acknowledgment of such assistance as they have been able to render; but in this instance it is felt that the action of the Council has, under some strange impulse, been precipitate, on the ground that it would only have been reasonably considerate to have withheld the award for the reconsideration of the committee for some possibly valid reason, that might have been advanced by the Council, and which was not placed before the meeting when the award was recommended.

Several of the members of the Fruit Committee of the Royal Horticultural Society are chosen as judges at provincial shows, because their choice as experts by the Council is held as the best evidence of competency. The recent action of the Council cannot but shake confidence in the men whom they have so severely treated.

Bergamotte Esperen is not, of course, an orchard Pear for the million, but a garden Pear for choice desserts, such as would find approval with the majority of the Fellows of the Royal Horticultural Society who have the means for growing it against walls, or as espaliers, or pyramids according to locality. It is one of the most prolific of Pears, and for quality most persons would experience difficulty in finding three, if they could even find two, superior in April out of the whole of the "April" Pears in Dr. Hogg's *Fruit Manual*, and the catalogues of Messrs. Veitch, Rivers, Cheal, Pearson and Bunyard. It can be stated as a fact that Dr. Hogg regarded the variety as one of the most generally reliable of all the first class late Pears; while, with one exception, the whole of the nurserymen on the Council speak of it in terms of high praise. It is true that Messrs. Bunyard & Co. have omitted Bergamotte Esperen from their descriptive list in the catalogue 1900-1901, but, curiously enough, they retain it in their short list of "Select First-class Pears." As a matter of fact nearly all the fruit experts on the Council have so described the Pear as to bring it well within the authoritative terms of reference, namely, as a variety of "great excellence, the merit of which had been hitherto overlooked or ignored." And to the attention of such the committee is specifically invited.

Though the proposer of the award in question had grown the Pear for more than twenty years with the greatest satisfaction to all concerned, not a dozen words were said in its favour in making the recommendation, but the issue was left to the individual knowledge of the experts at the table—some of the best gardeners and fruit judges in the kingdom.

No doubt the Council is entitled to set aside any recommendation of either of its committees, but since, as is well known, hundreds of awards, recommended by bare majorities, have been allowed the present disallowance (and the manner of it) becomes the more extraordinary, seeing that only one out of twelve persons on the committee (omitting the chairman), voted against the proposed award. It is, moreover, felt that the hurried form of public announcement of disagreement with an all but unanimous committee of experienced men is unparalleled.

For those reasons the resolution is moved; and because the proposer of the discredited award was, all unwittingly, the means of placing his fellow members in such an unpleasant position, he retires from the committee on which he has served so long. He hopes, however, that his colleagues will continue their services to the Royal Horticultural Society.

RESOLUTION

(To be moved by Mr. J. Wright (health permitting), as the proposer of the "recommendation," or by Mr. A. Dean).

"The Members of the Fruit Committee present at the Meeting on April 9th, and who, if not without a dissentient vote, by a majority of not less than ten to one, recommended an Award of Merit to Pear Bergamotte Esperen, placed before them by the Earl of Ilchester, regret the action of the Council in hastily publishing the Council's dissent in the Press without any reason assigned (or affording the Committee an opportunity for re-consideration of the recommendation), and thus reflecting injuriously on the capacity of the Members in question as judges of fruit."

Mr. J. Wright was present in person on Tuesday last and made the above proposition.

The following was read by the chairman at the meeting of the Fruit Committee:—

"I am desired by the Council to inform you that they have left the confirmation of the Award of Merit recommended by this Committee at the last meeting, to Bergamotte Esperen Pear, in abeyance; as they would like the Committee to have the experience of another season, the past one having been in their opinion an exceptionally favourable one for many late Pears, not ordinarily of first-rate merit.

"The Council do not think that any real injustice will be done to Bergamotte Esperen even if it prove itself to be all that the Committee considered it on April 9th, as, having been in cultivation for quite sixty years without obtaining any award it can afford to wait and approve itself in at least two consecutive seasons.

"The Council are happy in being able to approve and confirm the recommendations of the Committee in 99 out of 100 cases and they trust that the Committee will not feel hurt by their exercising what seems to them only a wise caution in the present *exceptional* instance."

CESTRUM AURANTIACUM.

Though one cannot say that the species of Cestrum, otherwise known in gardens as Habrothamnus, are the cleanest or least subject to pest attacks of our greenhouse-climbing plants, we can, I think, include them amongst those that are freest and most attractive in flowering. Cestrum aurantiacum seems to be less grown than C. elegans or C. Newelli, both of which are worthy plants and well known. The species under note has orange-vaseline coloured flowers, which are in every way identical in form and structure to those of the other species just mentioned. A well-developed plant trained erectly to a pillar or obliquely upon a beam, where the lateral flower shoots with their gorgeous trusses can hang pendently, will, at any season of the year, form a feature of marked beauty. The leaves are dark green, and of moderate size. The plant seems to enjoy a good deal of root room, though, with this special soft-growing class of plants, it will generally be found best to confine the roots, and to rely on nourishing the plant by liquid manurial applications to the root space. Older plants, too, as a rule, flower more freely than young and vigorous ones. A mixture of turfy loam, lime and broken brick rubble, coarse sand and some peat or dried cow-droppings, forms an excellent compost in which to grow the plant. Good specimens commence flowering previous to this time of year, and continue so for a very long while. Keep the plants clean by frequent syringings and regulate the growth of shoots by use of the knife and by slight tying-in. The plants should be pruned rather hard when they have gone out of flower, whenever that occurs.—*L.*

SOCIETIES.

ROYAL HORTICULTURAL OF IRELAND.—*April 12th.*

THE annual spring show of this society, held at Dublin, was a great success. The exhibits were exceptionally fine, and all the classes were well represented.

As the exhibits of Roses predominate in the summer shows and the Chrysanthemum in the autumn exhibitions, so the Daffodil takes premier place in the spring shows. There were some magnificent exhibits in the Rose classes. In the class for the Challenge Cup, value £10, and money prizes presented by the president, Mrs. Goodbody was first (gardener, S. Davis); second, John Millar, Esq. (gardener, P. Geoghegan); third, F. A. Millar, Esq. (gardener, Denis Colohan).

The tables of plants and flowers for artistic effect were very prettily arranged. D. Drimmie, Esq., was first (gardener, Thomas Byrne); second, Mrs. Goodbody, Obelisk Park, Blackrock. These were the only two entries in this class. For six exotic Ferns the first prize went to F. A. Millar, Esq. In the class for six distinct plants for table decoration, the Right Hon. Lord Cloncurry, Lyons (gardener, W. Rigg), was first. Mrs. Goodbody was first for six Crotons. Mrs. Meade (gardener, James Colgan), St. Michael's, Ailesbury Road, secured the first prize for six Azaleas, pots not exceeding 10 in.

For six Deutzias, F. A. Millar, Esq., was first. Six Cinerarias, first, John Millar, Esq. (gardener, P. Geoghegan). Three pots or pans of Lily of the Valley, first, Right Hon. Lord Cloncurry. Mignonette, three pots, first, Henry Dudgeon, Esq., The Priory, Stillorgan (gardener, J. Tuhbard). Freesias, three pots, first, Mrs. Goodbody. Arum Lilies, three pots, first, Mrs. Meade. Spiraea, six pots, first, John Millar, Esq., Baggotrath House.

HYACINTHS.—There was some keen competition in the classes for these popular spring flowers, the whole of the exhibits being remarkably fine blooms. For three pots, three of a sort in a pot, Mr. R. T. Harris was first.

The first prize for six distinct sorts went to J. Millar, Esq. For six distinct sorts in another class, Mr. H. W. Peare was first. For a collection of cut Daffodil flowers (Polyanthus, Narcissi excluded), Lord Cloncurry was first; Lady Frances Doyne, second (gardener, James Mitchell). The prize fell in the same order in the next class, for a stand of twelve varieties, five of each, of single Narcissi, and again in the class for a stand of twelve bunches of double Narcissi, Lord Cloncurry was first; Lady Frances Doyne, second; and Lord Ashtown (gardener, A. Porter), third. The blooms were all of a good colour and large size in these classes, and must have caused some difficulty to the judges, Captain J. Hill Poe, Riverston, Nenagh; F. W. Burbidge, Esq., M.A., Trinity College Gardens; and Mr. John Morrison, The Gardens, Narrowwater, Co. Down.

For twenty-four Rose blooms, Mr. C. K. Douglas, The Villa, Rathmoylan, was first; second in the class for twelve Teas and Noisettes, and third for twelve Maréchal Niel. Mr. Douglas is one of the most enthusiastic of Irish rosarians, and the blooms he staged at this show were truly a praiseworthy exhibit. Edmond D'Olier, Esq., Knocklyn, Bray (gardener, Mr. T. Harvey), was awarded first prize for twelve magnificent blooms of Maréchal Niel in that class.

For twelve blooms of Teas and Noisettes, Mr. E. Bewley was first. There was only one exhibit of Pelargoniums, for which Mrs. T. Aligia Kelly received a prize; she was also first for a basket of Narcissi.

Miss E. M. Pine, Eaton Lodge, Monkstown, was first in the dinner table decoration, with a very tasty arrangement.

An anonymous donor presented a Challenge Cup, value £10, for a stand of twenty-four hardy cut flowers, bloomed in the open air, in twelve distinct varieties. This was won by Lord Ashtown, Woodlawn, Co. Galway (gardener, Mr. Porter). There was no opposition in this class, which none regrets more than the winner of the cup. It has to be won three times to become the property of the competitor.

There was not a very large show of fruit. For a dish of Strawberries, Lady Emily Bury (gardener, Mr. R. M'Kenna), was first; she was also first for six baking Pears, and first for six dessert Apples. For six baking Apples, the first prize went to Edmond D'Olier, Esq. Mrs. Burrows (gardener, Mr. G. Carrol), was first for three heads of Broccoli, also for three heads of Spring Cabbage. The first prize for six Lettuces went to the Right Hon. Lord Plunket.

For a collection of ten distinct kinds of vegetables a Bronze Medal was given with the first prize by Messrs. Toogood & Sons, Southampton; it was awarded to Lord Ashtown.

They also gave a Bronze Medal with the first prize for six distinct kinds of vegetables, which was taken by Mr. C. R. Roche.

MISCELLANEOUS EXHIBITS.

Miss Currey, of Lismore, was deservedly recommended for the society's Gold Medal for her magnificent collection of three groups of Narcissi.

Messrs. Hogg & Robertson staged 100 vases of Narcissi, and were recommended the society's Silver Medal.

Mr. S. Davis, gardener to Mrs. Goodbody, had a magnificent group of Hippeastrums in the entrance hall, standing out from a groundwork of Freesias. A Cultural Certificate was awarded to Mr. Davis for this display. A similar certificate was also awarded to Mr. A. Campbell, gardener to Lord Ardilaun, Clontarf, for his excellently-arranged group at the end of the Concert Hall.

The Royal Botanic Gardens, Glasnevin, were, as usual, represented by a large and varied collection of beautiful and rare plants.

Messrs. A. Dickson & Sons, Ltd., Newtownards, were awarded the society's Gold Medal for an attractive collection of twelve dozen Rose blooms with a background of Narcissi.

Messrs. C. Ramsey & Sons, Royal Nurseries, Dublin, had a large and well grown collection of plants in the entrance hall. They also had a number of beautiful wreaths.

Mr. W. B. Jefferies, gardener to the Countess of Caledon, exhibited a charming collection of Violets.

Two new Daffodils were shown, one raised by Mr. W. Baylor Hartland, Ard Cairn, Cork, provisionally named Hyperian. The other was raised by Mr. Kendal. Both are very good productions, and fabulous prices are quoted for them.

MANCHESTER SPRING SHOW.—*April 18th.*

THE executive of the Royal Botanical Society of Manchester are to be commended in making a move from the restricted space of the Town Hall to the spacious floor of St James' Hall, which gave ample room for the proper display of the very fine exhibits. So far as the exhibition is concerned, the highest credit reflects on the courteous curator, Mr. P. Weathers, for the very fine show that he arranged, but the difficulty appears to be greater in inducing the public to appreciate and patronise the same.

In the competitive class for nurserymen for not less than fifty varieties of Daffodils, Messrs. Barr & Sons, Covent Garden, London, were the only exhibitors, staging some ninety varieties, including Duke of Bedford, Poeticus Glory, Stella superha, Glory of Leiden, Frilled Beauty, Lobster and many other fine varieties, for which they were deservedly awarded the Silver Cup.

For the amateurs' class of thirty varieties, Mr. R. G. Backhouse, Hereford, secured the premier award with a fine stand, the charming variety, Weardale Perfection, gaining many admirers.

For the group of spring flowering plants and foliage plants, Mr. James Brown took the leading honour with a tastefully arranged collection.

Captain Holford (gardener, Mr. A. Chapman), Westonbirt, Tethury, Gloucester, staged a fine bank of his noted Hippeastrums, for which he received a Gold Medal. The Czar, crimson; Nancy, beautifully barred; and a fine crimson not named, each received an Award of Merit. Susanna, Hanneda and Gladiolus were excellent forms. The setting up of this exhibit was enhanced in beauty by the judicious use of Palms, Ferns, &c.

Messrs. Dickson & Robinson staged a very pleasing collection of Daffodils, the centre being occupied with Rose Crimson Rambler, which set off the delicate shades of the Daffodils. Bicolor Victoria and Barri conspicuus were in fine form. (Gold Medal.)

Messrs. Hogg & Robertson, Dublin, contributed Daffodils. Mr. G. F. Brooke and Mr. Marsh Perrin were fine new forms; and they had a number of varieties of Tulips, which were awarded the society's Gold Medal.

Messrs. W. Cutbush & Son, Highgate, London, were accorded a Gold Medal for an attractive combination of spring flowering plants most tastefully arranged. Cyclamen were splendid; Calla elliottiana and Carnations Juliet and Magot stood out to advantage in this fine lot.

Messrs. W. Clibran & Son, Altrincham, were the recipients of a Gold Medal for a table of plants admirably grouped, the principal features being Lilium Harrisii, Azaleas, Heaths and a fine margin of Lily of the Valley. Primula viscosa nivalis was well staged.

Messrs. Dickson, Brown & Tait secured a similar honour with Azaleas and Lilacs in a group bordered with Hyacinths and Palms for a background.

The Orchids made an imposing show, and as the North of England Orchid Society held their fortnightly meeting in connection, quality as well as quantity was assured.

Messrs. John Cowan & Co., Gateacre, were worthily accorded the society's large Gold Medal for perhaps the best and most interesting group yet staged by the Company. Laelias, Cattleyas, Dendroblums, and Odontoglossums were in strong form, many carrying fine spikes of telling varieties, Odontoglossum loochristiense and crispum being excellent.

Messrs. Hugh Low & Co., Bush Hill Park, Middlesex, were awarded a Silver Medal for an interesting lot of Orchids.

Mr. John Robson, Altrincham, was awarded a Gold Medal for a telling arrangement of Orchids in many forms.

Mr. James Cypher, Cheltenham, was likewise honoured with a Gold Medal for a fine collection of Orchids.

Messrs. Charlesworth & Co., Bradford, likewise secured a Gold Medal for an excellent collection, in which Laeliocattleya highburyensis was noticeable for its telling colour.

Mr. A. J. Keeling, Bradford, was awarded a Silver Medal for Odontoglossums, Dendrobiums, Cattleyas, &c.

Mr. Holmes Timperby, Mr. Ashworth, and Mr. J. Leeman were awarded Silver Medals for their contributions.

Messrs. Dicksons, Chester, gained a Silver Medal for some eighty varieties of Daffodils.

The centre of the hall was occupied by an immense group of plants from the society's gardens. A fine Kentia was utilised as a centre, round which were banked hardy Rhododendrons, followed with Doronicums, Spiraeas, and bulbs. Four bold groups of Azalea mollis and a similar number of Dielytra spectabilis at the corners made a huge telling group which appeared to advantage, as seen from the balcony.

ORCHID AWARDS.

As already mentioned the meeting of the North of England Society was held when the following awards were made:—

Messrs. John Cowan & Co., Laeliocattleya hy. Iona, Award of Merit; Odontoglossum crispum Evening Star, Award of Merit; and O. Yellow Gem, Award of Merit.

Mr. John Robson, Lycaste var. Mrs. E. Rogerson, Award of Merit; and Odontoglossum loochristiense Statesmanii, Award of Merit.

Mr. James Cypher, Cypripedium Woolonii superbum, Certificate of Merit; and Cattleya Schroderae Distinction, Award of Merit.

Messrs. Charlesworth & Co., Odontoglossum crispum Dora, First-class Certificate; and Laeliocattleya Gladys, Award of Merit.

Mr. J. Leeman, Odontoglossum crispum trigrinum, Award of Merit; and Laeliocattleya Imperatrice de Russie, First-class Certificate.

Several plants, stated to belong to Mrs. Briggs-Bury, Accrington, were accorded special awards, of which Odontoglossum Queen Alexandra was one; there was also a fine Odontoglossum awarded a Cultural Certificate, but nothing to denote the exhibitor.

Awards of Merits were granted to the Misses Hopkins for Primroses and alpine plants; to Mr. J. Broome for outdoor grown flowers from Llandudno; to Mr. J. Brown, for a box of Marechal Niel Roses; to Mrs. Hodgkins for skeletonised leaves, &c.; and to Mr. J. Mason for bouquets, &c.

ROYAL HORTICULTURAL.—*April 23rd.*

THE meeting on Tuesday last was a crowded one owing to the presence of the Primula and Auricula Society's show in conjunction with the ordinary meeting of the R.H.S. Orchids were strongly represented; and there were also large groups of Daffodils, Anthuriums, Roses, Azaleas, forced flowering trees and shrubs, and hardy herbaceous plants.

A magnificent exhibit of Odontoglossum crispum in a great deal of variety was set up by Mr. Thomas Rochford, Turnford Hall Nurseries, nr. Broxbourne, Herts. The exhibit occupied half one side of one of the long central tables, and was well furnished with Maidenhair Ferns and Palms. There were some highly coloured varieties in the group and others were handsomely blotched. He also had some handsome natural hybrids, including O. wilckeanum Turnford Hall var. and O. rochfordianum; and fine varieties named O. crispum Edward VII., O. c. magnificum, O. c. xanthoides Queen Alexandra, O. c. The Gem, and others. (Gold Medal.)

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking, exhibited a small group of very select and well grown Orchids. He had grandly-flowered pieces of O. luteo-purpureum Hystrix, O. crispum pardalinum, O. c. Stevensii, O. mulus Burford var., Laelia anrantiaca, and Dendrobium micans Euryclea. (Silver Banksian Medal)

de B. Crawshay, Esq, (gardener, Mr. W. J. Stables), Rosefield, Sevenoaks, exhibited a very pretty and select lot of varieties, including the handsome new O. Adrianae crawshayanum, vars. of O. crispum, including a plant with four years' leaves, seven pseudo-bulbs, a seed pod and a raceme of flowers, all in a 60-size pot. He also showed the handsome O. andersonianum Lionel Crawshay, O. a. Raymond Crawshay, O. ruckerianum, O. trumphans imperati and several other fine things. (Silver Flora Medal.)

A. S. Hitchins, Esq., Clynton, St. Austel, staged the rare Odontoglossum elegantius.

Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited Cattleya intermedia alba, Laelia Latona, Laeliocattleya highburyensis, Lc. digbyano-purpurata, and Lc. Cybele, making an interesting little group. (Silver Banksian Medal.)

H. T. Pitt, Esq. (gardener, Mr. F. W. Thurgood), Rosslyn, Stamford Hill, set up a very varied and pretty group of Orchids, including Cattleya Schroderae, C. S. Pitt's var., C. lawrenceana, Odontoglossum crispum in variety, O Hallii leucoglossum, O. grande, O. ruckerianum, O. triumphans, Miltonia Roezli, M. R. alba, Galeandra devoniana, Vanda caerulescens, and many others. (Silver Flora Medal.)

Grand spikes, in the cut state, of Phaius Cooksoni and P. Normani were shown by Mr. James Douglas, Edenside, Great Bookham, Surrey.

Sir Wheatman Pearson, Bart. (gardener, Mr. A. Wadds), Paddockhurst, Crawley, Sussex, exhibited some well flowered pieces of Cattleya lawrenceana, and Odontoglossum triumphans.

Walter Cobb, Esq (gardener, Mr. J Howes), Dulcote, Tunbridge Wells, exhibited a splendid piece of Oncidium marshallianum sulphureum, and O. triumphans cobbiana. G. W. Bird, Esq. (gardener Mr. H. Redder), Manor House, West Wickham, exhibited Odontoglossum andersonianum var. Margaret, a fine variety with a beautiful white ground. Sir J. Miller (gardener, Mr. J. Hamilton), Manderston, Duns, N.B., exhibited Laeliocattleya Lady Miller (L. cinnabarina × C. schofieldiana), a fine form with orange flowers, shaded red.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, exhibited a well flowered group of Orchids, including a specimen of Dendrobium devonianum, with twelve flowering stems and over 300 flowers, also grandly flowered pieces of D. thyrsiflorum, Oncidium concolor and several very fine varieties of Cattleya Schroderae, including C. S. anrantiaca, and another with a very large dark blotch; also C. intermedia nivea. Phaius Cooksoni and Dendrobium brymerianum were also fine. (Silver Banksian Medal.)

Jeremiah Colman, Esq. (gardener Mr. W. P. Bound), Gatton Park, Surrey, exhibited a group of Orchids, including fine pieces of Cymbidium lowianum, C. eburneo-lowianum, C. eburneum, Odontoglossum radiatum, and many others. (Silver Banksian Medal.)

Messrs. B. S. Williams & Son, Upper Holloway, set up a large exhibit, backed up by fine plants of Vanda suavis, and V. tricolor superba. They also had Cymbidium devonianum, Dendrobium wardianum album, several Calanthes, Cattleyas, Odontoglossums, &c. H. F. Symonds, Esq. (gardener, Mr. G. E. Day), Woodthorpe, Beckenham, exhibited two flowering specimens of the rare Cyrtopodium punctatissimum var.

Messrs. James Carter & Co. had a very brilliant group of Cinerarias, showing their two strains, Stellata and Brilliant Prize. (Silver Flora Medal)

Messrs. B. S. Williams & Son exhibited a group of flowering shrubs, including many varieties of Lilac. (Silver Banksian Medal.)

Mr. H. J. Jones, Ryecroft Nurseries, Lewisham, staged a very effective exhibit of spring bulbs and Begonia Gloire de Lorraine. His Narcissi were very good, especially Orange Phoenix, Victoria and Mdme. Plemp. Two plants of Richardia elliottiana had blooms of an exceptionally deep colour. (Silver Banksian Medal.)

Messrs. Paul & Sons, Cheshunt, had an attractive lot of pot Roses. Mrs. Berkley, Admiral Dewey, Clara Watson, Marquise Litta, and Belle Siebrecht were some of the best. (Silver Flora Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, staged a large and varied collection of Azalea mollis and sinensis and several others of the mollis type; also two fine plants of Hydrangea hortensis Mariesii and H. h. rosea.

Messrs. W. Cutbush & Son had a large collection of Ericas, Azaleas, Prunus, and other early flowering trees and shrubs. (Silver Flora Medal.)

Messrs. J. Veitch & Sons, Chelsea, also had a large collection of Narcissi blooms exhibited, comprising most of the best varieties of the day, also a handsome Primrose—Evelyn Arkwright, similar to the common Primrose, but of a much large size.

Messrs Hogg & Robertson had a magnificent display of Narcissi. They had altogether 106 varieties staged. Great credit is due to this firm for the fineness of their blooms and their freshness, as they had a long way to bring them, their nurseries being at Rush, Co. Dublin. Some of the best varieties were Golden Spur, Baroness Heath, King of Spain, Flamingo, Mrs. J. Thorley (new), Mrs. G. F. Brooke (new), Sentinel (new), Incomparabilis, Stella superba, Maurice Vilmorin, M. J. Berkley, Rugulosus, Golden Prince, Lady Mary Boscawen, Dean Herbert, Lady Arnot (new) and Brigadier. (Bronze Banksian Medal.)

Messrs. Barr & Sons again exhibited a large collection of Narcissi. Lucifer, Incomparabilis, Vesuvius, General Roberts, Lorelinen, Maggie May, and Lobster were some of their best. (Silver Gilt Flora Medal.)

Messrs. R. & G. Cuthbert, Southgate Nurseries, put up a large group of hard-wooded plants for forcing, containing some handsome varieties of Azaleas. (Silver Gilt Banksian Medal.)

Messrs. Frank Cant & Co., Colchester, exhibited six dozen Rose blooms.

Mr. George Mount, Canterbury, staged some beautiful trays of Roses; a stand of twenty-four of Catherine Mermet was greatly admired. (Silver Gilt Banksian Medal.)

Mr. W. Rumsey, Waltham Cross, had a large collection of Roses; all of their blooms were in very good form, in spite of the dull weather we have experienced. The unique variety, L'Ideal, was much admired, with its combination of orange and red. (Silver Flora Medal.)

Messrs. John Laing & Sons, Forest Hill, had a magnificent group of hardy decorative and flowering shrubs. (Silver Gilt Banksian Medal.)

Messrs. Geo Jackman & Son exhibited a collection of hardy plants, chiefly Primulas, including P. Oenensis, P. viscosa nivalis, P. Sieboldii Manve Beauty, P. Auricula marginata, P. Sieboldii roseo-alba, P. S. Ceres, P. S. Venus, P. S. albo-rosea, P. purpurea, P. rosea, and Polyanthus, grand yellow. (Silver Banksian Medal.)

Mr. Perry, Winchmore Hill, had varied collection of early hardy plants. (Silver Banksian Medal)

Messrs. Hugh Low & Co. showed a few very fine Malmaisons, one bloom on a plant.

Mr. H. B. May, Upper Edmonton, had a small group of very pretty Pteris alho-lineata Alexandra.

Messrs. Ware, Ltd., Feltham, exhibited a table of Narcissi, Auriculas, Iris, &c. Iris iberica received a large amount of attention from the public.

Rev. G. H. Engleheart, Andover, exhibited a quantity of hybrid and seedling Narcissi, several of which received Awards of Merit.

Messrs. Cannell & Sons, Swanley, again had a showy exhibit of zonal Pelargoniums.

Messrs. R. H. Bath, Ltd., Wisbech, had a large collection of Narcissi. (Silver Flora Medal)

Messrs. J. Hill & Sons had a handsome exhibit of Ferns with coloured foliage, chiefly Adiantums. (Bronze Banksian Medal.)

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, recieved a Silver Banksian Medal for a collection of early spring flowers.

NATIONAL AURICULA AND PRIMULA.—*April 23rd.*

THE annual show of the above society was held in conjuction with the R.H.S. fortnightly show at the Drill Hall, Westminster. A large number of people visited the show during the day, the crowd at times being uncomfortable. The tables were well filled but there were not quite so many exhibitors as at the last year's show, and the quality of the plants was a little below their previous standard; but this was expected, seeing how backward the season has been. In Class A for twelve dissimilar, Mr. J. Douglas, Edenside, Great Bookham, Surrey, was first with some very handsome varieties; Mr. W. Smith, Bishops Stortford, was second; and Mr. Purnell Purnell, Streatham Hill, third. The plants in this class were all very good varieties, and well grown.

In the class for six Auriculas, dissimilar, Mr. Purnell Purnell took the first prize. It was the only exhibit in the class.

There was more competition in the class for four Auriculas, dissimilar, and some very fine plants were shown. J. T. Bennet Poë, Esq., 29, Ashley Place, S.W., was awarded the first prize for four very well grown plants. Mr. G. W. Euston, Great Gearies, was a very good second; Mr. R. Holding, Birmingham, third; and Mr. J. W. Bentley, Manchester, fourth.

The competition was also keen for two Auriculas dissimilar. There were six prizes awarded. Mr. P. Hemnell, Winchmore, carried off the first: J. T. Bennett Poë, Esq., was second; Mr. J. W. Euston, third; Mr. J. W. Bentley, fourth; Mr. R. Holding, fifth; Mr. A. R. Brown, Birmingham, sixth.

In the class for a single specimen of the green-edged Auricula, J. T. Bennett Poë, Esq., was first; Mr. W. Smith, second; and Mr Hemnell, third.

For a single gray-edged specimen Mr. Hemnell was first; Mr. W. Smith, second; and Mr. Hemnell, third with another plant, there being two exhibits allowed in this class

For a single specimen of the white edged, Mr Hemnell was first; the second and third prizes went to Mr. Euston.

In the class for a single specimen of a self the plants were very poor generally. The first prize went to J. T. Bennett Poë, Esq.; the second to Mr. Hemnell; and the third to Mr. A. R. Brown.

The class for fifty Auriculas, to include Alpines, not less than twenty varieties, was the feature of the show. Mr. J. Douglas was first; and Mr. Purnell Purnell, second. The exhibit attracted a lot of attention, and was much admired. The plants were all well grown, and the colours good for the season, showing great credit to these two enthusiastic Auricula growers.

For twelve Alpine Auriculas dissimilar, Mr. J. Douglas was first; Mr. Purnell Purnell, second.

For twelve varieties of Primulas, distinct, Mr. J. W. Euston was first; Mr. Purnell Purnell, second. The colours showed a wide range in this class.

For a basket of Primrose and Polyanthus plants arranged for effect, there were some attractive displays. Mr. Beale, Hayes, Kent, was first; Messrs. Isaac House & Son being a close second.

The plant gaining the premier honour was Auricula Horner's Magpie, exhibited by Mr. J. Douglas, a handsome and well grown specimen of white-edged variety.

What Constitutes a Good Potato Crop?—Different soils, different countries, and climates, and different varieties all tend to cause variations in the Potato crops. There are also good and bad seasons to take into consideration. From statistics it would appear that in the British Isles from eight to ten tons is usually reckoned an excellent crop, though record yields of thirty tons per acre have been reported. From three to four tons is about the general average in Ireland.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. Albert Marks, 4, Orchard Terrace, Chichester, Sussex, for his article on "Grevillea robusta," p. 538.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

PHOTOGRAPHS OF PLANTS.—The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in THE GARDENING WORLD. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups.*

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Blisters in the Glass of a Greenhouse.—*J. B*: We understand that the plants you grow or wish to grow in the greenhouse do not require shading, otherwise you could have got rid of the defects in the glass in that way. If that is the case, we think the best plan would be to paint the blisters with white lead, which would prevent them from concentrating the rays of the sun on particular spots on the foliage of the plants beneath. Permanent shading for the whole of the roof would be undesirable and should be avoided. For the sake of appearance, something might be put in the white lead that would deaden its colour and make it as inconspicuous as possible.

Substitute for Onions in Salads.—*P. M.*: We recommend you to grow Chives (Allium Schoenoprasum) belonging to the same genus as the Onion and of the easiest cultivation. It is a very old-fashioned herb that seems to be more and more neglected every year. The bulbs are very small and the leaves slender, growing about 6 in. high if in good soil and not too crowded. You could plant them in small tufts, about 6 in. apart in the row and about 10 in. between the lines, so as to afford room for a narrow hoe to run through the ground between the lines to keep down weeds. Any ordinary fairly good garden ground will answer the purpose. You could plant them in the border along with other herbs used in flavouring, and as they are perennial, all you need do is to lift them every second or third year, when the tufts get crowded, break them up into small tufts and replant in well dug, manured ground. The leaves are cut as required for use.

Tennis Court Made of Ashes.—*Tennis*: There are two sizes for a tennis court, one for two players, and a double one for four players, and the usual plan is to lay out the ground for a double court, so that four persons can play at the same time if so desired. If the ground is only laid out for two players the game would always be limited to that number. In either case the court should be 78 ft. long; and if intended for two players it should be 27 ft. wide; but for a double court the width should be 36 ft. Having made the ground permanently for the double court, you can chalk it off either for two players or for four as may be desired. The service lines should be drawn across the court from side to side, and at 18 ft. from either end. You will then find that a line drawn along the middle of the court from one service line to the other will be 42 ft. The net, of course, is to be set up across the court, from side to side, exactly in the middle. The above indicate the size of a single and also a double court, and the various lines to be chalked upon the same. Tennis courts are usually made upon grass, as the game is mostly played in summer; but we suppose your people want to play in winter, in which case the ground should be laid out with ashes to keep it dry. The soil should be taken out to the depth of 12 in. to 18 in., and the bottom filled with chalk, if you can get it. If you cannot get chalk use brickbats, which may be broken to pieces about the size of one or both fists. Spread this evenly and cover with some finer material to fill up the interstices, then beat it all down hard with heavy iron or wooden rammers to make it perfectly solid. Then cover the whole to the depth of 3 in. or 4 in. with sifted ashes, beating them down firmly as in the other case. All this material being porous will allow the water to pass away, so that the surface will be dry and firm for playing. The coat of ashes should be level with the rest of the ground. There are books that treat of the making of grass lawns, namely, "Lawns," by Messrs. Sutton & Sons, Reading, price 1s., and an illustrated edition, bound in cloth, by the same authors, price 2s. 6d.; also "Lawns, Lawn Tennis, &c.," by Messrs. J. Carter & Co., High Holborn, London, not priced, but probably 6d. to 1s.

Should Snowflakes be Lifted?—*T. B. R.*: We suppose you refer to the Spring Snowflake (Lecojum vernum) as that is the only one which could have flowered by this time. There is no need for their being lifted, if you can plant the bed without disturbing them. The foliage will by and bye die down so as to be inconspicuous. If the bed was well dug and manured previous to the planting of the edging, you can easily plant something that will make good growth without having to dig up the outside margin of it for another year at least. If you think it desirable that the bulbs should be moved, you ought to do this without injuring the roots beyond what may be unavoidable. Replant them carefully in a piece of reserve ground, and water them to settle the soil about the bulbs, and giving them an opportunity of ripening off gradually and naturally.

Destroying Mole Crickets.—*W. H. D.*: A good plan would be to ascertain where their nests are situated, digging them up and destroying both nests and eggs. This cannot easily be done in beds of seedlings, but as June is the time when these nests are to be found, you can wait till then. In the meantime you can make holes in the alleys or pathways, and plunge a pot in each, leaving the soil nicely smoothed round the pots, so that when rambling about on the surface of the ground, the crickets may fall into these traps and be held prisoners till you arrive in the morning to destroy them. During dry weather lay some freshly cut pieces of turf on the ground and water the same before leaving off work at night. These attract them and you can examine the same every morning.

Ourisia coccinea dying off.—*A. K.*: It is fairly hardy in the southern and more favoured parts of England, especially if planted in sheltered positions. It also requires the soil to be fairly moist and cool during the summer months, and for this reason some plant it in peaty soil, or that containing a good proportion of leaf mould. Either the soil or the situation in which you planted it may have been unfavourable to it, especially during the winter months, so that your best plan in future would be to keep a reserve of plants in pots which may be stood in a cold frame during winter. This may not, in fact is not likely to, keep out frost during severe weather, but if the soil should get frozen, the frames can be kept close till the soil thaws gradually. Should you have strong sunshine during the day you may resort to shading, which will prevent rapid thawing, and thereby insure the safety of the plants.

Peas to Come into Use in July and August.—*J. P.*: Of the varieties you mention, Sutton's Main-crop Marrowfat is a third early Pea and will give you the earliest supply. Sutton's Conqueror Marrowfat and Sutton's Reading Giant both come in the fourth division, whilst Sutton's Latest of All comes in the fifth division. To make sure of getting Peas by the end of July and in August, you should make a sowing of all of them at once. It depends upon the nature of the summer we get as to the time they will come into bearing. If the summer proves hot and dry and the Peas seem inclined to come in before you want them, you must mulch the ground and give the Peas a heavy watering occasionally, which will keep them growing longer. Another sowing of the earliest one, or even of the three earlier sorts, may be made ten or fourteen days later, which will prolong the season. If sown about the middle of June, Sutton's Latest of All should furnish you with a supply to the middle of November in your mild district. It is now time enough to sow all of them, however, to have them ready by the time mentioned.

Names of Plants.—*Sigma*: The Willow is Salix alba vitellina or the Golden Osier; the Myosotis is M. collina, which grows a little taller under more favourable conditions, and is very pretty; the moss also is very pretty, and is a species of Hypnum, but we do not undertake the naming of mosses.—*T. M.*: 1, Dendrobium primulinum; 2, Dendrobium crassinode; 3, Platyclinis glumacea; 4, Dendrobium nobile var.; 5, Odontoglossum odoratum; 6, Odontoglossum andersonianum.—*A. W. M.*: 1, Narcissus odorus rugulosus: 2, Narcissus odorus; 3, Narcissus moschatus cernuus; 4, Corydalis solida; 5, Muscari botryoides.—*H. Warwick*: 1, Pulmonaria officinalis; 2, Forsythia suspensa; 3, Daphne Mezereum alba; 4, Spiraea prunifolia flore pleno; 5, Narcissus Telamonius plenus; 6, Anemone blanda.—*A. Davis*: 1, Sparmannia africana; 2, Hardenbergia comptoniana; 3, Acacia armata; 4, Boronia heterophylla; 5, Salvia Heerii.—*A. S. M.*: 1, Aloe mitraeformis; 2, Gasteria verrucosa.

Communications Received. — Doonfoot. — S. Gorer & Son.—James Mills.—M. Temple.—G. W. Dickson.—D. T.—M. B.—H. W.—S. R.—F. W. M.—A. R. M.—D. C.—W. A Parsons (next week).

TRADE CATALOGUE RECEIVED.

H. CANNELL & SONS, Swanley, Kent.—Illustrated and complete Floral Guide of Plants for 1901.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

MAY.

2.—Linnean Society Meeting.
4.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting
7.—R.H.S. Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).
25.—Royal Botanical and Horticultural Society of Manchester, Whitsuntide Exhibition (25th to 30th).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show; Farningham Rose and Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days).
11.—Bath Floral Fete and Rose Show.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S., Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days).
24.—Strabane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Prescot Exhibition; Selby Exhibition; National Sweet Pea Society (2 days).
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts. Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldcarn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, MAY 4th, 1901.

The Editorial and Publishing Offices are now **removed to 4, Dorset Buildings, Salisbury Square, Fleet St., London.**

Editorial matters are to be addressed to **the Editor.**

All other communications and Remittances must be addressed direct to the Proprietors—

HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 7th.—Royal Horticultural Society's Meeting; Royal Gardeners' Orphan Fund, Annual Dinner at the Hotel Cecil.

ESSEX SCHOOL OF HORTICULTURE.—Since the School of Horticulture was first established at Chelmsford by the Essex County Council, great additions have been made in the way of class rooms and laboratories for the schooling of the students who come up to one or more of the four courses of instruction given at the Technical Laboratories, which practically constitute the headquarters or central school where the members of the staff reside, and from whence they make journeys to all parts of the county, or such of them as are deputed to give lectures and demonstrations, in the many outlying villages, during the evening hours when the industrial population, or others with a taste for horticulture, are free to attend the classes. At the commencement of the school at Chelmsford, the classes were accommodated in one large room over some offices devoted to other purposes; while the students during the summer course were relegated to a shed, mostly open on one side, where the practical work, relating both to science and the operations of horticulture, were conducted during the heat of the day. For the outdoor operations a small, square, walled-in garden had to serve the purpose of growing a botanical collection of plants, as well as a kitchen and fruit garden, in which the operations of digging and trenching had perforce to be limited. Later on a greenhouse was added, and then a fine new laboratory, fitted with school desks and all appliances necessary for written exercises, and, where practical, microscopical work could be conducted with facility. Here also lectures and demonstrations are given when the classes are serving their appointed time. For some days past a dairy class has taken possession of the shed above mentioned; but we understand that this course of instruction is given in various parts of the county, and the instructors move about wherever there may be a demand for their teaching.

Courses of lectures on horticulture, as above stated, are also given in various parts of the county in order to come in contact with the general populace desirous of improving their knowledge of the technicalities of gardening; but the more scientific side of the art is conducted at the central school only. The scope of this instruction has recently been greatly extended by the acquirement of some acres of ground for a garden about 10 or 15 minutes' walk from the school and on one side of the county town. This has now been laid out in blocks suitable for the cultivation of trees and shrubs, fruit trees, vegetables, and flowers. The opportunities for practical operations and outdoor demonstrations have thus been increased in proportion to the area placed under spade culture. A large building has been erected near the entrance of the garden, and fitted up practically as a potting shed, where potting, sowing seeds, pricking out seedlings, making cuttings, grafting, and other gardening operations can be carried on when the weather is such as to prevent the students from getting on the ground, which is of a heavy, loamy nature, with sufficient sand in it to permit the operators getting on it soon after the cessation of rain, and permitting of a fine tilth, with a liberal expenditure of labour. In this building numerous benches have been constructed and arranged in double rows across the central area of the house. Each bench is numbered, as are the students themselves, the spades and other tools they may require, so that each is responsible for his or her tools, the proper keeping of them and the storing of them in their proper places after the day's work is over. The lady students, of which there are generally a few at the various courses, take their appointed places, and their share of the work in hand for the time being, including digging, which they tackle with what courage they can muster, and what physical energy they can apply to that implement.

Glasshouses were still a necessity till within the past twelve months, during which time a greenhouse, vinery, propagating pit and stove have been constructed and more or less furnished with the requisite plants. The greenhouse already contains a collection of succulents and other subjects, representing about 120 genera. The Vines are making progress on one side of the vinery, while the other is temporarily devoted to Tomatos planted out, and already commencing to fruit. Celosias, Dahlias, Ferns, and other useful subjects at present occupy the propagating pit. The stove is not yet fully furnished, but Cannas, Marantas, about twenty-five species of Ferns, &c., are gradually taking possession. In one of the houses Fairy Roses have been bloomed in nine weeks from the sowing of the seed. Heated and unheated frames are arranged along the outside of the larger structures, and accommodate a great variety of plants and vegetables, chiefly intended for planting-out presently. Some summer bedding is accomplished, and in that the students have a hand.

With all these appliances and means to boot, the requirements of modern gardening still call for further furnishing, which will no doubt be added by the County Council with the efflux of time, and as the necessity for such things arises. For instance, although a belt of trees has been planted largely for the sake of shelter, the garden lies rather high and open to the force of the wind which sweeps over the land. Moreover a wall is required for the training of fruit trees to give the students an opportunity of studying the methods of pruning and training requisite for wall fruit cultivation, and to demonstrate the advantages of growing fruit trees under those conditions. At the recent examination the students had little to say about wall fruit trees and their treatment, a fact due, no doubt, to the lack of ocular demonstration as an aid to memory. Among other questions set for answering was one on the culture of hardy Water Lilies, but curiously enough none of the candidates had the courage to tackle it. Those taken in hand were such as they had opportunities of actually seeing in practical operation, either here or in other gardens, for several of them are members of the profession, while others intend to make it their vocation. The culture of hardy Water Lilies is popular at present, and the love for water gardens is likely to extend, so that no opportunity of affording the rising generation instruction in useful and serviceable branches of the art should be overlooked or regarded as unimportant. The cultivation of hardy trees, shrubs, herbaceous and alpine plants is in the ascending scale of popularity throughout the land; and the wherewithal for studying them has been supplied at the Chelmsford school. The aim of the teaching staff is evidently to grow all their own specimens which may be required for the dissecting knife and the microscope, as well as for more directly utilitarian practice in the principles of horticulture. We hope also that the County Council will add other necessaries from time to time. A water garden of moderate dimensions would serve many useful purposes, including the cultivation of Water Lilies and other aquatics which, under the revelations of the microscope, show so vividly the vast differences in structure between land and water plants, and impress upon the memory of the students the great necessity for different cultural treatment in each respective case.

The Lawns at Buckingham Palace are sufficiently large to allow of the manoeuvring of 2,000 men.

Temple Show.—The Royal Horticultural Society will hold its fourteenth great annual flower show in the Inner Temple Gardens, Thames Embankment—by the kind permission of the treasurer and benchers—on May 22nd, 23rd and 24th, 1901. Schedules may be obtained on application to the secretary, R.H.S., 117, Victoria Street, S.W., enclosing a stamp.

Bradford Horticultural Society.—We have before us the schedule of prizes to be offered at their eighth annual exhibition, to be held in the Drill Hall, Otley Road, on August 30th and 31st. The schedule covers a large field, and there are substantial prizes in all the classes. There are three main divisions, open class, amateurs' class, and cottagers' class, and the show ought to be, as in other years, a grand success.

Royal Horticultural Society.—At a general meeting of the Royal Horticultural Society, held on Tuesday, April 23rd, fifty-two new Fellows were elected, making 340 new Fellows elected since the beginning of the present year, amongst them being the Duchess of Abercorn, Lady Henry Tate, Lady Helen Vincent, Lord Alverstone, the Bishop of Richmond and the Right Hon. A. H. Smith-Barry. The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, May 7th, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 p.m. A lecture on "Alpines and other small plants for walls," will be given at 3 p.m., by Mr. E. H. Jenkins, F.R.H.S. Preceding the lecture the president of the society, Sir Trevor Lawrence, Bart., will confer the Victoria Medal of Honour on the new recipients, Sir George King, K.C.E.I., Miss Ormerod, LL.D., Mr. George Norman and Mr. James Sweet.

Presentation at Dundonald.—On Saturday evening, the 20th ult., at Auchans Gardens, Mr. Bogie was presented with a lobby clock, on the occasion of his leaving the parish for Montgreenan to take up the duties of land steward to Sir James Bell. Mr. Caldwell, Kilnford, made the presentation in his usual happy manner, and congratulated Mr. Bogie on his promotion, to which, undoubtedly, his devotion to his present employer had in a great measure contributed. Mr. Bogie had been much more than gardener at Auchans, and his varied experience admirably fitted him for the position he was going to occupy, and Sir James Bell had, in choosing Mr. Bogie, chosen one who would consider his master's interests as his first and highest duty. Mrs. Bogie received a gold brooch and chain presented by Mr. Murchland, and a purse presented by Mr. Hamilton, both of whom spoke of Mr. and Mrs. Bogie's long connection with the parish, and expressed the hope that their future would be bright and prosperous.

Please mention "Gardening World" when writing to Advertisers.

Trilliums.—These are supposed to be one of the transitions between monocotyledons and dicotyledons as they have a flower of a monocotyledon, but have the reticulate venation which is characteristic of a dicotyledon.

Floral Decorations at St. James' Hall.—The platform at St. James' Hall on Tuesday, April 23rd, was tastefully decorated with cut Narcissi, Ferns, Spiraeas, and Palms by Mr. A. J. Brown, of the School of Handicraft, Chertsey. The flowers seen were brought from the school gardens, the occasion being a concert by 500 children from various homes.

British Ferns.—In a paragraph on abnormal types of British Ferns in our issue of February 9th, 1901, p. 373, we merely reprinted the list from *The Fern Bulletin*. In so doing we copied several names that had been changed and Americanised across the Atlantic, and in thus reprinting these in our British paper it makes it appear that Mr. Druery has changed his mind regarding the nomenclature of Ferns. This he emphatically disclaims, and we hope this explanation may set matters right. He firmly adheres to the British system of naming, as heretofore.

Chesterfield and District Chrysanthemum Society.—The annual autumn show of the above society is to be held in the Stephenson Memorial Hall, on November 13th and 14th. It is a very popular show, and well deserves the support it gets, as the proceeds are given entirely to charity. Last year their financial affairs were so good that they were able to hand over £40 to the Royal Gardeners' Orphan Fund. The special objects of this show are to promote and encourage the cultivation of the Chrysanthemum, to secure as far as practicable, fair and open competition and to discountenance, by every available means, any attempt at unfair or fraudulent exhibiting and to help gardening charities and other deserving objects.

Dutch Horticultural and Botanical Society.—The Floral Committee at the meeting of April 10th last, awarded First-class Certificates to Mr. P. W. Sutorius, of Baarn, for Begonia Gloire de Lorraine; to Mr. J. Van Stolk, Jr., of Heemstede, for Cypripedium insigne coloratum callossum; to Mr. W. C. Baron Van Boetzelaer, of Maartensdijk, for Laelia jongheana. A Gilded Silver Medal was awarded to Mr. D. J. Tas, of Aalsmeer, for a collection of cut flowers. A Silver Medal went to Mr. H. C. Hacke, of Baarn, for a collection of Orchids. Bronze Medals were awarded to Mr. H. Hornsveld, of Baarn, for a collection of Odontoglossum Rossli majus; to Mr. C. J. Kikkert, of Haarlem, for a collection of Odontoglossum; and to Mr. H. C. Hacke, of Baarn, for a collection of warm house plants. An Honourable Mentioning was accorded to Mr. H. C. Hacke, of Baarn, for Clerodendron Thompsoni.

High-level Plants of Thibet.—At the meeting of the Linnean Society on the 18th ult., Messrs. W. B. Hemsley, F.R.S., F.L.S., and H. H. Pearson, F.L.S., communicated a paper on the Flora of Tibet, based on various collections of high-level plants received at the Kew Herbarium. The country dealt with was described as lying between 80° and 102° lat. and 28° and 29° long., and having an average altitude of 15,000 ft. Within this area 360 species of vascular plants had been collected, and were referred to 144 genera and 46 natural orders. Almost all the orders represented were nearly of world-wide distribution, and none were really local. Of the 360 species, only 30 appeared to be peculiar to Tibet. In illustration of the paper, a selection of the plants was exhibited; most of them dwarf deep-rooted herbs, very few annual or monocarpic, and the only woody plant, Ephedra gerardiana, was described as scarcely rising above the surface of the ground. The majority had been collected at altitudes varying between 15,000 and 18,000 ft. Mr. C. B. Clarke, F.R.S., F.L.S., in making some observations on the paper, pointed out that the name "Thibet" or "Tibet" was quite unknown to the people who dwelt in the country so-called, and its precise boundaries were even still imperfectly defined. It was convenient, however, to retain a name by which it was known to so many European travellers, and their explorations and collections were making us better acquainted with the country every day.

Grape Growing in Australia.—That the Grape Vine would flourish so luxuriantly as it does in the Island Continent was discovered in a very simple way. A settler brought out with him a large quantity of cuttings which he planted on a plot. These were found to grow so remarkably well that many soon followed his example. This was about 1828, and his vineyard became the nursery for supplying the planters. They are grown principally for wine making. In some seasons, 260 gallons per acre is yielded. Large quantities are made into brandy. They are also being dried extensively in some parts of the colony for export.

South African Agriculture.—Professor Wallace of Edinburgh did not speak very favourably of agriculture in South Africa, when reading a paper before the members of the Royal Colonial Institute at the Hotel Metropole, London. He said that those districts without irrigation are subjected to periodical droughts which at times destroy a whole season's crops. On the central plateau destructive hailstorms are prevalent, and on the common grain crops fungoid parasitic pests are so numerous that it is practically impossible to cultivate European cereals during the wet season of summer.

Fruit Trees on the Table.—People with an abundance of money are always looking for some fresh means of squandering it. One of the latest fads is to have the dessert fruit grown on small trees and have them placed on the table so that the guests can pick their own fruit. Cherries are the fruit chiefly grown as they can be produced in greater quantities on small trees. They are very difficult to grow for this purpose as they have to be pruned so severely to keep them within bounds. They are allowed to grow to about 3 ft. high and are closely cut in. The fruit is thinned as soon as the stoning is over, so that their size and quality may be superior to other Cherries. Perhaps directly we shall hear of a hotbed and Melons growing on it being made up on the table.

Too Much Light.—The following paragraph is from *The Florists' Exchange*:—"Daniel Gorman, the florist of Williamsport, Pa., who has been defendant for two years in a case of equity growing out of light reflected from his greenhouses which, it was alleged, annoyed the plaintiffs, is about to begin the construction of another big greenhouse. According to the settlement of the case against him, he is either to build a fence in front of his property or build a small house in front of the one which caused the trouble, making the angle 70°—when, according to the architect, there will be no reflection—or he is to change the angle of the present glass roof of 45° to one of 70°." London nurserymen, we venture to say, would put up with a few law suits for reflection if they could keep their glass in a state that would cast one.

Bristol and District Gardeners' Mutual Improvement Association.—The third annual meeting of the association was held at St. John's Parish Room, Redland, on Thursday, April 25th, Mr. G. Brook presiding. The report for the year ending April 1st was presented and adopted. It showed that the society was making steady progress, having a present total membership of over 100, the average attendance being about fifty. The meetings held during the year have been altogether of such a character as to warrant the existence in the neighbourhood of the association. The financial statement showed that though, on account of some extra expenditure, there was a small deficit on the year, the balance still in the hands of the treasurer amounted to £4 12s. The president of the association is Mr. H. Cary. Batten. The other officers elected were:—chairman, Mr. A. J. Hancock; vice-chairmen, Messrs. E. Binfield and E. Poole, F.R.H.S.; hon. secretary and treasurer, Mr. W. Ellis Groves; assistant hon. secretary, Mr. H. Kitley. The committee for the year was also elected. Prizes for two foliage plants suitable for table decoration were awarded—first, Mr. W. A. Todd (gardener, Mr. Sutton); second, Mr. Price; equal thirds, Mr. W. Howell Davies (gardener, Mr. Curtis), and Mr. Spry. Certificates of Merit went to Mr. W. M. Wills (gardener, Mr. Frampton), for Odontoglossum Edwardii; Mr. J. Chetwood Aiken (gardener, Mr. Clark), and Mr. Gardner each for Roses; and Mr. Ware, Dendrobium nobile.

Grafted Crimson Rambler.—If pieces of the Crimson Rambler Rose are grafted on to multiflora roots early in January and potted into 4-in. pots, they make nice little plants for Easter decoration, bearing several trusses of bloom. According to our contemporary, *The American Florist*, this method is largely adopted by American nurserymen who are enabled to sell them at a low price and yet make huge profits. It is to be hoped that our British nurserymen may follow the example of their American *confreres*.

Two new Genera of Chinese Trees.—At the meeting of the Linnean Society on the 18th ult., Mr. W. B. Hemsley, F.R.S., exhibited the leaves and flowers of two new genera of Chinese trees: (1) Bretschneideria, discovered by Dr. Henry in the province of Yunnan, lat. 23° N., in forests at an elevation of 5,000 ft., and bearing pink and white flowers like the Horse Chestnut, to which it is related; and (2) Itoa, also a native of Yunnan, growing at a similar elevation and to a height of about 20 ft. The genus, named in honour of a famous Japanese botanist, was stated to be allied to Idesia, Maxim., Poliothyrsus, Oliver, and Carrierea, Franch., all monotypic genera inhabiting China, but differing from them in certain respects which Mr. Hemsley indicated.

British Exhibition in St. Petersburg, 1901-2.—This exhibition of the arts, manufactures, products and inventions of the British Empire, which will be open on November 14th, 1901, and remain open until February 14th, 1902, during the season of the year when the members of the Russian aristocracy, officials, army and navy, professional and mercantile classes, are resident in the capital, offers to the manufacturers and producers of the United Kingdom an admirable and unique opportunity for bringing their exhibits before the wealthy and intelligent classes of Russia. The exhibition will be confined to the manufacturers and producers of the British Empire. Messrs. S. Gorer & Son, 120, New Bond Street, London, W., have been appointed official agents, and will be pleased to furnish all particulars as to freight, insurance, installation and superintendence of exhibits to any exhibitor who may apply for them. They also undertake all translations.

Reading and District Gardeners' Mutual Improvement Association.—At the last meeting of the winter and spring session of the above association, a good attendance of members assembled to hear a paper on "Early Potato Culture" given by Mr. W. P. Lasham, a member of the association. The subject was treated in an exceedingly interesting manner under the following headings:—the selection of suitable varieties for the purpose in view; size of sets; the setting up of tubers in boxes; greening *v.* non-greening; forcing in boxes; growing in pots; forcing in hotbeds; planting in borders against walls facing south; soil, &c. Reference was also made to the methods adopted by the growers in the Canary Islands, Cornwall, Jersey, Scotland, &c., to produce Potatos for the English markets. The whole was made more than usually interesting by an excellent series of limelight pictures, illustrating the routine of work carried out in the districts named. A discussion followed, in which Messrs. Neve, Lees, Hinton, Fry, Wilson, Gibson, Powell, Barnes, and Stanton took part. A splendid display of flowers was made on this occasion, to which the following contributed:—Mr. G. Stanton, Park Place, varieties of Schizanthus, Magnolia conspicua, M. conspicua soulangeana, Celsia gigantea, Azara microphylla; Mr. Exler, Redlands, two plants of Orchid, Phaius; Mr. E. S. Pigg, Samoa, Orchid, Cymbidium lowianum; Mr. F. Lever, Hillside, Cineraria stellata in various sized pots, and a William Allen Richardson Rose grown from a cutting inserted in August, 1899, bearing fifty-six blooms (Cultural Certificate); whilst Narcissi were shown in large numbers; Mr. W. Townsend, Sandhurst Lodge, exhibiting forty-four varieties; Mr. A. G. Nichols, Strathfieldsaye, twenty-two varieties; and Messrs. Sutton & Sons, ten varieties. These included excellent specimens of Glory of Leiden, Emperor, Empress, Cernuus, Sir Watkin, Queen Bess, Frank Miles, Duchess of Brabant, P. R. Barr, Johnstoni, King and Queen of Spain, &c., &c. A hearty vote of thanks was accorded to Mr. Lasham, and to the exhibitors. Two new members were elected.

Cornwall Daffodil Show, Truro.—The above exhibition was held in the Concert Hall, Truro, Cornwall, on April 11th and 12th, and although the weather previous to that time was rough and cold, the exhibits were both numerous and well grown. We are not able to print a full report in this week's issue, but will give an account of it in our next.

The "Hurst & Son" Musical Society.—The last concert of the season given by this society is to take the form of a smoking concert, to be held in the Queen's Room, London Tavern, Fenchurch Street, E.C., on Wednesday, May 8th, commencing at 7.30 p.m. Some very good artistes have consented to appear, both sentimental and humorous. The "Hurst & Son" orchestra will be in attendance. This is the close of the third season of the society. Tickets may be obtained either from members, or from 152, Houndsditch, E., price 6d. each.

Treacherous Weather.—There is a homely adage which has been brought home to us again with a biting reminder:—"Cast not a clout till May is out." We have had a spell of warm weather, and everybody began to persuade themselves that it was summer, but we were a bit too premature in our calculations, for the bitter east winds have prevailed over the warm weather, and we hear again the old expression:—"This Easter is enough to blow through one." Then we have May to be reckoned with. The third week of that month has a bad reputation in the fruit districts, there being a tradition that a frost will surely take one of the crops. Last year it took the early Strawberries. What will it take this year, we wonder?

Decorating in the New Style.—The following appeared recently in the *Morning Leader* as a description of the floral arrangement at a fashionable though small dinner party:—"Here a miniature stile, set about with stumps of trees, and a gnarled Oak raising itself at one side, stood at two points of the compass, leaving the corner of a fence, with bushes and trees, at the other two angles, with flowers and Ferns drooping down on to the table cloth or winding and twisting themselves in and out among the branches, made of twigs. These dainty little holders look as quaint as they are novel." The idea may be a very novel and pretty one for table decoration, but when one sits down at a dinner party, surely he should be able to converse freely with the persons opposite him, which he cannot do if the table is piled up like a waxwork show. These extraordinary ideas seem to be getting very fashionable with that class of society which is ever after something new.

British Trees and Woods.—The days have long since gone when arbitrary measures could be adopted to enforce the replanting of trees cut down. England has become denuded of her olden forests and is quickly becoming denuded of woodland altogether. In 1577 the cry was raised that compulsory measures ought to be taken to keep up our woods and the reply is still to be heard. Raphael Holinshed says in his "Description of England," 1577, "I would wish that I might live no longer than to see some things in this land reformed. I wish that evrie man, in whatsoever part of the champaine soile enjoieth fortie acres of land and upwards, after that rate, either by free deed copiehold or fee farme, might plant one acre of wood, or sowe the same with oke maste, hasell, beech, and sufficient provision be made that it may be cherished and kept. But I feare me that I should then live too long, and so long that I should either be wearie of the world or the world of me, and yet they are not such things but they may easilie be brought to passe." Something ought to be done to induce tree planting again or we shall eventually suffer in our agricultural districts as America has done through her excessive clearance of trees.

FRAME CULTURE OF SWEET VIOLETS.

Violets are welcomed by every one on account of their delicious perfume and beautiful flowers, more especially in winter and early spring, and no trouble should be spared to have them in flower during that period. They require careful cultivation, and will repay for liberal treatment. I find a border with a north-west aspect suits them very well during the summer, but one facing east or north in dry districts will also be found very suitable for them. The ground should be deeply dug, and consist of a light rich soil; if of a stiff nature add plenty of leaf mould and well rotted manure.

About the last week in April select young healthy crowns and plant them singly—(not putting two or three together as is often done)—9 in. between the plants, and 1 ft. between the rows. Keep them well watered and syringed, or damp them lightly with a rose overhead on dry evenings. This will promote growth and keep down red spider, which is very troublesome in some districts, especially near towns, as they require abundance of pure air and light to do well. After they are fairly established a mulching with spent Mushroom bed manure will be found very beneficial, also a slight sprinkling of soot between the rows occasionally. Keep clear of weeds, and remove all runners as they grow, with the exception of the double varieties, which should have two or three left with plantlets on them. These should be pegged down and will soon root, and if lifted carefully with the parent plant, not only will they flower freely, but will make splendid plants for the following year. About the middle of September they should be carefully lifted with as large balls as possible, and planted in frames having a southern aspect, and a sharp angle. Plant them about the same distance apart as recommended for outside, and prepare the frames by filling them well up with stable manure and decayed leaves, well tramped, to such a height that with the addition of 8 in. of good soil they will be brought close to the glass. Water them well, and keep close for a few days, afterwards giving plenty of air on all favourable occasions, water must be given carefully during winter, all decaying leaves removed, and frost excluded. I can strongly recommend the following varieties for framework:—Marie Louise and De Parme, double; Princess of Wales and California, single.—*James Mills, Shavington Gardens, Market Drayton.*

THE APIARY.

Since writing last the weather has taken a turn for the better. Instead of lowering skies with cold winds and blinding rain and sleet, we have been favoured with calm bright sunny days, making Nature smile her broadest, and assume her green mantle all over, a smile that extends to the gardener, and last, but not least, the bee-keeper. In our gardens and orchards the Plums, Pears, and Gooseberries are out in bloom; and the little insects we love are humming about them in great glee, sipping the first nectar of 1901.

See that the entrances are still contracted, especially in weak stocks, as in a sudden dearth of honey from outside robbing is apt to commence at any moment. Keep a watchful eye on any of those stocks that are the least short of food, and feed slowly, but continually, until a good supply from outside is certain. All stocks that will not be up to full strength by the honey flow should be joined together, this is by far the most profitable way in the end for those working for honey.

The honey flow usually starts with White Clover about June 25th, in Scotland, a few days earlier in England. More favoured districts in a fair season can depend on obtaining at least one rack of finished sections from fruit, Plane, and Hawthorn blossom before that date. By a little care and with very little extra trouble we can do a lot to bring our stocks up to strength in time.

Suppose, for instance, we have a stock covering four frames at the beginning of April, if there is sufficient food in the hive, we can bruise a few of the outside cells once a week. This causes the bees to remove the honey contained therein to centre of brood nest, and has the same effect as honey gathered from outside. This causes a little excitement, making the bees shake off the last of their winter torpor. They give the queen more food, and at shorter intervals, causing her to lay more and more eggs. The bees will soon be covering the four frames thickly, and not till then should we dream of interfering with brood nest, as more harm is often done by spreading brood nest before the bees are strong enough than good.

When the four frames are thickly covered there will be two of them at least with brood from top to bottom on both sides. Place the frames with the sealed larvae on the outside, pushing the empty combs, providing they are nice clean empty ones, into the centre. This gives the queen more breeding space without increasing the size of brood nest for the time being. In a week or ten days another frame may be added, placing it in the centre. If you have no good combs to insert, give a full sheet of foundation, it is truly wonderful how quickly this is drawn out and filled with eggs from top to bottom. Frames may be inserted every week until ten frames are reached, which is generally sufficient for most queens, sometimes nine. When food is running short, slow feeding should be started at once, and kept up until an outside supply can be obtained.

See that a good supply of water is to be had near the apiary. It is interesting to watch the bees morning and evening, or rather afternoon, attending in such numbers to sip up the liquid.—*Doonfoot.*

TYING VINE SHOOTS.

Perhaps at this season when gardeners are busy in the vinery tying down Vine shoots, and to those who are in possession of long upright spurs, or to those who have strong short jointed varieties such as Black Alicante, a word or two on the subject may not be out of place. It is very perplexing to see in vineries at this time grand shoots, which promised to produce exhibition bunches, hanged as if for some offence, by even the most skilful of cultivators. The above variety is most subject to heel off or even break, by being too tightly tied, generally through the cultivator wanting to accomplish too much in a limited space of time, anxious of course to get the shoots down from the glass as quickly as possible. In ordinary circumstances the all importance of well steeping the tying material cannot be too clearly laid down, as then it is stretched to its utmost before being used for the delicate operation. When dry material is used for it, the moment the house is damped the tying stuff tightens, and something is bound to go. What I want to suggest is, in place of using raffia which is most common, I think small elastic would be better for such varieties as Alicante or for any shoots that grow straight up to the glass. The elastic will yield to the impulse of the shoot, and a constant strain would be maintained on the shoot, while the shoots would not require to be gone over every day to see if they are too tight.—*Archibald Mackerracher, gardener, Easter Moffat, Airdrie, N.B.*

Gardening Miscellany.

PRIMULA KEWENSIS.

In the way of Primulas this is quite an acquisition, and one of the few really hybrid Primulas that has proved of decided garden value. It may prove the prelude of a race of a handsome garden plants that will take a permanent position in the decoration of greenhouses and conservatories. It is vastly superior to either parent, having a more vigorous habit of growth than P. verticillata, with the foliage and colour of flowers characteristic of P. floribunda. A group of plants in the greenhouse at Kew has been flowering for some weeks past, and will evidently continue to do so for weeks to come. The stems are 15 in. high, and more decidedly whorled even than P. verticillata, the whorls of flowers opening from the base upwards in succession. Each stem carries from three to six whorls, many of the stronger ones being fasciated, and some of them even forked. The flowers are slightly mealy in their earlier stages but not so much as in P. verticillata. The plant flowers much earlier than the latter, and the rootstock branches freely, while every crown produces flower stems. In these respects it resembles the precocious and continuous flowering habit of P. floribunda, and can no doubt be propagated by division. It does not appear to produce seeds; at least the early whorls do not.

PECULIAR HABITS OF FLOWERS.

In Berberis the stamens are highly irritable, and if touched they quickly bend forward on to the stigma as though forced by a spring. In Stylidium, the style springs from one side to the other if irritated at the base. In Silene nutans the petals close in the daytime and open at night.

NATURALISED BULBS.

At present it is the general custom to plant the spring flowering bulbs in geometrical beds in either straight rows or in circles. By this unnatural

method the beauty is lost, and from a short distance they only look like a coloured cloth over the bed, instead of each one showing out individually. Anyone who has the pleasure of seeing the bulbs on the mound at Kew cannot fail to appreciate their effective display. They are planted in the grass, and then left for Nature to provide for them. Early in the year it is covered by Snowdrops and Croci, and as these disappear the Narcissi take their place and cover the mound with a nodding mass of blooms which look much happier than their unfortunate neighbours drawn up in soldierly lines. Hyacinths and Tulips also make their appearance and add to the beauty. The bulbs are planted in holes made with a crowbar and covered by a little new soil, and are then no more trouble. In large establishments where bulbs are forced extensively, the pleasure grounds might be made gay in spring by planting the old bulbs in the grass. The leaves die down so early that the mowing will not injure them if left for a week or two. Another advantage of growing them in the grass is that after a shower of rain they are not mud besprinkled as when grown on the sticky soil.

STRANGE PARTNERSHIPS.

If we look closely into Nature we find many strange partnerships. Perhaps the strangest and most interesting of all is that of plants living in partnership with insects for their mutual welfare. The plant is a Mexican tree, Acacia sphaerocephala, and its partner, a pugnacious species of ant. The branches are armed with singular double thorns, from which feature it is known as the Bull's Horn Acacia. These thorns are very hard but hollow. At the base there is a soft spot which is easily pushed in and makes a passage into the hollow of the thorns. It is in these hollows that the ants live with their heads filling up the holes. When an insect attempts to climb past one of these the ant rushes out and destroys it, but does not, as might be supposed, live on its prey. Its food is provided by the plant in the form of little grain-like growths at the tips of the pinnae, so that by this partnership the ants protect the plant in return for food and shelter.—*F. C.*

COLEUS THYRSOIDEUS.

In the Coleus family one generally expects to see highly coloured leaves, and flowers when allowed to remain on the plants, of a very inconspicuous kind. In the above species the leaves are of a clear green, and the flowers which are produced in spikes from 6 in. to 1 ft. in length are a fascinating blue, about the same shade as seen in Salvia patens. It is a plant that is bound to become popular when better known, as it has so many good qualities to recommend it. It is easily grown, does not require much heat, flowers in the depth of winter when its brilliant masses of bloom make a pleasing contrast with the surroundings, which are never very gay in that season, and above all the flowers last for a long time. It should be treated as a Salvia or ordinary Coleus, and grown on into a large plant. It is a subject that has a brilliant future before it as a decorative plant for Christmas use when blue is always a very scarce colour.

HIPPOPHAE RHAMNOIDES.

This shrub is not grown so extensively as it ought to be. It is better known perhaps under the name of Sea Buckthorn. It is often believed that it will not succeed away from the sea, but it only requires a trial to explode this ridiculous theory. It will grow luxuriantly if provided with a moist sandy soil, no matter how far it may be from the influence of the salt spray. Its flowers are inconspicuous, and its foliage cannot be said to be particularly attractive, but it is in the dull winter months that it scores, when it is covered with a wealth of orange-coloured berries which are a pretty feature amongst its dreary surroundings. It is well adapted for seaside culture as it grows right down to the high water mark without injury.

CHOISYA TERNATA.

This is a beautiful evergreen shrub, which if given a sheltered position, is no trouble to cultivate, and produces its sweetly scented white flowers in profusion about July. It remains for a long time in bloom if it does not suffer from drought. The foliage is a very dark colour which shows up the flowers in a remarkable manner as they are produced on very short stalks, but owing to its somewhat powerful odour when cut it cannot be used for cutting where objection is taken to the odour of the foliage. The soil it seems to thrive best in is a good fibrous loam and peat. It is easily propagated by taking well ripened cuttings in the spring, and putting them in a mixture of sand and sifted peat, placing them in a warm house for a time. It is more often grown as a pot plant for greenhouse and conservatory decoration, for which purpose it is well suited, as it forms a pretty plant, even when not in bloom, and has the advantage over most other plants in not being troubled with insects. Even red spider seems to shun it. If it is grown indoors it should be put out when it has completed its growth, so that the wood has a better chance to become thoroughly ripened. It is commonly called the Mexican Orange.

LOBELIA CARDINALIS.

This half-hardy perennial is a native of North America, being found in the vicinity of the bogs of Florida. It is undoubtedly one of our most beautiful bedding plants, as all who have seen it grown well and planted in large masses will admit. It requires special care, however, to keep it alive during winter, and to have it to perfection in summer all trouble is amply repaid by the brilliancy of its scarlet flowers, and the reddish bronze colour of its foliage. It requires a rich loam, rather shady position, with an abundance of moisture, and should be given a position where it would be sheltered from rough winds. These requirements being provided it will grow to a height of 3 ft. or more, and produce an abundance of flowers which last a considerable time, and when planted in large masses the effect produced is magnificent. Its vivid scarlet flowers form a delightful contrast with those of Galtonia candicans, and if masses of each are alternated no prettier effect could be desired. When the flower stalks have been cut down by frosts the roots should be lifted and placed in a dry place in a cool frame or greenhouse, and covered with sandy soil which should never be allowed to get too wet, as this is certain to cause decay of the roots. In the spring the larger roots can be divided and placed in boxes or pots, the soil used being a rich loam.—*F. W. M.*

COMPOUND HYBRIDS.

The idea has been entertained that by fertilising a flower of any species (of Orchid, for instance) with the mixed pollen of two other different species, the seeds of that flower would produce plants whose flowers would partake of the characteristics of all three parents. That this would be quite impossible is at once clearly seen by all who understand what takes place in the process of fertilisation. The pollen grains are held fast to the stigma by the sticky substance provided for this purpose, which also induces germination, the pollen grains sending out tubes which grow down the style into the interior of the ovary, being guided in their passage in a wonderful manner by tufts of hairs, &c., on the walls of the ovary. In the interior of the ovary each tube combines with one of the cells contained in the embryo-sacs, called egg cells, and these absorb the contents of the pollen tubes, namely, the generative nuclei; and this transfer of the nucleus from the pollen tube constitutes the act of fertilisation, the egg cell immediately increasing in size and ultimately becoming a seed. The ovaries of all the Orchideae contain many ovules, and each ovule requires a separate pollen tube for its fertilisation. To produce a compound hybrid by mixed pollination would necessitate the combination of the contents of two pollen grains into one egg cell.—*F. W. M.*

"VIOLETS."

No flower is more appreciated than the ever welcome Violet. "Sweeter are they than the lids of Juno's eyes, or Cytherea's breath." Many flowers come into and go out of fashion, but the faithful Violet, like Tennyson's brook, goes on for ever. The natural flowering season of the Violet extends from March till late in the year; but if grown in frames a profusion of bloom may be had through the winter and spring. Plant single crowns in richly manured ground, 12 in. each way, on a north-west aspect, water them, keep the weeds down, and mulch with some short manure in hot weather. About the end of September the plants should be lifted and planted in a frame (preferably with a south-west aspect) which has, we will assume, been prepared for them. The frame should be two-thirds full of stable litter and leaves, and covered with 6 in. of soil. The Violets should be planted close, just to touch each other. Water well, and give air on mild days and light at all times. Violets thrive best in a rich but rather heavy soil. The varieties I prefer are Swanley White, double white; Marie Louise, lavender-blue, double, very large: Neapolitan, pale lavender, very free bloomer; whilst for singles, The Czar, single blue, long footstalks; Princess of Wales, bright blue large flowers and long footstalks, a great point in its favour; and Wellsiana, rich purple, and deliciously scented, are all excellent varieties.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

PLEASING CONTRASTS.

With the advent of genial weather comes the opportunity for noting in gay succession the pleasing contrasts afforded by shrubs and plants of various kinds which bloom simultaneously. Too often we see them like the last Rose of summer "left blooming alone," or what may be even worse amidst pitiful surroundings. Two instances of current importance in the way of harmonious association will here be given. That ever welcome spring visitant, Forsythia suspensa, whose appearance, methinks, always seems to sound the death knell of winter—growing from a groundwork of St. Brigid Anemones of varied hues from brilliant crimson to spotless white—with evergreen shrubs in proximity, is a sight never to be effaced from one's memory. Or again, the common red flowering Currant in congenial surroundings of white and yellow Tulips in no prim or formal array but dotted about with a reckless disregard of straight lines or sweeping curves, has its own beauty, which is not very striking, materially enhanced by its gay neighbours. The latter furnishes a little more greenery of its own than the former when flowering, but both are greatly dependent on external aid midst the advancing hosts of Flora's peerless army. Illustrations of this kind could be multiplied *ad infinitum*. These two may be of some interest at the present time.—*J. McAra, Kingsburgh, Prestonkirk.*

CINERARIAS FROM SEED.

Seeds should be sown in May or June in pans of light soil, which should be placed in a shady position in a cool greenhouse or frame. Keep close until the seedlings appear, when air can be admitted freely. When the seedlings are large enough to handle, prick off into small pots, using half loam and half leaf soil with a dash of sand. Keep close and shaded until roots begin to form, and then admit plenty of air. As the plants require it they should be potted on into larger pots. Small plants will flower in 5-in. pots; but if large specimens are required, 8-in. or 9-in. pots will not be too large. For the final potting use a compost of equal parts rough fibrous loam and leaf soil with a little sand and dry cow manure added. Place in a frame and use the syringe freely to prevent red spider, and keep the plants thinly shaded on bright hot days, so as to keep the plants as cool as possible. In the autumn remove the plants to a house from which frost is just excluded. Do not let them get dry at the roots but keep a dry atmosphere to prevent mildew; should any signs of this appear dust the leaves with sulphur. When the buds appear give plenty of liquid manure. Cinerarias are subject to attacks of greenfly, which can best be kept in check by frequently fumigating the house or frame.—*Cumbria.*

THE FLOWER GARDEN.

This spell of dry weather we have had has caused a lot of anxiety amongst gardeners, as the plants that are just coming up require frequent waterings, and there are not many establishments where time can be well spared for this purpose, as spring is a busy time for a gardener, whether he is employed in the kitchen garden, the flower garden, fruit garden, or in the houses.

Dahlias.—These should now be nearly hardened off, and no time must be lost in preparing places for them in the borders.

GLADIOLI.—If these have not been put in, no time should be lost in doing so. It is a good plan to bring them along in a late vinery in pots of light soil, and then plant them out about the first week in May.

MIGNONETTE.—Sowings of this fragrant little plant should be made at intervals, to ensure a continual supply of bloom. If the seed pods are removed as soon as formed the flowering period is much extended.

HALF-HARDY ANNUALS.—These may all be sown now with safety in the open air. This includes a very large number of beautiful annuals, and it is difficult to make a choice from the enormous variety offered for selection, for they are all very pretty in their season. If it is desired to derive from your garden the maximum amount of entertainment and instruction then sow annuals. Messrs. Sutton, in *The Cultivation of Flowers and Vegetables*, say :—" We recommend not only a free use of annuals, where they can be appropriately employed for purposes of embellishment, but also the setting apart for a collection of them a border or plot, one part of which is sunny, and another part somewhat shaded. On this border sow clumps of annuals of as many kinds as possible. . . . . This border will afford immense delight, for many annuals that are not popular because not particularly showy will be found to be worthy of admiration for their subdued and refined appearance, their elegant forms and their subdued blendings of colour."

EVERGREENS.—Those which have recently been transplanted must be well supplied with water or they will suffer from the effects of the drying east winds.

FLOWER BEDS.—It is a good method to go over these and work out a plan of how the stuff is to be disposed of, thus saving a lot of trouble when the planting out is started, and preventing gaps and thinness occasioned by insufficient plants.—*P. R.*

Kitchen Garden Calendar.

THE weather during the past week has been more like that expected in June, the traditional April showers have not visited us, and already the watering pot is busy in many gardens. April is a busy month, as there is so much transplanting to do, and while this is going on an occasional shower is very welcome.

ONIONS.—Already there is an outcry from those who possess gardens with a light, sandy soil, that the drying winds are putting the spring-sown crops in jeopardy. As soon as they are fit to handle they should be gone carefully over and receive their first thinning, and have the hoe carefully drawn between the rows, for no matter what the season is like weeds seem to flourish, and if allowed to make headway they rob the crop considerably. When using the hoe great care must be taken not to loosen the soil more than what is absolutely necessary, for good bulbs are never produced on a loose soil. When the plants have made some progress and are about salad size they should be finally thinned, leaving a strong plant about every 4 in. to 5 in. apart. Some recommend leaving 6 in. between them, but the grower must use his own judgment, taking into consideration the nature of the soil and the size of his variety. Onions need light and air on the whole surface of their bulbs to grow well, and when in a healthy condition always lift themselves well up on to the surface, only leaving just their bases in the ground, this being so it is imperative that the plot of ground allotted to them should not be shaded during any part of the day, and no large weeds be allowed amongst them at any time. If watering is necessary care must be taken that it is discontinued in sufficient time to allow the bulbs to ripen properly, or when they are harvested they will not keep. Some people recommend an occasional watering with manure water. It is a much better plan to see that the soil is properly enriched before the seed is sown. If the latter end of the season is moist they are often late before they show signs of finishing their growth. They may be checked by having their tops bent over, after which they will turn yellow. To grow large Onions is often the ambition of the grower, especially in the mining districts, where the enthusiastic miners devise all sorts of strange methods for producing something better than their neighbours. They grow many things with special attention, but Onions and Leeks hold the premier position. "These ancient bulbs that have warmed the heart of many a hero" warm the hearts of many a miner, too. The general method of his cultivation may be noted. First he selects the poorest patch of ground his allotment possesses, this he treads down very firmly, and about the first week in June he sows his seed thinly. The result is that only very small hard bulbs are produced; when they are ripe these are taken up carefully, and either tied along a stick or placed in open mesh nets and hung in an airy position through the winter. In the spring a piece of ground is prepared for their reception. It is usually enriched with the cleanings from his fowl or pigeon house—an ideal manure for Onions. The soil is dug and thoroughly pulverised and then made firm, and the bulbs are planted out in rows about 8 in. each way. It is the nature of Onions to produce their seeds in the second year, having stored up nutriment for this effort in the bulb during the previous growing season; but the growing season of these having been so short they had not time for this, and as soon as planted start to swell up their bulbs and stock them with material for the next year, thus producing enormous results. It is a little extra trouble, but those who desire to produce large Onions should adopt it. Another plan, often adopted in large establishments, is to sow the seeds in shallow boxes in the autumn and pot on into 60 pots, and plant them out in the spring into prepared beds in a sunny position. One of the best varieties for this purpose is Ailsa Craig. The method generally adopted for producing pickling Onions is the same as that employed by the miners, only they are sown a little earlier and generally deeper, which makes them produce oval bulbs. If the crop is attacked by the Onion grub (Anthomyia ceparum) great care must be taken that all refuse from the crop is destroyed either by burning or burying in a pit, and when the land is cleared it should have a good dressing of soot and salt, and another later in the winter of soot and lime. It is a great plague, and is very difficult to eradicate when once it becomes well established. It may easily be recognised, as the young tops turn yellow and fall down, caused by the grub eating away the centre, which should form the bulb. It is about a quarter of an inch long, fleshy and shiny.

BEET.—It is safe now to sow the maincrop of Beetroot. The soil should be free from recently added manure and well stirred, or large roots will be produced, which is undesirable.

LEEKS.—The Leek has many good qualities, one of its best is that it will withstand our severest winters without the least injury. The final sowing should now be made. It is not the least particular as to what soil it is in, but, of course, like other plants it can be grown larger in some soils than in others. It delights in a rich, light soil. When planting out allow about 9 in. between the plants. They should first have their leaves shortened a little and then planted up to the base of the leaves in holes made by a dibber.—*K.*

Gleanings from the World of Science.

THE undermentioned subjects were brought up to the Scientific Committee meeting of the Royal Horticultural Society on April 23rd :—

Peziza tuberosa.—Mr. Holmes exhibited specimens of this fungus, consisting of funnel-shaped cups, of a bright brown colour on an elongated stalk, arising from an irregular black tuber-like sclerotium. The mycelium preceding the sclerotium stage is said to be parasitic on the Wood Anemone.

Virescent Primroses.—He also showed flowers with slightly abnormal calyx, but with a virescent corolla. There were no stamens, but the pistil was malformed, being open and terminating above with styliform processes. In one a portion of the placenta was parietal, the free portion carried a minute tuft of a foliar nature at the summit.

Helxine Soleirolii.—Mr. Odell brought a specimen of this plant of the family Urticaceae. It is a native of Corsica, having very small leaves, and minute male and female flowers, somewhat resembling those of a Stinging Nettle. It is monoecious.

Schinus Molle, diseased.—Dr. Bonavia sent some leaves of this tree apparently diseased; Dr. M. C. Cooke undertook to examine them.

Carnation leaves injured.—Dr. W. G. Smith reports on the specimen sent to him as follows :—"On March 13th you sent some Carnation leaves with diseased tips. After examination they show no signs of fungi. It appears to me that the disease is due to either water remaining on the tips after overhead watering, or to exudation of water at the tips. As only the ends of a few leaves were sent, no examination of the rest of plant could be made. Useful suggestions on Carnation diseases—including, I think, this one—will be found in 'Proceedings of the Scientific Committee,' June 19th, 1900 (*Journal*, vol. xxv., page 33), also a report of my own, April 18th, 1899 (*Journal*, vol. xxiii, page 29). A paper by Woods (pamphlet of U.S. America Department of Agriculture, referred to in *Gardeners' Chronicle*, July 28th, 1900), which deals with a bacterial disease, would also furnish useful hints on treatment."

Oleander diseassd.—Dr. W. J. Russell sent some leaves growing on "fine and hitherto very healthy pink-flowered plants in a conservatory; but while the rest of the plant looks healthy, several of the branches are fading; the attack coming from a point close to the main stem." They were forwarded to Dr. Smith for further examination.

Mistleto at Oxford.—Mr. W. G. Baker writes as follows with regard to this subject :—"With reference to the Mistleto in the Botanic Gardens, I cannot find it recorded when it was first introduced. The following list contains all the trees upon which it grows here :—*Vigorous*: Crataegus Oxyacantha, C. O. var. rosea, Ostrya vulgaris, Aesculus (Pavia) flava, Cladrastis tinctoria, Tilia vulgaris, Apple tree. *Moderate*: Crataegus odoratissima, Acer monspessulanum, Juglans nigra. *Weakly*: Aesculus Hippocastanum, Pyrus Aria, Salix alba, Fraxinus Ornus. I have observed seeds germinate on the following trees, but have never got beyond that stage :—Fraxinus pubescens, Diospyros virginiana, Pyrus intermedia, Cerasus serotina, Gymnocladus canadensis, Ailantus glandulosa, Corylus Colurna." Mr. Burbidge, who has forwarded Mr. Baker's communication from Oxford, adds :—"I have never seen it growing on the Beech or Viburnum, as stated in the *Gardeners' Chronicle*, page 193, of March 23rd last."

Hepatica triloba alba.—Herr A. M. C. van der Elst, of the Royal Tottenham Nurseries, sent a flower of this rare variety. It was not stated whether it was a seedling form, or how it arose. Canon Ellacombe observed that it was known as an autumnal form of the double Hepatica.

Cattleya, deformed.—Mr. G. Cragg, gardener, Percy Lodge, Winchmore Hill, sent a remarkable form of C. intermedia. There were four flowers on the spike, the two lower ones being perfect. The specimen sent was one of the two upper flowers, both of which were deformed. The flower sent had two coloured sepals, situated laterally, and two lips, one posterior, the other anterior, closely folded together. Within was a column without anthers.

Preparation of Woad.—An interesting paper was sent by Dr. Plowright, with numerous specimens, showing the production of the blue colour derived from this plant. After alluding to several ancient writers, who described the colour as blue, green, and black, Dr. Plowright could find no recent information as to how the colour was extracted; as, though Isatis tinctoria is cultivated round Wisbech, where the manufactory still exists, it is no longer grown for the dye, but for a fermentable substance which renders true indigo (Indigofera sp.), "fast." After experimenting he found how all the colours, blues, greens, and blacks could be obtained. Full details, with chemical analysis, &c., will appear in the *Journal* of the R.H.S. A vote of thanks to Dr. Plowright for his valuable paper was proposed by Mr. Hughes, seconded by Dr. Müller, and carried unanimously. Prof. Church remarked that Chinese indigo is said to be made from Woad; the "balls" of pounded leaves being extremely like those made in India from the sp. of Indigofera. He observed, also, that different qualities occur at different stages of growth. He added that the colouring matter is not only produced in the leaves (in the chlorophyll cells, according to Dr. Plowright), but also in the seeds. These contain two colouring matters, the true indigo and erythophyll, the ordinary red colour of flowers, &c. The ripe fruits of the Woad plant, sent by Dr. Plowright, were deeply stained naturally, of a dark violet colour.

Hints for Amateurs.

CLIMBING PLANTS FOR WALLS, &c.

No plants are more admirably adapted for beautifying a small garden than hardy climbers. When dwarf plants are used, the whole extent of the plot of ground can be seen at a glance; but with the judicious use of hardy climbers, the garden may be made to appear much more extensive and be screened off from those of the neighbouring houses, thus giving it more privacy. If a lattice work trellis is put all round the garden, no trouble will be experienced in keeping it covered with luxuriant creepers, even if the garden is situated close to London. Rustic arches may be cheaply built, also summer houses, and covered by a variety of easily grown climbing plants in an incredibly short time. Unsightly walls may be masked by coverings of Ivy, which can be obtained in great variety.

Ivies are pretty coverings for high positions, where other plants requiring the frequent use of the knife, hammer and shreds, &c., would be difficult to attend to, but they should not be used to cover low walls, or only a few plants, as many handsome plants can be grown in their place. I do not mean to infer that the Ivy is not a pretty plant, indeed, we have not a more effective hardy plant for climbing purposes, but it is seen much too frequently, monopolising the whole of a nice open wall that could be covered by a magnificent tapestry of flowering plants or ornamental foliage plants of different kinds. Often Ivy is used to cover an unsightly tree trunk, but if the tree is valued it should not be covered by it, as it causes ill-health by slowly strangling it. Lonicera (Honeysuckle) is preferable to Ivy, but it, too, will twist its stems round the younger branches if not attended to, and cause injury. Single Roses and Clematises are the plants best suited for growing up trees as they do not strangle and suffocate their supporter like plants that climb by means of suckers or by twisting their stems round the branches.

Clematis Vitalba, the wild British species known as Travellers' Joy, ought to be in every garden, and nowhere will it succeed better than when climbing over the branches of trees and bushes as may be seen when growing wild, climbing up the trees and falling in graceful folds, giving quite a tropical aspect. In the early part of the year it is covered by a profusion of small sweet-scented flowers which produce the heads of feathered fruits in the autumn, which are such a conspicuous feature on the borders of most country woods. There is no need to buy this plant as it is so easily procurable in the country. They should be transplanted in the autumn or early in the spring. It will succeed in any garden soil if not too dry. It requires no art in pruning, as the knife should only be used to cut it back when it gets anywhere where it is not required. For growing over a mound it should not be allowed to lay on the ground but be raised a few feet on bushy sticks.

Clematises in General.—A good position in which to grow Clematises for an effective display is on arches, or up poles. They will grow very freely, and produce a profusion of flowers in London, where most other plants fail. Clematis Jackmanni, the purple one, should be chosen for positions where it is subjected to a large amount of smoke, as it seems to thrive better than the others. It flowers on the young wood, so must be pruned early in the spring, but do not be too free with the knife as it likes to grow unrestricted. C. montana, which flowers in May, requires a little different treatment, as it produces its blooms on the old wood. It should not be cut about much, only cutting out the weak growths annually.

Wistarias.—Owing to their rampant habit they do best when afforded a large space of sunny wall, which a small plant will very soon cover, as it often makes shoots 20 ft. long in a year. They bloom early, W. frutescens producing its flowers in April and May, which hang in dense racemes from the almost bare branches, as the blooms are produced earlier than the leaves. It will grow freely in most soils if they are not too heavy. It is easily propagated by what is known as layering. This is a very simple process; some of the shoots have a slight incision made in them, and then are pegged down into some light soil and kept moist. The shoot soon endeavours to make up the diminished supply of nutriment, occasioned by some of its vessels being severed, by putting out adventitious roots from the wound. By the end of the season sufficient roots will have been made to support the shoot without the aid of the old plant, from which it should then be severed completely. In the spring, the shoot should be cut back to within about 2 ft., and then carefully transplanted to where required. This variety is known by the common name of "American Kidney Bean Tree." W. sinensis does not bloom until a little later, when there is a little more foliage. A white variety can be obtained, but it is not such a good grower as the purple one. Wistarias can be grown as standards if properly pruned.

Aristolochia Sipho, commonly known as the "Dutchman's Pipe," is an extremely ornamental climber, but for some unaccountable reason it is not often to be seen out in the open, but may be seen in many large conservatories. It is a native of North America, and was introduced into this country as long ago as 1763. It is perfectly hardy, withstanding the severest of our winters, and may be seen flourishing in many places in Aberdeenshire. The flowers are not conspicuous and are hidden by the remarkable amount of foliage, which is of a dark green colour. It does not require any special soil, growing freely in any garden soil. It requires plenty of water, as the abundance of leaves present a considerable area from which evaporation takes place. It is deciduous and should be pruned well back every winter.

Jasminums.—These are very beautiful and desirable flowering climbers. The two most commonly grown are J. officinale, a species introduced into this country from Northern India about 1550, and J. nudiflorum, the naked flowered Jasmine, which was brought from China in 1844. Both are perfectly hardy and well adapted for wall culture or for growing on stumps. J. nudiflorum produces its flowers very early in the year, some time before the foliage makes its appearance; from this characteristic habit it derives its popular name of "Naked-flowered Jasmine," the flowers are of a sulphur-yellow colour. J. officinale has a very free habit, and produces an abundance of dark green foliage. The flowers are pure white, and very fragrant, as all know who have been near a plant when in bloom. It stands the heavy atmosphere in the neighbourhood of large towns better than most plants.

Passiflora caerulea.—This is not perfectly hardy, being killed by very severe frosts, but it deserves a place in every garden for it grows freely and produces large quantities of its beautiful and interesting blooms every year. It is commonly known under the name of "Passion Flower." If the district is not too cold, it may be easily carried through the winter by cutting it down nearly to the ground, and putting a sack round it, and a little long dry dung round the roots. The plants may be procured at a very low price at any nursery.

Escallonias.—For making a grand display on a low wall these are an acquisition in every garden. Their habit is very neat and graceful and they flower profusely, and vary in colour from pure white to red. They do best in a rather light soil with plenty of sand in it. They are easily propagated by taking cuttings.

Tecoma radicans, often known as Bignonia radicans, was brought to this country from North America as long ago as 1640, but after all these years, the public do not seem to be aware of the beauty of this easily grown wall plant. The flowers are scarlet-red and trumpet shaped. The flowering period extends over a considerable time in the middle of summer. It will cover a wall to the height of 20 ft. In the southern counties and in sheltered positions it may be employed for covering arches, pergolas, &c. It requires a light, rich soil, and is greatly benefited if a little well decayed dung is mixed with the soil.

Hops.—These are very effective if grown on poles, in the same manner that they are grown in the hop districts. They may be easily obtained, either by sowing seeds, or buying plants from the hop nurseries. There is a variegated variety, Humulus japonicus variegatus, but it is not such a free grower as the common Hop.

Cobaea scandens is a half hardy climber which may be raised annually from seed. It is very useful for making a high screen quickly.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Eucalyptus.—*Malaria*: The power of this plant as a specific against fever, &c., is supported by the large plantations that are made in hot swampy districts where fevers are prevalent. On a swamp near Rome it has been planted for this purpose with very good results, for what was once a fever stricken district, is now one of Rome's healthiest suburbs. We are not prepared to say whether a few plants growing in the house would ward off influenza, but we have no doubt they would help. It is not as you suppose merely a herbaceous plant, but is identical with the Giant Blue Gum of Australia. From its seeds Eucalyptus Oil is extracted, which is so well known as an antiseptic in the case of fever.

India-rubber Plant.—*Housekeeper*: The variegated form of this popular house plant is not so amenable to house decoration as the plain leaved one, as its constitution does not seem so strong. They require a large amount of water, but see that the drainage does not get stopped up, for stagnant moisture is worse than not having enough.

Geraniums.—*O. K.*: To get your plants to flower in the winter you should not let them flower now. As soon as the weather is fit, place them outside in the brightest and openest place possible, so that their growth may become sturdy, and keep every piece of bloom picked off as soon as the buds appear. Do not stimulate them too much with manure, or the wood will not ripen sufficiently. On the approach of cold nights take them indoors and give them a light airy position. If you require young plants, strike your cuttings now and grow them along, giving them their final shift into 6-in. pots when strong enough, and treat the same as the others. See that your pots stand on a good bottom of ashes to prevent the worms from getting in, and also keep a sharp eye for the depredations of slugs.

Fern.—*Potter*: It is not too late to pot your plant if it has only just commenced to grow. Give it good soil, and be careful not to overwater it after the operation.

Campanula isophylla.—*Amateur*: Your plant may be divided with safety, as it will stand a fair amount of pulling about. Cuttings may be struck easily if pricked into a light sandy compost. We should scarcely recommend it as a plant for the edging of the stage, as it is very fragile, and would not stand the knocking about. It is best grown in pots or baskets, and hung from the roof or in a light window.

Carnations.—*Layer*: Layering is not generally started until July, after the blooming is past its best; the same applies to Pinks. To prevent slugs attacking your plants there is nothing more efficacious than lifting up the growth and dressing the soil with soot. This will be found to serve a double purpose, for soot being a good manurial agent acts as a stimulant.

Arum Lily.—*Z.*: The weakness of your plant is undoubtedly due to its dark position. If it cannot be removed from where it is, nothing we can recommend will make it flourish. It requires a good light window, and to be turned round every day to prevent it drawing towards the glass.

Florists' Flowers.—*Inquirer*: A florists' flower is one that has been improved by careful selection and systematic hybridisation, as Orchids, Dahlias, Chrysanthemums for instance, especially the latter, which has risen from the tiny insignificant C. indicum to the massive "mops" to be seen at our autumn shows.

Crocuses attacked by Sparrows.—*G. D.*: There are always many complaints about this in the spring, but we think this year they have been more frequent than ever. It is impossible to say what their object is in pecking them to pieces. Many people say that they are attracted by the saffron. It is strange that

they seem to prefer the yellow ones to the others; they are often very destructive to Primroses of the same colour. The only way to protect them is by having lines of black cotton stretched over them.

Tomatos.—*Rex*: It is too early yet to entrust them to the open air, unless it is necessary for want of room; in that case they should be well hardened off, and then protected at night by standing something in front of them, such as branches of evergreens, or cover with sacking.

Tulips weak.—*Beds*: If they have been in their present position for as long as you state the weakness is due to starvation. They should be lifted in the autumn and either change their position or give the ground a good dressing of well decayed stable manure and soot.

DAFFODILS AT LONG DITTON.

The Daffodils have not been complaining of the long, cold winter and spring, with a continuity of sunless skies and the many rainy days. These conditions have, however, kept them much behind their usual time, so that the bulk of them have come into bloom about the fourth week of April, instead of the first or second. The very warm weather which set in on the 14th April and continued till the 25th had the effect of hurrying up the late varieties so that a large proportion of them came in together, as may be judged from the fact that the latest trumpet Daffodil, namely, Grandis, was in full bloom by the 27th ult., when we went through the fine collection of Messrs. Barr & Sons, at Long Ditton, Surrey. The earliest varieties of Narcissus poeticus were also in bloom, including N. p. ornatus, now so largely grown for market. N. p. Almira is like a greatly magnified form of the last named, both the segments and the crown being larger. Very fine is N. p. Glory, which received a First-class Certificate at the Manchester show the other week. The flower is altogether of large size with much imbricated segments. Another grand variety of the Poet's Narcissus is N. p. Cassandra with much imbricated segments and a dark orange-scarlet rim.

Trumpet or Ajax Daffodils.

The varieties of this section at the command of the planter are now legion, and the size of many of them is gigantic if placed alongside of the old English Daffodil or Lent Lily (N. Pseudo-narcissus). All the Daffodils, however, are remarkably strong this year on account of the abundance of moisture, and lack of drying winds until recently. One of the least and earliest of the trumpet Daffodils is N. cyclamineus now almost out of bloom. Ascending the scale we come to N. Johnstoni Queen of Spain, that elegant and graceful little Daffodil with a truncate trumpet and twisting, reflexed segments. N. J. King of Spain differs by having the trumpet revolute and frilled at the mouth. Both are charming little Daffodils for the rockery. Of the older giants Empress holds its own, being here grown in large breadths. The same may be said of its yellow counterpart Emperor. Madame de Graaff (see illustration) is now too plentiful to be classed as a £20 Daffodil, but it is yet all too scarce in gardens generally. The same may be said of Glory of Leiden (see illustration p. 574), a rather early variety; Monarch, an improvement upon Emperor; and Weardale Perfection, a bicolor with soft canary trumpet. Even less known are Mrs. Walter Ware, another bicolor with creamy white segments and a wide bright yellow trumpet; Big Ben, with sulphur segments and a long wide open trumpet; Captain Nelson, with oblong, twisted, pale yellow segments and a long, golden, frilled crown; and Lady Willes, with broad sulphur segments and a deeply lobed, golden trumpet. Sentinel is a bicolor with ovate, pointed segments and a long deep yellow trumpet. In the same type as Emperor comes P. R. Barr with its massive golden trumpet. Miss Ada Brooke comes in the same group with pale sulphur segments and a long, narrow, but wide mouthed trumpet. The latest flowering and dwarf habited Grandis ought to receive more attention than it gets, for it is choice and handsome. J. B. M. Camm is classed with the bicolors, the pale sulphur yellow trumpet favouring this view.

Mrs. Camm, however, has thin white segments and a lemon corona and is relegated to the class of which N. Pseudo-narcissus moschatus is the primitive wild type. Here also come William Goldring or Swan's Neck, so called on account of the long drooping or curved portion of the stalk just under the white flowers. Much smaller but very pretty in form is W. P. Milner, with a sulphur white and frilled trumpet.

New Daffodils.

These may conveniently be placed here as the most of them belong to the trumpet section, in which the raisers of new varieties seem to be most active; for although most of the above mentioned sorts are giants of the race the demand for big flowers is still on the increase, and evidently possess the greatest fascination to the raiser and the public generally. Peter Barr is styled the King of the Daffodils in the moschatus section, which includes such a grand form as Madame de Graaff. A glance at the picture will show the form of Peter Barr, which is much larger than the latter, and has white segments with a trumpet of the palest lemon. It was raised at Long Ditton, and flowered in the seed bed for the first time four years ago. It is now increasing freely in the case of large bulbs, but is priced at 50 gs. a bulb, and is not yet catalogued. It is certainly a splendid Daffodil judging it by its large size and delicate colouring. Ray Smith is a late sort with yellow segments and a golden crown. General Roberts was awarded a First-class Certificate by the Narcissus Committee the other week; and is characterised by broad, almost triangular sulphur segments, and a clear yellow, short, stout trumpet, having a very wide, revolute mouth. Seedling No. 30 belongs to the Leedsii type and has long, starry or spider like segments and drooping flowers, strongly recalling a single Cactus Dahlia; the base of the cup is lemon, all the rest of the flower being white. It is the most distinct of the radiate or starry flowers we have seen. Willie Barr, with oblong, yellow segments and a golden trumpet was new last year, and a grand Daffodil.

One of the most striking of the trumpet Daffodils we noted was the new King Alfred, which stands about 20 in. high, on a stiff stalk, which carries the flower well above the foliage, in this respect head and shoulders above its compeers, as its namesake King Alfred stood out conspicuously amongst the old English kings. It has the intense yellow and the lobing of the trumpet almost of N. maximus, and the substance of Emperor.

A large number of seedlings, raised by the Rev. G. P. Haydon, Westbere, Canterbury, have found their way to Long Ditton, and many of them are full of promise so that the public will hear of them again and see them likewise. All of them belong to the largest types or giants amongst the Ajax or trumpet section. Only one of them has yet been named. R. 10 has broad, stiff spreading pale yellow segments, and a huge deep yellow trumpet, deeply lobed at the mouth. R. 1 is also a large and handsome flower, but the trumpet is narrower, and the segments more decidedly flat. Seedling 103 is like N. albicans in colour, but the flowers are larger than Madame de Graaff, with broader, flatter segments, and a longer trumpet, less revolute at the mouth. The parentage of No. 96 was Weardale Perfection × Madame de Graaff, but the trumpet is darker than either and very wide at the mouth. No 99 is a huge flower with long and broad segments, spreading horizontally like a wheel. The trumpet is long, widely expanded at the mouth, and deep yellow, making a strikingly distinct flower in the matter of shape. No. 101 has white segments and a pale yellow trumpet, very wide at the mouth. The named variety is Hon. Mrs. Jocelyn, with light yellow segments, remarkably long and slightly twisted. The tube is narrow and golden yellow. The flower is quite distinct in shape. Several other fine things are also flowering in this lot.

Narcissus Madame de Graaff.

Varieties of N. incomparabilis.

On entering the grounds we came upon a grand new Daffodil, catalogued last year. We refer to Stella superba with long white segments having a spread of 4½ in. to 5 in. The golden crown is widely bell-shaped. This is very vigorous, and will make a grand bedder when plentiful enough. The segments of Lucifer are creamy white, and the long, bell-shaped chalice orange. It is practically new. James Bateman is remarkable in this section by frequently bearing two flowers on a stalk. The yellow

chalice is surrounded by very broad white segments. The king of this section, Sir Watkin, with its huge chalice, is grown in great quantity at Long Ditton. It is a medium early variety. Gloria Mundi, with its widely bell-shaped orange chalice, still remains a standard sort for bedding purposes. Beauty, another grand variety of equal size, differs from the last by having a yellow chalice. The large starry flowers of Frank Miles make it a popular sort for bedding. One of the most charming of this group is Princess Mary, with creamy white segments and a remarkably wide, golden chalice of beautiful contour.

VARIETIES OF N. LEEDSII.

These are reckoned intermediate between N. poculiformis and N. incomparabilis; and are characterised by having white segments and a lemon chalice, fading with age, almost white, in most cases. Duchess of Westminster is a good bedding variety of vigorous constitution that answers to this description. While inspecting the collection we noted how well the colour of this harmonises with that of Madame de Graaff, the one showing off the beauty of the other by contrast in form. The two are therefore admirably adapted for cutting for vases in table decoration, the combination being lovely. Grand Duchess, having a short, wide chalice, was nearly over, being rather early. One of the boldest and most handsome of this group is Catherine Spurrell, having a wide lemon chalice that retains its colour to the last. The very wide chalice of M. M. de Graaff also retains its lemon colour. Mrs. Langtry is one of the prettiest and most distinct of all the Leedsii types, inasmuch as it has a deep yellow rim to the chalice, all the rest of the flower being white. Practically it is a Picotee-edged Daffodil. Beatrice is remarkably pure white with a slight lemon tint to the chalice. Seedling No. 122, belonging to this group, has a short and very wide lemon chalice. On the contrary the lemon chalice of Maggie May is two-thirds as long as the segments, being very distinct in this respect.

SUNDRY TYPES.

N. Burbidgei John Bain is one of the most vigorous of its class, having large, pure white flowers, with the exception of the yellow cup. It is largely planted. The wide cup of N. B. Sequin is golden-yellow, and the white segments spread in a starry way. Of the two parents of the race the forms of Burbidgei come nearer poeticus than incomparabilis.

N. Barrii conspicuus is one of the most vigorous and free flowering of the race, and is largely planted. N. B. Sensation is an early sort, defined by the orange rim to the cup. Dorothy Wemyss has white segments and a yellow cup, edged with orange, and is large for this type. Crown Prince differs chiefly from the last named by having a very wide yellow cup, edged, as in that case, with orange. The Barrii race is considered to consist of hybrids between incomparabilis and poeticus, being nearer the former parent than the latter.

The forms of N. tridymus are dwarf little Daffodils having two or three flowers on a stem, and a chalice of medium length. S. A. de Graaff has sulphur segments and a golden chalice. A. Rawson has a white perianth and yellow chalice.

N. Nelsoni William Backhouse has white segments and a yellow chalice, the whole flower nodding as in the Swan's Neck amongst the large trumpet Daffodils. The sulphur Hoop Petticoat Daffodil was in good form, but the varieties of N. triandrus or Angel's Tears were getting past their best. The above is only a selection of the great Daffodil family grown by Messrs. Barr & Sons, at Long Ditton.

NARCISSUS GLORY OF LEIDEN.

A Bog Oak, 80 ft. long, has been dug up near Peterborough.

SPRING FLOWERS AT KEW.

WINTER has at last left us, although it seemed very loth to go, and we have now the new life of spring bursting on us after the mysterious winter sleep, when Nature lies dormant. But while some of the trees, &c., remain in this quiescent state and apparently lifeless, there are active yet minute chemical and molecular changes proceeding within them which no man can follow.

In every part of the gardens things are bursting into growth. The Chestnuts and many others are already covered with bright green foliage, which soon must lose its freshness in this unfortunate locality, and become coated with a carbonaceous deposit from London's smoke-laden atmosphere.

Springtime is a most interesting time at Kew, for the mounds are covered with their wealth of bulbs in full bloom, and many of the early flowering trees and shrubs are now at their best. Here and there, clumps of that free flowering shrub, Forsythia suspensa, are making a grand display with their bright yellow flowers. The beautiful clumps of Magnolia stellata also are conspicuous features, with their abundance of Nymphaea-like flowers. Various species of Prunus also are to be seen in bloom in all directions, Prunus triloba var. flore pleno coming in for a large amount of admiration, as usual.

The rock garden is always interesting at this time of the year. There is something fascinating in its miniature flora which appeals to everyone, whether they are plant lovers or not. The collection of alpines, &c., that is to be seen in the rockery at Kew is surprising, when we compare their environment here with that of their native habitats, especially the true alpines. Their natural conditions are bright and continued sunshine for the time they are exposed, which is only for a very few months, as they are soon covered again with the beautiful mantle of alpine snow, which protects them from the severe frosts. Here they are subjected to all sorts of weather, especially during the winter. One day it may be mild and spring-like, tempting them to push their buds, while the next may be as keen as an arctic winter, with sharp frosts and no covering of snow to protect them. What they seem to suffer from the most in winter is excessive moisture. With all these evils to militate against their welfare, nowhere can a more representative collection be found in Britain than here.

It is to be hoped that now these miniature plants, together with their larger herbaceous brethren, are under the eyes of fashion, and the rockery and well-filled herbaceous border are considered indispensable in every well-appointed garden, that floriculture will be lifted up from the degradation into which it has fallen; and soon the Brussels carpet designs will become a thing of the past, and the Lobelias and Pelargoniums, &c, will have to share their room with plants of far greater beauty.

Some of the most conspicuous that are now in bloom are Saxifraga ligulata, S. Camposii, S. caespitosa compacta, S. sancta, S. oppositifolia, Primula variablis, P. denticulata cashmeriana, a very pretty variety; P. marginata, P. Polinuri, P. uralensis, P. rosea, a most handsome little plant, delighting in a moist situation; P. discolor, P. clusiana, P. Facchinii, Anemone Hepatica fl. pl., A. nemerosa var. bracteata, A. apennina, Erica carnea, Draba bruniaefolia, D. aizoides, Aubrietia deltoidea grandiflora, Doronicum Columnae, Alyssum montanum, Sanguinaria canadensis, Salix ripens, Cardamine polyphylla, Omphalodes verna, a very pretty little light blue flower; Brodiaea uniflora, Uvularia grandiflora, Daphne blagayana, Synthyris reniformis, Mertensia pulmonarioides, Iris attica, Fritillarias and Muscari in variety, Iberis sempervirens garrexiana, Hacquetia Epipactus, &c.

The little house in the herbaceous ground, known as the alpine house, is stocked with a collection of these and other rock plants. There is a handsome collection of Primulas to be seen in bloom here—Primula commutata, P. pubescens alba, P. discolor, P. coronata, P. viscosa and P. frondosa being some of the best. There are also a few pots of that excellent dark Auricula, Pearl of the East. Other pretty and interesting plants to be found in bloom here are Shortia galacifolia, Androsace Laggeri, Erythroniums in variety, Lewisia Tweedei and Morisia hypogaea, which should be grown in almost pure sand, as shown by its beautiful and healthy condition as grown here under that treatment. Saxifraga

Salomoni, S. oppositifolia var. minor, S. rocheliana and Soldanella alpina are also beautifully in bloom.

The greenhouse, known as No. 4, is, as usual, looking one blaze of colour. There is a fine collection of Hippeastrums in bloom in the east wing. The bed in this wing has been greatly improved by the planting of two or three large Camellias. It looked very nice during the summer, but when the Daturas were pruned in the winter it left a bare bed; the planting of the Camellias has obviated this. Cineraria polyantha gives a bright colour to the bed in the centre. The other beds are filled with Eupatoriums, Acacias, Genistas, Wistaria sinensis, Richardias, double Lilac and Roses. The stages are filled with a well grown collection of various spring plants. On the roof of the succulent house is a plant of the handsome climber, Bomarea frondea, in full bloom.

WATERING PLANTS.

With the kind permission of the Editor, I should like to make a few remarks on this very important operation. To water plants properly requires discretion, and also intelligent judgment. Plants vary greatly in their requirements; one wants a great deal, another does with a scanty allowance. Again, when watering we must take into consideration the temperature, whether it be high, and the light intense, or if it is the contrary the supply of water must be limited in proportion. We must also study the nature of the soil as to drainage, &c., the texture of the plant, the roots whether they are near the surface or considerably below it, and also whether there are abundance of roots or very few. Plants growing rapidly naturally require greater food supplies than when resting, but the amount should always be decreased during the flowering period. Lots of amateurs and inexperienced gardeners give every plant the same dose whether it requires it or not. When we water plants we should give them "a good watering," always bearing in mind the old proverb slightly altered that a "constant dribbling ruins the plant."—*T. W. Dollery, The Gardens, Whitburn, Sunderland, April 27th*, 1901.

A HALL FOR HORTICULTURE.

"A Voice From Swanley." (1890.)

Surely it is inspiring, and must bring a feeling of exalted pride to the heart of every one, when they see the exhibits of their countrymen standing boldly up and distancing foreign competitors, and to hear other countrymen exclaim, "How perfect! what size!"

It should be known that every variety of fruit, flowers, and vegetables of worth that can be found upon the earth is brought to England. In every instance we (English) grow them better than where they are indigenous, after a work of ages in introducing. Of course the varieties are numerous, and it becomes a national necessity to weed out the inferior and to record the superior, and in this the Royal Horticultural Society has done an incalculable amount of good for the benefit of mankind.

It is remarkable (and may be compared to the moral work and generosity of some, which is unrecognised during life) that scarcely any one knows its (the society's) worth, and those that do fail to promulgate the good. The English by sheer intelligence have considerably improved nearly every production for the sustenance and happiness of the public. These good kinds have gone forth to every part of the world; and if it were possible to sum up the good, it would be found that horticulture has done more to benefit the human race and make England eminent than any other profession, and, although much has been done to comfort and strengthen the body and cheer the heart of man, there is an endless amount still to do.

His late Royal Highness Prince Albert certainly made sure that he had secured a noble home for the society, but it is at this moment, from no fault of theirs, without a floor or roof to call its own, yet now even, in lodgings as it were, the society is leading on horticulture and doing enormous good—agriculture owes them a heavy debt of gratitude.

When we read of a patriotic lady in Philadelphia, evidently an admirer, and anxious to forward horticulture in America, bequeathing £40,000 wherewith to build and maintain a hall of horticulture in that city, we feel it is retrogression on the part of the British in not possessing one long since to carry on one of the greatest sciences of the nation. There are many amongst our wealthy who in their time have enjoyed an immense amount of happiness, luxury, and contentment from their garden, who we believe will follow the noble example of this estimable and generous American lady and immortalise their name by securing and presenting the freehold of a suitable site for that noble and most necessary institution—to hold their meetings, shelter their library and the council who so nobly carry on the work for the benefit and honour of dear old England.

As far as the nursery and seed trade is concerned, they would, we believe, struggle with small sums to erect some temporary building, if only so that it could be utilised, the society could call it their own, and thus strengthen their hopes.

There are plenty of central sites with dilapidated walls standing (almost a disgrace to the surroundings) which would answer admirably, and as soon as the freehold is secured we are ready to subscribe £25, and we are quite sure the hon. sec., Rev. W Wilkes, would be delighted to bear of others doing likewise.

We hope to live to see the day when we have a hall worthy of our great nation, and that the committee of the National Chrysanthemum Society, the members of which number well nigh 1,000, and whose work and exhibitions are of great importance, and stand pre-eminent with that flower, may be invited, and see their way also to hold their shows and meetings in this building, and all special societies, such as Roses, Dahlias, Auriculas, Carnations, &c., also Gardeners' Benevolent Society, Gardeners' Orphan Fund, and Gardeners' Provident Society, in fact, all societies pertaining to horticulture have the same privilege, and thus avoid expensive hotels and other public resorts. This building we picture in our minds, and hope some day to see in reality.—*Henry Cannell & Sons.*

1901.—What a remarkable fact in horticulture; this plant has been lying dormant eleven years and now beginning to root and sprout. Will it grow? I hope it is not stunted—water and keep in the right temperature, and it will come along I think.—*H. Cannell*

PLANTS RECENTLY CERTIFICATED.

The awards mentioned below were made by the Royal Horticultural Society on the 23rd ult.

Orchid Committee.

Laeliocattleya Cybele.—The parentage of this bigeneric hybrid was Cattleya Trianaei (seed bearer) and Laelia elegans (pollen parent). The sepals are white with blush edges, and the oblong-elliptic petals merely blush. The tube of the lip is pale purple externally, and creamy white internally; while the lip is of a rich purple with a white edge. It is a handsome and chaste Laeliocattleya, on account of its clean light colours. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd., Chelsea.

Odontoglossum Adrianae crawshayanum.—Like others belonging to this race of natural hybrids, the flowers in this instance are of beautiful round form. The sepals are heavily blotched with chestnut-brown on a creamy white ground. The petals have large blotches above the middle, with smaller spots below on a creamy white ground. The lip has a large chestnut blotch in front of the crest and small ones along each side. (Award of Merit.) de B. Crawshay, Esq. (gardener, Mr. W. J. Stables), Rosefield, Sevenoaks.

Odontoglossum luteo-purpureum Coundon Court var.—The plant of this exhibit gave evidence of excellent cultivation, for the flower spike was nearly a yard in length, and the flowers large. The sepals are almost wholly covered with the dark chocolate brown so common to this species, the edges and tips being yellow. The blotches on the petals are smaller and leave more of the ground colour exposed. The lamina of the lip is white, the basal part being yellow and more or less spotted. (First-class Certificate.) George Singer, Esq. (gardener, Mr. Collier), Coundon Court, Coventry.

Odontoglossum crispum, Edward VII.—The face of the sepals and petals is white, and marbled with small blotches of a brownish-purple colour. The lip is thickly spotted with reddish-brown spots. It is a fine round, imbricated flower. (Award of Merit.) Mr. Thos. Rochford, Turnford Hall Nurseries, near Broxbourne.

Odontoglossum wilckeanum Turnford Hall var.—The sepals of this fine variety have a few large, chestnut-red blotches on the centre on a yellow ground. The petals are ovate, acuminate and jagged at the edges, with a few small red spots about the middle. (Award of Merit.) Mr. Thos. Rochford.

Odontoglossum luteo-purpureum hystrix.—The vigour of this variety as exhibited by Sir Trevor Lawrence, Bart. (gardener, Mr. W. H. White), Burford, Dorking, was remarkable. The sepals are characterised by being chestnut red with yellow tips. The petals have blotches above the middle. The lip is well developed, being pale yellow, fringed at the margin and having long finger-like rays to the crest in front of which is a large chestnut blotch. (Award of Merit.)

Oncidium marshallianum sulphureum.—The suppression of colour in this species is similar to what occurs in several species of Cypripedium in which all the colouring disappears, or leaves only green veins or blotches on a white ground. In this case the large flowers are light yellow with greenish-yellow blotches instead of brown upon the sepals and petals. Its distinctness will make it choice. (Award of Merit.) Walter Cobb, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells.

Floral Committee.

Iris willmottiana.—The general appearance of this pretty Iris recalls I. caucasica, except in the matter of colour. The leaves are of a glossy green, with a white line along the edge. The flowers are lavender blue, and the falls have a large white blotch, extending down the middle of the lamina. The standards are very small and the stigmas of a deeper blue. (Award of Merit.) Miss Willmott, Warley Place, Brentwood.

Arabis aubrietioides.—Colour does not usually run very high in this genus, the flowers being generally white. Those of the plant under notice are of a purplish-pink shade. (Award of Merit.) Miss Willmott.

Erythronium gigantreum Hartwegi.—The flowers of this variety are of large size, but vary slightly in colour. Some of them open pale yellow in the centre; others have a line of brown spots round the centre; while others are almost creamy yellow, the latter colour being dominant. (Award of Merit.) H. J. Elwes, Esq., Colesborne Park, Cheltenham.

Primula viscosa Mrs. J. H. Wilson.—The flowers of this charming variety differ from the type in being dark purple-blue instead of the ordinary reddish-purple. The species would seem to be capable of giving rise to many choice new varieties. (Award of Merit.) Mr. John H. Wilson, Cemetery Nursery, Handsworth, Sheffield.

Berberis congestiflora hakeoides.—The stems of this very distinct Barberry are dwarf and well furnished with nearly orbicular, glaucous-green, leathery leaves, serrated with white spines. The small flowers are aggregated in globular clusters in the axils of the leaves; and the sepals are yellow, while the petals are orange. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

Primula obconica.—In this case an Award of Merit was accorded for the Kenmore strain of P. obconica. The varieties as shown had white, pink, blush, rose, purple and carmine flowers, the mixture of colours being charming and pretty, and the flowers large. The Marchioness of Breadalbane (gardener, Mr. Wright), Taymouth Castle, Kenmore, Perthshire.

Carnation May.—The flowers of this variety are large, shapely and pure white, with slightly incurved petals nearly entire at the margin. The calyx does not split very readily. (Award of Merit.) Messrs. J. James & Son, Woodside, Farnham Royal, Slough.

Narcissus Committee.

Narcissus General Roberts.—The segments of this trumpet Daffodil are broad, almost triangular and sulphur yellow. The trumpet is short, clear yellow, widely revolute at the mouth. The whole flower is very stoutly built. (First Class Certificate.) Messrs. Barr & Sons, King Street, Covent Garden.

Narcissus incomparabilis Lucifer.—The segments of this variety are creamy white, while the long, bell-shaped chalice is rich orange. (First Class Certificate.) Messrs. Barr & Sons.

Narcissus poeticus Herrick.—The flowers of this variety are of large size, with broadly obovate

white segments. The cup is widely spread out and of a deep orange-scarlet. (Award of Merit.) Rev. G. H. Engleheart, Appleshaw, Andover.

NARCISSUS ST. CECILIA.—The ovate segments of this cross-bred variety are ovate and creamy white. The large, open trumpet is crisped at the mouth and pale lemon, becoming ultimately very faint. (Award of Merit.) Rev. G. H. Engleheart.

NARCISSUS MASTER AT ARMS.—The short, ovate segments of this variety spread out nearly horizontally. The trumpet is of large size, but shortened similarly to that of N. Sir Watkin, plaited, very wide and clear yellow. (Award of Merit.) Rev. G. H. Engleheart.

NARCISSUS ROBERT BERKELEY AND N. EARL GREY.—These two varieties, being hybrids in which N. triandrus was one of the parents, partake of similar lemon hues, but are much larger. (First-class Certificate for each.) Miss Willmott.

SEEDING NEPENTHES.

To obtain a collection of Nepenthes by growing your own seed and raising your own plants is not a very easy matter; nevertheless, to those who have the time to spare and plenty of suitable accommodation, it is an interesting work. The plants are dioecious—that is, the pollen-bearing and seed-bearing flowers are not borne with the same plant. They do not flower until they have grown to a considerable length; when they do, it comes out from the extremity of the shoot. They are easily fertilised by carrying the pollen on a camel-hair brush on to the viscid surface of the stigmas. There is an abundance of pollen as the plants rely on wind pollination in their wild state. The specific gravity of the seeds is very small, for although one-fifth of an inch long, it takes 870,000 to weigh an ounce. When ripe, the seeds should be sown on a compost of peat and sphagnum, and kept in a moist atmosphere with a temperature of 70° to 75°. When they germinate, it is very interesting to watch their development in the early stages and the formation of the earliest ascidii, or pitchers.

SOCIETIES.

ROYAL BOTANIC.—*April 24th.*

THE exhibits at Regent's Park, on the occasion of the spring show, were not very numerous, but looked very pretty staged as they were amidst a surrounding of Palms and Ferns. If a little more shade could be afforded in some places, the place is an ideal one for a show of choice plants.

Messrs. J. Hill & Sons, Lower Edmonton, put up an attractive group of Ferns. They made a very effective display, their young, light green and tinted fronds showing up well against the dark background of Palms, Sabal blackburniana, Pteris Childsii, P. Straminea, Lomaria L'Herminieri, Doodia aspera multifida, Adiantum macrophyllum, A. scutum roseum, A. tinctum, Lastrea erythrosora, and numerous Nephrolepis were amongst those shown. (New Silver Medal.)

Messrs. J. Carter & Co., High Holborn, London, had a showy group of Cinerarias, the stellata strain receiving much attention. The variety, Carter's Brilliant Prize, had some tremendous flowers, some of them measuring 5 in. across. (New Gold Medal.)

Mr. G. Kelf, gardener to Miss Adamson, South Villa, Regent's Park, put up a tastefully arranged group of stove and greenhouse plants; the group was at least 36 ft. through, and contained a large number of plants all showing a high degree of culture. There was not the least sign of crowding in the arrangement, nor was it flat and formal, which is too often seen. (New Gold Medal.)

Messrs. R. and G. Cuthbert, Southgate, Middlesex, exhibited a large number of Azaleas. The following were awarded the society's Certificate:—Azalea mollis Elizabeth and Azalea mollis × sinensis J. J. de Vink.

Messrs. Barr & Sons, Long Ditton, Surrey, had a large collection of Narcissi, and were awarded the New Silver Medal. King Alfred and Big Ben were awarded Certificates. For King Alfred they were asking the fancy price of six guineas a bulb.

Campbell-Newington, Esq. (gardener, Mr. T. Abbot), Regent's Park, was awarded an extra prize for a collection of Tulips in pots; he was also awarded the New Silver Medal for a collection of flowering and foliage plants. It contained several well grown plants of Gloxinia and Rose Crimson Rambler. For a collection of foliage plants he was awarded a Bronze Medal. The collection of plants shown from this garden was all remarkably well grown, and great credit is due to the gardener for his productions, seeing what he has to militate against him in the way of London's smoke and long continued soot-laden fogs. His collection of Azaleas also received a Bronze Medal.

Mr. S. Mortimer, Rowledge, Farnham, Surrey, received a Certificate for his select strain of Polyanthus.

Messrs. B. S. Williams & Son, Upper Holloway, had a small but interesting group of Orchids and foliage plants, which was awarded a Gold Medal. They also had a large collection of Lilacs and Acers.

For rustic stands for table decoration, Mr. J. Williams, Ealing, was awarded a New Bronze Medal.

Mr. Henry Anstey, Norwood, had a magnificent display of wreaths, bouquets, &c., showing all the latest designs in the floral art. One very conspicuous one in the form of a shield was much admired; it was a ground of Stocks, surrounded by Smilax, with a raised cross of double red Pelargoniums in the centre; also a shower bouquet of Marguerite Etoile d'Or. A junk-shaped ship of Roses also was greatly admired. (New Silver Medal.)

For a collection of Tulips and Hyacinths, Miss Adamson received a New Silver Medal.

Mr. R. H. Bath, Wisbech, staged a large collection of Narcissi, which was awarded a New Bronze Medal.

Messrs. Hogg & Robertson, Dublin, had a large stand of Narcissi and Tulips. (New Silver Medal.) They were rather unfortunate in their position, as the sun proved too much for many of their blooms, especially the Tulips.

Messrs. Young & Co., Stevenage, were awarded an extra prize for a collection of Cinerarias, Imantophyllums, &c. They received a New Bronze Medal for wreaths, &c., but towards afternoon they looked in a wretched condition, the sun having dried some almost fit for a herbarium. The band of the 2nd Life Guards fulfilled a good programme of music. The show is a very fashionable one, being patronised much by society ladies, who make it into a kind of garden party. Being such beautiful weather on the day of the show, the gathering was an extensive one, and looked very gay, being decked in the newest of spring fashions.

MIDLAND DAFFODIL AND AURICULA.—*April 25th and 26th.*

ON the first evening of the show a most enjoyable dinner and conference was held through the hospitality of Messrs. Robert Sydenham and John Pope, who occupied the chair and vice-chair respectively, among those present being Rev. J. Jacob, Mr. F. W. Burbidge, M.A. (Dublin), Mr. P. W. Williams, Rev. — Gottwaltz (Cornwall), Messrs. White (Spalding), Brown (Brentwood), Wallace (Colchester), Sinclair (Dublin), P. R. Barr, Jas Douglas, Richard Dean, J. T. Bennett Poë, W. P. Wright, A. E. Stubbs (Ipswich), T. Kime (Mareham-le-Fen), W. B. Latham, Spinks (Solihull), G. Pressley, Allen, Smith, E. Wood, and many others. The function was graced by the presence of several ladies.

In proposing the toast of the "Midland Daffodil Society," Mr. P. R. Barr said he was not aware he had to speak upon the subject, which was a most important toast, and wished it could have been placed in more adequate hands, especially seeing there were so many amongst the company that evening. Anyway, he could only show from his own observation that a considerable improvement had taken place in the Daffodil show this year at Birmingham; the flowers were staged better, the quality of the flowers nearly equal to last year, the number of exhibitors was greater, and it all tended to show that the Midland Daffodil Society is making a considerable advance, and he was sure they were all equal to associate with the society, the name of that indefatigable worker, Mr. Sydenham, the treasurer. Whatever he took in hand he seemed to make a success of, the same as he has done with his business, and he was sure that as long as that treasurer was at the head of the Midland Society it would become almost the principal society of its kind in the kingdom, and therefore it gave him much pleasure in proposing the success of the society to couple with it the name of Mr. Robert Sydenham, the indefatigable treasurer.

Mr. Sydenham, in responding, said he was very much obliged for the kind way in which his name had been received in connection with the toast of the Midland Daffodil Society. This work was taken on when the Edgbaston and Birmingham Horticultural Botanical Society was not able to carry it through as they had begun a few years ago; he felt gratified with the success of the society since it had started, and he had to thank the various members of the trade for the kind and liberal support which they had given the society. It had always been his aim in bringing this society to the success it had attained at the present time, to encourage every member of the trade, every amateur, whether large or small, to come to the show and to do his best, and we endeavoured to recognise all coming whether trade or amateur, or as visitors. He assured all that it would be a great pleasure and aim on his part to continue to make the society a thoroughly representative one, one that could be entered by the smallest and by the largest grower. They had endeavoured to give a series of good prizes in each class, and as many classes as possible to encourage the growth of these lovely spring flowers, and he hoped such a show that had been seen that day would encourage a great many to take up the cultivation, because he realised that with the facilities there are in different parts of the country we might copy the Dutchmen, who have always had the industry practically in their own hands. We had seen the Daffodil properly cultivated in Lincolnshire, Essex, Devon, Cornwall, Scilly and Channel Islands, and also various parts of Ireland, and he hoped the time would come when we should not want to buy any bulbs in Holland or any parts of the country at all, but that we should get the supply and try to create an industry, which has been one of the most successful and practically the greatest industry that Holland possessed at the present day. He said he was in Holland last week himself, and there saw what he would safely say to be one hundred square miles exclusively devoted to the cultivation of bulbs, and when one sees what an immense number must be grown, and what an immense number must be sent away to different parts of the world he should should say that Englishmen if they will only take the trouble they might get this industry in their own hands quite as much as the Dutchmen, and he would say the Englishman might even do better than the Dutchman. He felt sure that in the cultivation of bulbs the great aim should be to work for that end, and by creating this industry, bringing many thousands or even millions of pounds to the revenue of the country. Mr. Sydenham concluded by thanking the company for associating his name with the toast, and assured them he would always be ready to do all he could for the success of the Midland Daffodil Society.

Mr. Holding, secretary of the Auricula Society, said he had great pleasure in proposing the toast of the "Auricula Society," and it gave him great pleasure to intimate to the company that the society was progressing most favourably, owing to the help from its members; there were 100 entries at the exhibition from eighteen exhibitors; and this, compared to last year, was very favourable indeed. He hoped this would bring many enthusiasts and beginners to grow the beautiful Auricula, feeling sure they would gain great pleasure in the pursuit. He commented upon the beautiful exhibit brought by Mr. Douglas, and was very proud that Mr. Douglas joined them this year. The flowers were staged much better and were exceedingly creditable, it could scarcely have been better had the season been of the most favourable. He said he hoped he would not be accused of what they were being charged of people not being able to see the Auriculas on account of the exhibitors standing in front and admiring their own flowers; this, he admited, was a weakness of many; but, he hoped, such in this case would not be done to the disadvantage of the general public. He had much pleasure in asking the company to drink the health of the Auricula Society, and coupled with it the name of Mr. J. Pope.

Mr. Pope, in responding, said that he had been put into this position owing to the absence of that very old and enthusiastic grower, the Rev. F. D. Horner, owing to serious illness; there was also

another celebrated grower, Mr. Vaughton, who was also away, as he did not care to come without bringing any flowers, owing to the bad season, but he would have much pleasure in calling upon Mr. Douglas to say a few words in reference to this toast. Speaking of himself he said he had a love and inclination for these old florist flowers; for he remembered in his early youth in the neighbourhood of where he was living, verging the black country, seeing the poorer class growing these flowers, and the enthusiastic way in which, too, they looked after them; it was what was known to him as the artisan's flower, and they were very keen in their judgment upon the climate, light, and lines, and therefore when it was suggested to bring this society in connection with the Midland Society, he was only too pleased to subscribe and bring forward the enthusiasm of this old and beautiful flower, and he would do all in his power to maintain and encourage the growth of what he should call the artisan's flower.

Mr. Douglas said it gave him great pleasure indeed to come amongst the company and to bring a few Auriculas to show against the Midland growers. Of course, he has been growing Auriculas now for some thirty-eight years, and in that time he had got together a good collection, and yet he did not care to part with the old class; and, of course, in growing that number of years he learnt a good deal, but at the same time he was always willing to give any knowledge to advantage freely to others either through the medium of the schedule or in any way to the papers. It had been a great pleasure to him to see such a splendid show. Taken altogether the Daffodils were very fine indeed. He felt very gratified with the Midland Society and show they had got together in so short a time, and he thought whether it was not possible to have a Daffodil society like this in the south. Mr. Barr and others could no doubt be got together to start a southern Daffodil society, get up a schedule like this and take the Midlanders as an example. He would be pleased to help such a show, and he believes we could rival one another; but do not suppose we could get up to the Midland Society, but—(laughter)—I am not so sure—if the southerners take up anything they do it thoroughly, they do not do things by half, and he would like to see the Auricula Society with a larger number of members. He was sure the secretary was a thorough enthusiast, and he was pleased to hear what Mr. Pope said in connection to the artisan class.

Mr. R. Sydenham said in proposing the toast of "The Visitors" he was very gratified indeed to see so many exhibitors and visitors amongst them, and he felt more than pleased to see such worthy Daffodil growers as Mr. P. D. Williams, Mr. J. T. Bennett Pcē, Mr. F. W. Burbidge, M.A., and other members there. He had hardly expected to have had the pleasure of their company at the dinner that evening, but would ask all to drink the health of the visitors, and to couple with it the names of Mr. W. P. Wright, of the horticultural Press; also another name, Mr. P. D. Williams, of Cornwall.

Mr. Wright, in responding, said he felt that the duty placed upon him was a very heavy one, because he had to speak for a great many besides himself, other visitors from all parts of the country, east, south, north, and west, and he hoped in expressing the following to-night he would give satisfaction; he thought they would all agree on one or two particular points. He referred to the dinner given by Mr. Sydenham the night previously, and then again to-night by that gentleman and Mr. Pope, and it was always a pleasure to come to Birmingham, as they were so well looked after and so hospitably treated. He came last year for the first time in connection with the society, and he had made up his mind that if he was invited another year he should come again, and he would only have one regret in years to come in looking back that he had missed the first show of the Midland Daffodil Society. With regard to Mr. Sydenham's remarks as to the industry of growing bulbs, he wondered whether he was speaking of the Daffodils alone, or whether he included such bulbs as Snowdrops, Hyacinths, and Tulips; he considered we had a future before us. With regard to these beautiful flowers, he had visited all the bulb farms in Holland for many years, and he thought it would be a splendid thing if we could extend that industry in this country in a commercial sense. There was one question, and that was the education, and perhaps we should have to do as they had to do in the olden times to get one or two of these gentlemen to come over here and learn us a little in regard to growing Tulips, Hyacinths, &c. In reference to the Auricula, he had never given them much attention until last year. Mr. R. Dean, of Ealing, sent him a series of articles, and he was astonished at the number of enquiries coming from all parts of the country and all classes of people; he did not know whether it was the popularity of the flower or the popularity of the Dean of Ealing, and he thought the future of the Auricula would be as prominent or more prominent than it had been in the past.

Mr. P. D. Williams said he would not trouble the company with a long speech, but he felt that he ought to thank all most heartily for the kind way in which they had received the visitors; the liberality had been most unbounded, and the management of the show should always be an attraction to the public, because in his opinion it was managed most excellently. In his part of the country, the West of Cornwall, they were to an advantage in the way of climate, and were able to get earlier flowers than the Midland does; it was an industry, and a great industry in Cornwall, and the number of bulbs there grown was very great indeed; there were no nurserymen, there was practically none.

Then followed a discussion and papers upon the enthusiasm of Daffodils in grass. Mr. Barr read a most interesting and concise paper upon this mode of growing Daffodils; he said the great thing about cultivation in the grass was the evenness of temperature maintained and that the soil was not liable to be lifted with frost; Daffodils, he said, seemed partial to shade, although it depended upon the kind of soil in which they were grown. He said that his father in his papers on his travels on the Pyrenees, saw invariably that the Daffodils grew with a northern aspect in a loamy soil. For a manure he thoroughly recommended and believed in sulphate of potash.

Mr. Burbidge said that so much had been said by Mr. Barr in his paper upon the subject, which was so remarkably clear and remarkably well read, that he had not much more to add. There were one or two points it was very wise of him to allude to, and that is the grass as being less liable to be sun baked and less liable to be lifted by frost; the grass seemed to have a big quality chemically and mechanically in keeping the soil in a thoroughly healthy and pure condition, and he made allusion to the time they had been preserved for practically centuries where they were growing in the grass rather than in cultivated gardens. There was another question that Mr. Barr touched upon, and that was the aspect; it was not always the class of Daffodil facing the north in Europe which proved the case, for nine times out of ten he had found them facing the south or south east, but this was generally in little declivities of the mountain or hillside where the alluvium has been washed down. The question of manure was a very wide one; very often they do not want manure at all; the one manure he used was burnt refuse from the garden, and he found this very efficacious as a top dressing, preferable in spring. He had only one regret that Professor Hillhouse was not with them, owing to ill health and his doctor not permitting him to be present; he only hoped his health would improve and enable him to continue to carry on the noble work of horticulture that he had hitherto done in Birmingham.

There were also other discussions on the fungi or fairy ring appearing in the grass, which was detrimental and weakened the growth of the Daffodil.

Hearty tributes of thanks to the donors of the fund brought an enjoyable evening to a close.

OBITUARY.

Mrs. Baker.

It is with deep regret we record the death of Mrs. Baker, wife of Mr. John Gilbert Baker, F.R.S., F.L.S., of 3, Cumberland Road, Kew, and late keeper of the Herbarium, Royal Gardens, Kew. Mrs. Baker had been suffering for months past from an ailment from which ultimate recovery was impossible. Having undergone an operation some time ago she obtained temporary relief, but succumbed on the 20th ult. We are sure that all gardeners, and they are many, who had any acquaintance with Mr. Baker, when lecturing or speaking on various occasions at the meetings and conferences of the Royal Horticultural Society, will sympathise with him in this his irreparable loss. Mr. Baker has also done horticulture inestimable services on many other occasions by his extensive writings on the botany of the art, describing and classifying hundreds of popular garden plants, so that gardeners throughout the land must know him by repute if not in person.

Mr. David T. Fish.

We grieve at the loss of Mr. D. T. Fish, of 12, Fettes Row, Edinburgh, who died at his residence on the 22nd ult.

For many years he was gardener to T. Milner Gibson, Esq., Hardwicke Hall, Bury St. Edmunds, Suffolk, until he retired to Edinburgh. He was a man of marked character amongst men, gardeners in particular, whom he had entertained for well nigh half a century by his writings in the horticultural press and by his speeches at many a horticultural and festive gathering. He had been a constant contributer to our contemporary *The Gardeners' Chronicle* for forty years, and continued so till quite recently, which will give our younger readers some idea of the great length of his career. In his heyday he was markedly popular, and consequently was well received at all meetings where gardeners were assembled at flower shows and on festive occasions where he was generally called upon to speak. After retiring he occupied part of his time in lecturing for county councils in England and Scotland. On all gardening matters he had much to tell his fellow men of the profession. Latterly he did much by writing and speaking for the advancement of co-operative gardening, so that his wide circle of friends will join with us in offering our condolences to his bereaved relatives.

Mr. John Thomson.

We sincerely regret to announce the death of Mr. John Thomson, of the firm of Messrs. William Thomson & Sons, Tweed Vineyards, Clovenfords, Galashiels, at his residence on the morning of the 27th ult. He was the youngest son of the late Mr. William Thomson, the founder of the firm, and who was previous to that time gardener to the Duke of Buccleuch, at Dalkeith Palace. The deceased was also brother to Mr. William Thomson, Jun., who died some time ago.

Mr. John Thomson was never a very strong man, having in his time suffered from different ailments, and his lamented death took place after a long illness. The news, we are sure, will be received with deep grief by a wide circle of friends; for he was a kind-hearted, straightforward gentleman, frank and genial with every one with whom he came in contact, widely known and much respected by those in the district where he lived on the classic banks of the Tweed, and close to where Sir Walter Scott commenced his celebrated and chequered career as a novelist and poet. He leaves a widow and daughter to mourn his untimely loss, cut off as it were in the midst of life.

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to "Brightspade," for his article on "Gaillardias," p. 554.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

Photographs of Plants.—The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in The Gardening World. They need not

necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Shading Trees to be Grafted.—*N. F.*: It is rather late to do grafting now, but they would have taken all right in your district provided you had taken the precaution to take off the grafts some time ago before growth commenced to move, and lay them in damp soil in a shady place. The forward condition of the stock will be all right and you must take off shoots for grafts that have made little or no advance in growth. Under the conditions we think it would be advisable to shade the trees to be grafted to prevent the sun from drying up the scions, which must be already greatly exhausted if they have started into growth. If so it means that the reserve material is being used up in fresh growth which will have a difficulty in living till a fresh union with the stock is able to supply the moisture necessary for the existence of the leaves and soft tissue. The quantity of grafting wax you would require for your trees should be obtainable for a few pence, as you can get sufficient to do 200 trees for 3s. You should keep it fairly warm while using it, which will make it run or flow more freely over the cut edges, than if cold.

Peach Leaves Diseased.—*W. A. Parsons*: The specimens you sent shows that the tree is suffering from the disease known as Silver Leaf, the cause of which is very obscure. The epidermis or skin of the leaves is raised away from the underlying tissue, which gives the leaves their silvery appearance. As they dry up they show this by the surface becoming covered with fine wrinkles and blisters. If the tree is very bad we fear there is no remedy for it, as it will ultimately die. In the meantime we think that the constitution of the soil in which the tree is growing has something to do with it, particularly if it is under glass. The usual method of feeding has the fault of supplying much nitrogenous and stimulating manures. All stone fruits, Peaches included, like a good percentage of lime in the soil, so that might be added in the form of chalk or old mortar rubble. Most fruit trees are also much benefited by potash which you could supply in the form of a good dressing of wood ashes, which could be pointed into the soil at once, and afterwards at the annual dressing. You could remember this when planting young trees in the future.

Border Annuals with Blue Flowers.—*Annuals* Two of the best species for the purpose you name are Nemophila insignis and Phacelia campanularia, both very dwarf, the former having deep sky-blue flowers, and the latter dark blue flowers. In friable, good garden soil it would be difficult to heat them. Fairly good also are Eutoca viscida, Anagallis caerulea, and A. indica. Browallia elata generally grows about 18 in. high, and could be sown towards the back of the border, or sown under glass to bring it on more quickly, and ultimately planted out singly about 9 in. apart. Brachycome iberidifolia (the Swan River Daisy) varies from purple to blue and white. It is dwarf, and a good strain of the blue variety would no doubt prove acceptable. Others are Nigella damascena (light blue), Viscaria oculata caerulea (lavender blue), Lupinus nanus (light blue), and various varieties of the China Aster, both light and dark blue and violet.

Standards of Epiphyllum.—*F. W. M*: Some people manage to make dwarf standards of them by taking up the strongest stem, tying it to a stake, and cutting away all the others and the side shoots till the leading one has attained a certain height. This form of stem never becomes very strong, however, so that it would be to your advantage to get some plants of Pereskia aculeata, and graft the Epiphyllums upon this. After you have got a plant or two of Pereskia you can propagate it from cuttings, and so furnish yourself with a supply of Pereskia plants for the purpose of furnishing stems for standard Epiphyllums. The latter may very readily be grafted upon the former by the ordinary method of splice grafting.

Azalea mollis after Flowering.—*A Constant Reader*: Your best plan would be to harden off the plants by keeping them in a cold frame for a time, giving plenty of air, and finally leaving the lights off all day at least, or all night as well, if the weather is mild. After the weather has become settled and fine you should plant the Azaleas in a piece of good ground, well enriched or improved by peat and leaf mould, to encourage the growth of the fine roots. Peat and leaf mould will also serve to keep the soil cool during summer and also to preserve the moisture. A top dressing of leaf mould would also help greatly in this respect. As the weather becomes dry and warm a good watering once a week up to the middle or end of July would be greatly in favour of the Azaleas and enable them to make good growth. Select an open position where they will get plenty of sun, which will greatly assist in ripening up the young growths and making the flower buds plump. By pursuing the above plan the Azaleas ought to be well furnished with flower buds by autumn, so that you can pot them up for forcing after the fall of the leaf. Keep them in a cool house prior to putting them in a warm house to induce the flower buds to open. The balls of soil should not be broken either when planting out or lifting to repot them.

Names of Plants.—*W. Toms*: 1, Luzula maxima; 2, Mercurialis perennis.—*A. R. M.*: 1, Doronicum plantagineum; 2, Anemone nemorosa flore pleno; 3, Orobus vernus albus plenus; 4, Corydalis solida; 5, Pulmonaria saccharata; 6, Vinca major.—*D. C.*: 1, Lamium maculatum; 2, Fritillaria imperialis lutea; 3, Forsythia suspensa; 4, Arabis albida; 5, Iberis sempervirens garrexiana.—*D. T.*: 1, Oncidium pulvinatum; 2, Oncidium marshallianum; 3, Dendrobium devonianum; 4, Cymbidium eburneum; 5, Cattleya Schroderae. — *H. W.* 1, Forsythia viridissima; 2, Prunus triloba flore pleno; 3, Genista praecox; 4, Ribes sanguineum; 5, Berberis stenophylla; 6, Berberis vulgaris foliis purpureis.—*M. B.*: 1, Pyrus Maulei; 2, Pyrus japonica; 3, Berberis Aquifolium fascicularis; 4, Ulex europaea flore pleno; 5, Rhododendron praecox.

Communications Received.—William Dollery,—Thomas Christy & Co.—William Yea.—G. C.—A. M.—R. S.—H. M.—W. P.—A. H. D.—R. T. W.—A. K.—R. M.—B. J.—W. S.—A. G. B.

TRADE CATALOGUES RECEIVED.

JOHN PEED & SON, Roupell Park Nurseries, West Norwood, S.E.—Catalogue of Hardy Perennial Plants, Alpine Plants, Florists' Flowers, &c.; also List of New and Choice Cannas and Dahlias.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

MAY.

7.—R.H.S. Committees; Royal Gardeners' Orphan Fund (Annual Dinner at Hotel Cecil).
13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S. Counties Society and Somerset County Agricultural Association at Croydon (5 days).
25.—Royal Botanical and Horticultural Society of Manchester, Whitsuntide Exhibition (25th to 30th).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show; Farningham Rose and Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days).
11.—Bath Floral Fete and Rose Show.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S., Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days).
24.—Strabane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Prescot Exhibition; Selby Exhibition; National Sweet Pea Society (2 days).
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts. Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldcarn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.
21.—Banffshire Exhibition; Eastbourne Exhibition; Hastings Flower Show.
27.—R.H.S. Committees.
28.—Henley-on-Thames Exhibition; Hinckley Exhibition.
29.—Dundee Exhibition; Thame Exhibition; Stirling Exhibition (2 days).
30.—Bradford Horticultural Society (2 days).

SEPTEMBER.

3.—Bicester Horticultural Society.
4.—Milton and Sittingbourne (2 days).
6.—National Dahlia Society (2 days).
10.—R.H.S. Committees; Durham Flower Show (2 days).
11.—Royal Caledonian Horticultural Society (2 days).
17.—Dahlia Show, Royal Aquarium, Westminster (3 days).
18.—Botley Show.
24.—R.H.S. Committees.

OCTOBER.

8.—N.C.S. Exhibition (3 days).
10.—Fruit Exhibition, Crystal Palace (3 days).
15.—R.H.S. Committees.
29.—Croydon Exhibition (2 days).
30.—Exmouth Exhibition (2 days).

NOVEMBER.

1.—Newport (Isle of Wight) 2 days; Cowes (2 days).
5.—N.C.S. Exhibition (3 days).
6.—Cardiff Exhibition (2 days).
7.—Doncaster Exhibition (2 days).
8.—Walthamstow Exhibition (2 days).
12.—R.H.S. Committees; Birmingham Chrysanthemum Show (3 days).
13.—Hull Exhibition (2 days); York Chrysanthemum Show (3 days); Chesterfield and District Chrysanthemum Society (2 days).

THE GARDENING WORLD.

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THE ROYAL HORTICULTURAL SOCIETY'S
Great Flower Show
By the kind permission of the Treasurer and Benchers of the Inner Temple),
— WILL BE HELD IN THE —
Inner Temple Gardens (Thames Embankment),
ON
WEDNESDAY, MAY 22—12.30 to 7 p.m., *7s. 6d.*
THURSDAY, MAY 23—9 a.m. to 7 p.m., *2s. 6d.*
FRIDAY, MAY 24—9 a.m. to 6 p.m., *1s. 0d.*
Tickets may be obtained (before Wednesday, May 22nd) at the R.H.S. Offices, 117, Victoria Street, Westminster, or during the Show at the Embankment Gate which is midway between Temple and Blackfriars Stations (District Railway).

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, MAY 11th, 1901.

The Editorial and Publishing Offices are now **removed to 4, Dorset Buildings, Salisbury Square, Fleet St., London.**

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HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, May 13th.—United Horticultural Benefit and Provident Society Committee's Meeting.
THURSDAY, May 16th.—Royal Botanic Society Meeting.

ROYAL GARDENERS' ORPHAN FUND.—The annual dinner of this institution was held in the Hotel Cecil, Strand, London, W.C., on Tuesday last, under the presidency of the Hon. W. F. D. Smith, M.P., when about 140 sat down to the table, forming a very respectable and widely representative gathering. Among those present were Messrs. N. N. Sherwood, Ed. Sherwood, James H. Veitch, John Gould Veitch, Arnold Moss, Hugh Aiton, W. Y. Baker, W. Poupart, H. B. May, Wm. Marshall, John Alexander Laing, R. C. King, J. F. McLeod, J. H. Witty, J. W. Moorman, M. Gleeson, F. Varley, T. W. Sanders, J. Lanyon, Geo. Gordon, B. Wynne, R. Dean, Wm. Roupell, Hugh Aiton, R. B. Gilson, W. J. Brewer, P. Kay, P. Rudolph Barr, George Barr, H. J. Jones, Herbert Cutbush, William Cutbush, W. Bates, J. Assbee, J. McKerchar, H. G. Morris, Glendinning, Gerald Dean, J. Douglas, R. H. Pearson, C. H. Curtis, Cove, H. J. Wright, A. S. Galt, E. T. Cook, J. Fraser, &c.

After the loyal toasts of the King, Queen, Duke and Duchess of Cornwall and York and other members of the Royal Family, the chairman in rising to propose the "Royal Gardeners' Orphan Fund," said that no one interested in gardening or having a love for it should neglect to make some attempt in the way of supporting such a noble institution. The love of gardening was increasing at the present day. People who are fond of gardening and possess gardens have the opportunity and avail themselves of it for entering into the scientific aspect of gardening. He himself possessed a garden but did not enter into the scientific problems of it. He supposed that gardening was almost an instinct in the young, who were often possessed with an overweening anxiety to know how their plants were getting on and pulled them up to see. Gardening was spreading to all sections of the community. Even the poorest classes in London could have their window plants. Commercial gardening provides us with food; and scientific gardening concerns itself with discoveries, and a knowledge of the subject. Pleasure gardening would not have been what it is, had it not been for these two. Vast quantities of garden produce come to London from Cornwall, Scilly Islands, and Channel Islands, as the result of production by British gardeners, and is utilised not only in London, but is sent all over the country from this centre.

Life under glass is not always of the healthiest. There is the rapid alternation of hot and cold air, moisture, &c., so that gardeners often suffer in health thereby. We have not done our duty to our fellow men till we pay for that from which we derive so much pleasure. The objects of the Fund are to provide for the Orphans of private, public, market and other gardeners. When the children grow up and begin to be more expense to their mothers in matters of food, clothing, education, &c., the Fund provides many of them with something in the way of clothing or outfits of some kind or other to enable them to start life on their own account. When any one is disposed to subscribe to the Fund he is satisfied and gratified in knowing that it all goes direct to the purpose for which it is intended. The working expenses are exceedingly moderate, most of the money going to provide each child with 5s. per week, and at the age of fourteen with what may be necessary to enable the child to make a start in life. The Fund has provided something towards the sustenance of 143 children of whom eighty-six are still on the Fund, at a cost of over £1,000 under the care of responsible guardians appointed by the committee. He hoped that the result of this dinner would be to provide a handsome sum in aid of the Royal Gardeners' Orphan Fund.

Before sitting down the chairman coupled with the toast the treasurer, N. N. Sherwood, Esq., who said that this institution was founded by gardeners in memory of the Jubilee of our late Queen. During the past year they had increased the funds and at the same time spent more than ever before on the orphans. The expenses were kept at the lowest ebb, and no money had been spent on bricks and mortar. While disappointed candidates are waiting to be placed on the benefits of the Fund, the committee have power to grant allowances in their aid. They frequently receive appeals of the most heart-rending description, one boy having lost both father and mother in the course of twenty-four hours, while other instances were mentioned. Of all things there was nothing that appealed so strongly to them like helpless children. He felt that the appeal made by the chairman would be amply and strongly supported.

F. Varley, Esq., in proposing "Gardeners and Gardening" mentioned a number of different types of gardeners that had come under his notice, including the man who was something in the city, and tilled his own garden in the suburbs in the evening, as well as the man who wrote for the Press; and concluded by saying that gardeners and gardening had done more for humanity than any other profession. Mr. T. W. Sanders in responding said that he did not know why he had been called upon to reply to this toast except that he had been engaged all his life in cultivating and promoting the cultivation of gardens. Possibly in the future lady gardeners would make their influence felt at the Orphan Fund dinners. Most mothers prided themselves in the cultivation of flowers. Gardening had been a beautiful thing from the foundation of the world; but affliction was liable to overtake the workers, who were thus unable to make provision for their children; hence the necessity for such an institution as the Orphan Fund. In looking over the list of subscribers to the Fund he was struck with the relatively small number of the names of gardeners in it, and he hoped that British gardeners would adopt a similar plan to that of the Salvation Army, and appoint a self-denial day or week and send the savings to the treasurer of the Fund. He admitted that gardeners as a class were paid a low salary and had to spend much in acquiring a knowledge of their profession. He was grieved to think that so ancient and honourable a profession should be no better paid than a butler or some similar calling. The British gardener was placed in a very different position from any other artisan; for the young man instead of resting his brains after the day's labour had to study, and when he was transferred to a head place, he is often unable to make provision for those who may be left behind. Very few gardeners will have to pay the income tax this year. If he would do his endeavour, however, to lay by a small sum for the benefit of the Fund, the commercial gardeners would also come to his aid. Before concluding he quoted Parkinson to show that gardeners were not held in very high estimation for their knowledge in his day, say about 300 years ago. At the present day they were a very different class of men, and he hoped they would do their duty to themselves and their employers.

At this point, the secretary, Mr. B. Wynne, read out a list of the subscriptions that had been received in aid of the Fund. The chairman, the Hon. W. F. D. Smith, had contributed £50; Messrs. de Rothschild, 25 gs.; N. N. Sherwood, Esq., £25; Messrs. William and Edward Sherwood, each £5; A. W. Sutton, Esq., 25 gs.; Messrs. J. Veitch and Sons, Limited, 10 gs.; Mrs. W. G. Head, £9; Sir Trevor Lawrence, Bart., 5 gs.; Messrs. Dicksons, £5; The Gardeners' Chronicle, Limited, 5 gs.; Mr. Harry J. Veitch, 5 gs.; and others contributed various sums making the chairman's list up to £350. The sum received from the Covent Garden people amounted to £104. Other respectable sums were collected by Messrs. Cutbush, Cuthbert, J. F. McLeod, &c. The sum total received on account of the dinner amounted to £590.

Mr. H. B. May then proposed "The Chairman," who replied wishing success to the Royal Gardeners' Orphan Fund. At this point he had to retire to attend to his parliamentary duties, and N. N. Sherwood, Esq., was called to the chair. Arnold Moss, Esq., proposed "The Visitors," and C. R. King, Esq., replied. The chairman thanked the donors of the floral decorations on the tables, including Messrs. H. B. May, Cutbush and Son, Barr and Sons, James Walker, W. B. Hartland (Cork), &c. He then proposed the health of the secretary, Mr. B. Wynne, for the energetic and successful performance of his duties. Mr. William Poupart proposed "The Press," and Mr. John Lanyon responded.

Retirement of Mr. Owen Thomas, V.M.H.—The many friends of Mr. Owen Thomas, who was head gardener to her late Majesty the Queen at Frogmore, Windsor, for a period of about twelve years, will be sorry to hear of his retirement from the control of those gardens on a pension. He may not retire into private life entirely, but if he does, it is to be hoped he will find pleasure in coming amongst his old associates at flower shows and meetings of the Royal Horticultural Society occasionally, where his services and presence would be appreciated. He was a very frequent attendant at the Floral Committee meetings, of which he has been a member for many years. He also acted as a judge at many of the society's shows, including the Temple Show, and the Exhibition of British Grown Fruit at the Crystal Palace. Previous to his translation to Windsor, he was gardener to the Duke of Devonshire, at Chatsworth. He will be succeeded at Frogmore by Mr. A. MacKellar, the King's gardener at Sandringham, Norfolk.

The Gardeners' Royal Benevolent Institution.—The Dean of Rochester, Earl Egerton of Tatton, and Charles E. Keyser, Esq., J.P., will be amongst the supporters of Lord Llangattock, who presides on the occasion of the annual festival of the Gardeners' Royal Benevolent Institution at the Hotel Metropole, on Wednesday, May 22nd. Early intimation should be given to the Secretary at 175, Victoria Street, S.W., by gentlemen who desire to be present.

Cannell and Sons' Floral Guide.—Amongst the many catalogues of nursery stock that are circulated throughout the country, there are few that approach the fullness and comprehensiveness of the above. For information on all matters relating to floriculture it is indispensable. We have just received a copy of the issue for 1901, and on looking through its pages we notice several new additions of novelties, notably in the Pelargonium, Begonia and Dahlia line. The plates are very numerous and well selected, making the book a useful encyclopaedia for all who are interested in flowers.

Useful Barberry.—"Why not plant more Berberis vulgaris when there is such a call for hedging plants for our suburban gardens?" says *American Gardening*. "Hardy, handsome, easily cared for and protected by sharp thorns from the depredations of stock, it seems to be one of the most desirable plants for the purpose, while its fruit finds a ready market wherever known." If it is grown, it should not be anywhere near corn fields, as the dreaded rust fungus which attacks the crops passes one of its stages on the Barberry. If there are no plants handy for it to pass this essential period on it cannot exist. No doubt it is for this reason that the Barberry is not so much grown as formerly.

Death of Mr. M. Davis.—We regret to have to record the death on Friday last of Mr. Michael Davis, for more than forty years gardener at Manresa House, Roehampton. The deceased could say that he had the finest Vine in his charge in the United Kingdom that had been raised from a cutting and grown entirely by one man. This was accomplished by Mr. Davis, who was immensely proud of his splendid feat in cultivation. The rods were trained longitudinally and carried about 1,200 bunches every year; each bunch averaged about 1½ lb. in weight, and the crop was a certain source of revenue to the Jesuit College of Manresa. Mr. Davis actually built the house over the Vine as this became larger and larger. He was much respected and liked by a wide circle of friends.

The Fatal Bloom on Fruit.—The following interesting article appeared recently in the extremely useful publication, *The Medical Record*:—"Schnirer reports the result of an examination showing the danger of eating fruit without first washing it. While at work one day in Weichselbaum's laboratory he sent for some Grapes to eat. The fruit had been kept in a basket outside the laboratory and was covered with dust, so that the water in which it was washed was black. On examining this Schnirer reflected that inasmuch as the neighbouring street was traversed by consumptive patients going to the clinic the dust might contain tubercle bacilli, and to settle this he injected into three guinea-pigs 10 c. c. of the water in which the Grapes had been washed. One animal died in two days, the others died on the forty-eighth and fifty-eighth days respectively, the latter presenting marked tuberculous lesions, especially at the place of injection. The water in which the Grapes had been washed was taken from the faucet, and the glass containing it had been sterilised; neither the boy who brought the Grapes nor the merchant who sold them was consumptive. This danger was recognised long ago by Pasteur. One day at a large family dinner he called attention of those present to the danger of imbibing germs while eating fruit, and to impress the necessity of caution upon his hearers, washed his bunch of Grapes in a glass of water. After he had finished the Grapes and forgotten his little speech, being thirsty, he drank from the glass in which the Grapes had been washed, thereby rousing much merriment amongst the irreverent youngsters present." When we see the fruit offered for sale in the gutters of London, and how it is devoured by thousands every day, it is more easy to understand the alarming spread of this and many other similar diseases.

Glasgow Exhibition.—At the western end of the Grand Avenue an alcove is beautifully filled by the floral exhibit of Messrs. Dobbie & Co., Rothesay. As the flowers and plants will be renewed and changed with the season this spot may always be reckoned as one of the sweetest in the show.

Beckenham Horticultural Society.—On Friday, April 26th, the Beckenham Horticultural Society had their last meeting for the season, when a paper on Petunias was given by Mr. Robertson. After the discussion a meeting was held by the library committee, Mr. Thornton in the chair, supported by Dr. Stillwell, to hear the report, by Mr. Webster, of the past season. It was most satisfactory, and the members thanked Mr. Webster for his services in getting such splendid lecturers. It was most gratifying to know that several lectures had been promised for next season. Mr. Crosswell, gardener to Mr. Bullivant, Homewood, exhibited some wonderfully fine Cyclamen blooms, the individual petals measuring over 2½ in. in length, and 1½ in. in width.

The Late Mr. John Thomson.—On Tuesday afternoon, the 30th ult., the remains of the late Mr. John Thomson, the last surviving member of the founders of the firm of Messrs. William Thomson & Sons, Tweed Vineries, Clovenfords, Galashiels, were interred in Caddonfoot Churchyard. About thirty years have elapsed since the business was established by the late Mr. William Thomson and his two sons, and since then Clovenfords has been a Mecca for interested travellers from all parts of the world owing to the reputation these nurseries attained for the cultivation of Grapes. Notwithstanding the enormous crops which these Vines bore, so well were they nourished and cared for that those in the original vinery are still in good order, or were so two years ago. Tourists to the land of Scott found their way to the horticultural centre of an interesting but very hilly country. Mr. John Thomson in addition to being an adept in his own profession, also took a lively interest in parish affairs, being a member of the Caddonfoot School Board and also a parish councillor, since the establishment of parish councils. As a result of all these and other engagements, he was well known and highly respected in the district. He had also endeared himself to all with whom he came in contact by his kindly disposition towards his fellow-men and his interest in their welfare, so that he will be greatly missed in the district. He was comparatively a young man, being only forty-nine years of age. The funeral was the largest that has been seen in the district for many years, thus evincing the desire of the followers to do honour to their departed friend.

The Stronghold of the Nuthatch.—The peculiar methods by which nuthatches seek immunity from danger are graphically described by Mr. A. H. M. Cox in the May number of *Knowledge*. We append a short piece of his article:—"Against birds no larger than itself, the sturdily-built nuthatch, with its strong formidable bill, is perfectly capable of holding its own, while against more determined aggressors like starlings it adopts the ingenious precaution of plastering up the entrance to its home with mud, and reducing it to such a size as will exactly meet its own requirements. This is a well known peculiarity; that it forms an invariable feature of the household arrangement cannot indeed be positively asserted, but from all accounts the exceptions to the rule must be very few indeed. Similarly, it is recorded that before a nuthatch can be induced to take possession of a nesting-box in a garden, its habitual cuteness leads it to detect the lid opening on a hinge, so fatal to privacy, a drawback which it will at once proceed to remedy by a plentiful application of clay. So skilfully is the work done in the first instance, that when the nesting season comes round again, only slight repairs and alterations are required; but these receive the most scrupulous attention, and even in the depth of winter an occasional inspection is made and these all-important defences overhauled. I do not recollect ever having seen the male nuthatch assist his mate in any of the actual work, but he is invariably somewhere at hand in close attendance, and ever ready in the spring to serenade her with his cheery, long-drawn whistle; in the winter he is perhaps apt to be self-assertive, but during the time of courtship I have watched him offering, with an air of the greatest gallantry, choice morsels of food to his mistress."

The Latest in American Combines.—American trade will soon be all combines. According to the *Weekly Florists' Review*, the farmers on Long Island have combined as a Cauliflower Growers' Association. The association is to have a manager to attend to the business of marketing the Cauliflowers judiciously and profitably. They believe there has been too loose a conduct of the Cauliflower industry, and it will be well to make the public comprehend how important it is that Cauliflowers should be served fresh and at fair prices for good specimens. They are issuing 1,000 shares of stock of the par value of $5 each.

Temple Flower Show, May 22nd, 23rd and 24th, 1901.—For the fourteenth year in succession the Royal Horticultural Society will hold their Great Annual Flower Show in the Inner Temple Gardens (by the kind permission of the treasurer and benchers) on May 22nd, 23rd and 24th. Every year the desire of growers to exhibit increases, and the officials of the society have a very anxious task in endeavouring to do justice to those growers who regularly support the fortnightly shows of the society held at the Drill Hall, Buckingham Gate, and yet at the same time to encourage others also to come forward. The space is absolutely limited by order of the Temple authorities; no more or larger tents may be erected, hence every new exhibitor whose entry is accepted means curtailment of the space allotted to previous supporters. A catalogue of the show is given gratis to every visitor and will contain a notice of new and rare plants entered on or before May 14th; it will also contain a programme of the music to be performed each day by the band of H.M. Royal Horse Guards (Blues). The judges will meet at the secretary's tent at 10.30 a.m. on May 22nd, at which hour punctually the tents will be cleared of all exhibitors and their assistants. The Fruit, Floral and Orchid Committees will assemble at the secretary's tent at 11 a.m. sharp, and the show will be opened at 12.30. All plants for certificate must be entered on or before Friday, May 17th. Address, Secretary, R.H.S., 117, Victoria Street, Westminster, S.W.

Presentation of Medals.—The interesting function of presenting the remainder of the V.M.H. medals took place at the last meeting of the R.H.S. at the Drill Hall, Westminster. At first it was only proposed to present sixty, but it was afterwards decided to present four more to make the number up to the number of years in the reign of her Majesty the late Queen Victoria. The first recipient on Tuesday afternoon was Miss E. A. Ormerod, Torrington House, St. Albans. Her services to horticulture and agriculture have been inestimable. No one has devoted more attention to horticultural entomology than she has. There is no need to write about her successes, as every gardener is fully aware of her good services. The next to receive the honour was Sir G. King, K.C.E.I. He is perhaps not so well known to British gardeners as some of the other recipients, as most of his work has been in the Eastern Possessions, chiefly India. Recently he published a very useful book on Orchids and is at the present time busy with what will doubtless be his master work, "The Flora of the Malay Peninsula." His chief services though have been in the great interest he has taken in the cultivation of Cinchona, the plant from which quinine is extracted. Through his influence this fever antidote can be purchased at every post office in India in the same way as stamps, &c. Under his directorship the Botanic Gardens at Calcutta have been brought up to the high standard of beauty and utility that they now possess, and many other institutions connected with Indian agri-horticulture have been greatly improved and helped by his assistance. The honour was next conferred on Mr. G. Norman, head gardener to the Marquis of Salisbury. He has always held a prominent position in horticultural circles and his *confrères* will be pleased to hear of his selection. He is well known as a specialist on Strawberry culture. Mr. J. Sweet was the fourth to receive this distinction. The services he has rendered to the fruit cultivator are so well known that it would be superfluous for us to eulogise his work. Veitch's Memorial Medal was conferred at the same time on Mr. R. Irwin Lynch, curator of the Royal Botanic Gardens, Cambridge, and on Mr. W. Latham, curator of the Royal Botanic Gardens, Birmingham. These are both well known men and both graduated in the Royal Botanic Gardens, Kew.

Japanese Dwarf Trees.—An interesting sale of horticultural curiosities took place recently at Willis's Rooms. There was a varied collection, and many of the specimens commanded high prices. Altogether the 138 lots realised over £280. They included Plum, Cherry, Cinnamon, Camphor, Elm, Maple, Apple, and Beech. It was not a collection such as is generally seen, consisting almost entirely of Conifers, but was composed almost entirely of flowering and foliage trees.

Polypodium incanum.—Mr. Thomas Meehan, Germantown, Phila., has some interesting notes on this Fern in *The Fern Bulletin*. He says that according to his experience it is not merely an epiphyte but also in a certain sense a saprophyte if the term may be used for chlorophyllous plants. He gives an account of some plants he had sent to him from Florida, growing in a mass of decayed Hypnums. They soon died, for when the old roots were torn from their attachment they were deprived of the food they derived from the old bark. The block was allowed to remain in the conservatory, on account of some other plants growing on it. In the autumn thousands of spores from the dead Ferns germinated on the surface of the dead moss. At the time of writing he states that his plants were in their third frond from the prothallus, and very varied in character. Some of the third series fronds were nearly sessile, others had stipes ½ in. long. In some the phyllous section of the frond was broadly ovate, in others linear. Most were entire but a large number were bilobed. Hybridisation as a factor in these variations was out of the question, as no other plants were near.

Gardening Miscellany.

FORSYTHIA SUSPENSA.

This is a very handsome shrub in the early part of the year, when it is covered by an abundance of blooms. It was introduced to this country in 1864 from Japan. It is perfectly hardy, but requires a sheltered position or its blooms are destroyed by the wind. The flowers are of a golden colour, and produced as they are all along the shoots they form a conspicuous feature in the pleasure grounds when in full bloom, which is about the end of March, or better and more often in April. It is indifferent as regards soil so long as not planted in the extremes. When it has finished flowering it should be cut well back so that it may produce strong growths for the next season.

CATALPA BIGNONIOIDES.

Some magnificent specimens of the tree are to be found about the country, but in many parts it is too cold for its successful cultivation. It does well in the southern counties. It is a tree quite distinct from most of its neighbours in this country, its foliage being so large. The flowers are produced in great profusion, and are of a large size. They are white, tinged with violet, and have a purple-spotted throat with a yellow blotch. The tree attains the the height of about 30 ft. to 35 ft., when on a good loamy soil. The seeds are borne in large pods, which resemble kidney Beans. From this characteristic feature the tree has got the common name of Indian Bean.

BERMUDA LILIES.

Yearly the cry is raised by growers of this popular Easter flower, that the condition of the imported bulbs is becoming more and more impaired, and the supply of blooms is less in consequence. According to Mr. Bishop, who is superintendent of the Bermuda Botanic Gardens, the leading cause of this failure is to be found in not giving the soil a proper rest; next in the selling of all the best bulbs, and planting the weak ones for stock. The non-observance of this latter practice must surely lower the standard and reduce the vitality to a large degree. Mr. Bishop is taking a great interest in the industry, and if the farmers would only take his advice and have a rotation of crops and plant better stock, there is no doubt the bulbs would be got back to their previous standard of perfection. He has crossed Lilium longiflorum with L. Harrisii, the result being a good combination of both with a more sturdy habit and better fitted for shipment.

THE MOVEMENTS OF PLANTS.

In a lecture before the Royal Horticultural Society on June 9th, 1896, the Rev. Professor Henslow, M.A., F.L.S., made some interesting observations regarding the sleep of Clover and the movements accompanying it. He says, speaking of mature leaves, "At sunset the two lateral leaflets rotate till they are vertical. They then approach each other and press their upper surfaces together, while the terminal leaflet passes through half a circle and comes down over their upturned edges like a roof."

LARGE HELIOTROPES.

I was greatly interested in hearing of the large plants described by "Brightspade" on 557. I am afraid that I cannot give him the age of the plant here. I, however, was acquainted with the gardener, who had charge of the gardens here some thirty-five years ago, and it was a large plant when he took charge. It will, therefore, I think be safe to put down its age as about forty years. "Brightspade" misunderstood me as regards greenfly on Heliotropes. What I meant to say was that this large plant is never infested with greenfly, and that to me is strange, as when grown in pots it is most difficult to keep them free of the pest. I should also have said that I could easily extend this plant by many feet on either side, only my employer is very fond of a Rose growing on one side, and a Zonal Pelargonium on the other, so the Heliotrope has to be kept to its own place.—*C. Blair.*

With reference to Brightspade's article on the above, in your issue of last week, p. 557, I may state there is a plant here growing on the site mentioned by Brightspade, and which covers a space of 16 ft. by 15 ft., with a stem measuring 9 in. in circumference 3 in. from the surface of the soil. From April till November large quantities of flowers can be cut from this plant, which certainly makes it a very valuable one to have in any greenhouse. I am of opinion, however, that when a plant of Heliotrope is allowed to grow too long in this way (planted out) the flowers deteriorate in quality.—*D. Buchanan, Bargany Gardens, Dailly, Ayrshire.*

DAFFODILS PLANTED AT CHRISTMAS.

The question of the proper time for planting Daffodils has often been raised, experts generally affirming that the best time is as early as possible, or, in other words, that the best results are obtainable from bulbs that have been planted early in autumn, say about the end of August and onwards through the month of September. No doubt the earliest flowers and the largest would be obtainable from bulbs planted at an early date, all other conditions being equal; because it stands to reason that bulbs kept in a dry room or shed till a late period must lose by drying and shrinking, which must mean loss of energy or reserve material. All the same, we find by experiment that Daffodil bulbs put up with a great deal of bad usage, before they show the influence of such treatment.

In order to test the matter we planted fourteen varieties on December 25th; and if they had been kept out of the ground till January 1st we do not think that it would have made any material difference. How late in the new year Daffodils may be planted and yet flower satisfactorily the same year, that is, in the following spring, is a matter well worth testing, if only for the sake of experiment. All of the fourteen varieties were planted the same day in light, friable or alluvial soil, and under precisely similar conditions in ground more or less occupied with the roots of shrubs and also by late flowering florists' Tulips. Golden Spur was the first to expand a bloom, on April 13th, other flowers of splendid size opening in succession during the next few days. Countess of Annesley followed on the 14th, and, though a large flower, had not the bold, upright habit of Golden Spur, which is indeed a grand early Daffodil, and forces well. Narcissus obvallaris (the Tenby Daffodil) at one time, in conjunction with pallidus praecox, looked upon as the precursors of the race in the open ground, expanded on the 18th, N. odorus rugulosus (the Campernelle) keeping it company. Mrs. Thomson, a variety of N. moschatus, first expanded on the 20th. This was followed next day by Sir Watkin (the largest of the forms of N. incomparabilis, in general cultivation, at least), and by N. Johnstoni Queen of Spain, with the clipped trumpet and elegantly reflexed and twisting segments. N. Barrii conspicuus and N. incomparabilis Beauty commenced to expand on the 22nd. The freedom with which the former flowers year after year, even under adverse conditions, is well known. N. Johnstoni King of Spain differs from its near relative in having the trumpet frilled at the mouth, or, in other words, more or less deeply cut and revolute at the rim. It first expanded on the 25th. N. bicolor Horsfieldi first opened on the 26th; so that late planting evidently retards its blooming, as bulbs planted earlier were several days in advance of that. N. Leedsii Mrs. Langstry, that elegant hybrid with a yellow Picotee edge, began to open on the 30th, and was accompanied by N. poeticus ornatus, both behind their natural time by several days.

N. Burbidgei Ellen Barr does not appear as if it intended to flower at all; though the reason for this behaviour is not very evident, unless its affinity with N. poeticus (one of the parents) may be held accountable for it. Some species and varieties do prove refractory in this way when recently transplanted, and particularly when grown in pots. Amongst these N. poeticus and its varieties, N. maximus, and some of the forms of N. incomparabilis may be mentioned.

It will thus be seen that the above, with one exception, flowered during the month of April, although the bulbs were not put in the soil till December 25th. On May 7th, good flowers were still carried by N. Johnstoni Queen of Spain, N. J. King of Spain, N. Leedsii Mrs. Langstry, N. incomparabilis Beauty, N. bicolor Horsfieldi, N. Barrii conspicuus, and N. poeticus ornatus, the latter being then in its heyday, as becomes a Narcissus belonging to one of the latest groups to pass out of bloom. It will thus be seen that half of them carried passable flowers in the second week of May. Late planting and a cold spring may be accountable for this, but the recent hot weather and a warm sheltered position hastened their flowering considerably.

CACTI IN WINTER.

Cacti will perhaps endure more than most plants in the vegetable kingdom, growing, as they do, in the poorest of soils, and surrounded with a baking atmosphere. A correspondent, writing in your paper the other week, criticises your advice to "F.," when you say 50° in the winter is a suitable temperature for Cacti generally. I do not keep my collection quite so warm as that, but it ranges from 45° to 50°, according to the external conditions. I do not doubt but that they would live or linger through the winter with a temperature of 35°; but I cannot agree with Mr. Ellison when he says that such a low temperature is conducive to their health. My reason is very simple. They are mostly natives of countries south of the Equator, therefore our seasons are opposite. Our winter being their growing season they have a great tendency to start into growth late in the autumn. Some plants will not be retarded as to their proper season, but Cacti are both slow growers and slow "diers," and do not mind it so much. But surely, if they are allowed to grow in their own season, they will thrive better, for they are not plants that are likely to draw much. If the temperature is kept too low in winter there is nothing to counteract our cold moisture laden atmosphere. I endeavour to make my plants start into growth late in June by withholding water until then, but not so much as to dry them up. I then give plenty of water and frequent sprayings overhead, and allow them as much sunshine as possible. They soon start into vigorous growth when afforded this treatment, which they are able to mature before Christmas, when I rest them by keeping them drier at the root until the next June. Of course there are a few that will thrive in the open if protected from very severe frost; Opuntia Raffinesquii for instance will do well planted out under the shelter of a wall.

The Cereus group thrives well in the stove if they can be given sufficient light. I only send these notes as an amateur, but I pride myself on my success, and in conclusion will give the advice of one of our best professional men, Mr. Geo. Nicholson, F.L.S., Curator of the Royal Botanic Gardens, Kew, where a very large collection is to be seen. In an article

on their cultivation he makes the following statement;—"Generally, a winter temperature of from 50° to 55°, and a summer one of from 70° to 80° during shade; or in sunshine up to 90° will be found advantageous."—*P. R.*

EAST LOTHIAN STOCKS.

THE time will soon be here for planting out Stocks of all kinds, and I would advise those who have a few plants of the East Lothian varieties to spare, to plant them in the kitchen garden in fairly good soil. Allow them to grow there until they show the flower buds, when they should be carefully lifted and placed in pots. Seven-inch pots I find answer best. A few may be potted up in a small state and grown in pots all along, but the former method is best, as it entails far less labour in watering, and always some of the plants come single, and therefore useless.

When lifted the large plants ought to be placed on the north side of a wall until established, after which they should be placed in the full sun, all dead leaves removed, and well attended to with water. I also cut the flower buds off most of the plants, as it is in April and May I find them of most use. As soon as growth starts in spring top-dress with good soil, giving also to each plant about two tea-spoonfuls of Thomson's manure. Nothing but clean water will be required, until the flower buds show, when liquid manure twice a week will greatly assist in developing the fragrant blossoms. The perfume when grown under glass is sweeter and more delicate, and altogether for cut flowers or conservatory decoration, the East Lothian Stock has few equals.—*C. Blair, Binny, Uphall, N.B.*

BOUVARDIAS.

ALTHOUGH Bouvardias are usually regarded as late autumn and winter flowering plants, they may be had in bloom nearly throughout the year. One year old cuttings are the best for early summer blooming, but early struck cuttings make good plants for flowering in August. The variety most suitable for summer flowering is Candidissima, with pure white flowers. This forms a very dwarf and compact plant, and if stopped evenly all the shoots will come into flower at the same time. Jasminiflora is another good white, and Jasminoides paniculata may be recommended, being very free flowering and dwarf in habit. Mrs. R. Green is a general favourite. It varies a little in colour, but at its best it is a very pleasing shade of salmon-pink. President Cleveland is by far the best scarlet we have. The oldest scarlet variety Hogarth is still in demand. The double variety of this, Alfred Neuner (white), and President Garfield (pink), are all the doubles worth growing. The plants should be potted in light, porous soil and grown on in warmth during the early part of the season, and later on they will do well in cold pits, the lights being taken off in favourable weather. Although Bonvardias enjoy hot, dry weather they must not be allowed to get too dry at the root, and the syringe should be used freely, which will go a long way towards keeping off insects. They should have manure water when the pots are full of roots.—*Albert Marks, 4, Orchard Terrace, Chichester, Sussex.*

CARPET BEDDING.

As the time for bedding out is almost upon us, a few remarks on this important item will probably be of interest to readers. The term "Carpet Bedding" originated, it is believed, from the flatness which the arrangements were made to assume when the style first came into vogue. But now the flatness and formality are broken up with graceful foliage plants, so that the name or term is not very appropriate. In choosing position we must be guided by the surroundings, climate, and last, but not least, individual taste. As regards extent, it is a personal matter. As patterns are generally complicated, and as every class of plants cannot be suited, the best soil that we can command should be used. The soil should be broken very finely, and evenly, so that the design can be marked out with precision. Attention should be paid to the edgings, if the beds are on turf; they should be raised at least 3 in. above the grass. The pattern decided on should be drawn out on paper. The beds should then be marked out previous to planting. A stout plank resting on two blocks of wood (one at each end or side of the bed) should be placed across the bed to avoid trampling on the same. Always plant carefully, taking care not to press the plants too hard or the soil will crack. As regards arrangements undue formality should be avoided by introducing dot plants.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

DAVALLIAS (ORDER FILICES).

THESE useful Ferns are truly worthy of cultivation, as they will succeed equally well in the greenhouse as in the stove. Some of their native places are Japan, New Zealand, Australia and Hindustan, and they owe their name to Edmund Davall (a Swiss botanist). The fronds are very graceful, somewhat triangular in shape, and many different tints of green can be distinguished among the several varieties. For cutting purposes these subjects are invaluable, owing to the length of time they keep fresh. By means of the rhizomes they can be twisted and secured with moss interwoven into any shape the cultivator may desire for the purposes of decorating. Fernery rafters are often seen hanging with balls or wreaths of these Ferns, and it is truly a very refreshing sight to witness. No overhead watering is required and only a thin shading need be used when the sun is shining brightly, as a light place near the glass is the very thing that suits these Ferns. Abundance of moisture should be given during the growing season and sparingly during the winter. If there is a desire to cultivate the Ferns in pans, use the shallow ones with wide mouths and take great care not to bury the rhizomes, as it is very injurious. A light compost, such as leaf mould and sand should be used. A good species is bullata. The rhizomes are covered with reddish-brown hairs. The bright green fronds are very elegant.—*G. W. D.*

EUPHORBIA AND POINSETTIA.

EUPHORBIA jacquiniaeflora and the Poinsettia are two very fine plants for the stove; and may be had in flower from October to March. The former succeeds well planted out, and trained up the wall or roof in the warmest part of the stove. If pot plants are required insert three or four cuttings in small pots, keep close in propagating frame until rooted, pot singly in 60's, and flower in 5-in. or 6 in. pots. When about 6 in. high they should be stopped, and will generally break into three shoots; and this is sufficient for one-year-old plants. They may be potted bodily, but treated this way and not pinched back the shoots will be much stronger. When finished flowering rest for about three months. The culture for the Poinsettia is much the same as Euphorbia jacquiniaeflora, but the species vary in some respects, the Poinsettia being a stronger grower. Place the old plants in heat the end of May, keep watered and they will produce plenty of cuttings; insert singly in small pots without crocks to prevent breaking roots afterwards. Put them on a spent hot-bed and keep near the glass. By striking batches of cuttings, plants of various heights can be obtained. Plants with single flowers will need 5-in. pots, and soil one half loam and equal parts leaf mould and dried cow manure, with little sand. After flowering keep dry to supply cuttings for following season.—*Wargravian.*

CLIANTHUS.

THIS genus contains two species, namely, C. Dampierii and C. puniceus. The former is a native of North and South Australia and New South Wales, and is an herbaceous perennial, growing about 2 ft. in height. It has pinnate leaves of a silvery gray, and red flowers with a dark purple blotch at the base of the standard petal; the flowers when fully expanded being between 4 in. and 5 in. in length. It is remarkably difficult to cultivate, and, if anyone should have had the good fortune to succeed in growing it to perfection, it would be interesting to know what peculiar treatment it requires. C. puniceus is a native of New Zealand, and is an evergreen climbing shrub, sometimes in a suitable position, growing to a height of 12 ft. or 15 ft. It is well adapted for training up a pillar or rafter in a greenhouse. When planted out it requires a well drained position, and a compost of loam, leaf mould, and charcoal. It is comparatively easy to cultivate. Care, however, should be taken to provide sufficient water to the roots during the growing season, and also to syringe freely, as it is subject to red spider. The flowers of this species are of a brilliant red, and about 2 in. in length. They are produced in short pendulous racemes, about twelve flowers in a raceme, and with their peculiar form and bright colour are most attractive. C. puniceus is also known as Glory Vine and Parrot's-bill.—*F. W. M.*

DEUTZIA GRACILIS.

WHERE small flowering plants are valued for house and table decorations this is well worth growing. If cuttings, which are plentiful now, are taken off with a heel, inserted in sandy soil and placed in a cool, close frame, they will root readily. When they are rooted they should be potted singly in 3-in. or 4-in. pots, using a mixture of two parts loam, one part leaf soil, and half a part of sand. Place the young plants in a temperature of about 60°. When they are established in the pots pinch out the tip of the shoot. Several breaks will be the result. If the plants are then kept gently growing near the glass in the house, and afterwards in a cold frame, they should make nice growths about 5 in. or 6 in. long, with several flower buds on each. When well rooted they will be greatly benefited by having occasional waterings of manure water. In the autumn, when the leaves begin to change colour, gradually lessen the water supply until the leaves are off, when they will only require an occasional watering to keep the soil from getting dust-dry. The protection of the cold frame will be quite sufficient for the winter. The plants can then be gradually forced in the early spring, and will be found very useful if covered with white graceful flowers. After being forced, if repotted, they will make nice plants for 6-in. or 7-in. pots next year.—*E. Brown, The Gardens, Nostell Priory, Wakefield, Yorks.*

SMALL PLANTS OF CHRYSANTHEMUMS.

A GOOD method of growing Chrysanthemums for facing the front of a group, or edging the front of the conservatory, is, instead of throwing the side shoots away that form along this time on plants grown for exhibition, to let them remain till they get between 2 in. and 3 in. long, then break them out, make them into cuttings and insert singly in thumb pots in some good sandy compost. Put them under hand lights, or a big box, with some coal ashes inside and some squares of glass laid over. Keep close, well settle in with a fine rose, and shade from strong sun. When rooted, gradually expose them to the air and sun. When nicely rooted, transfer them to their flowering pots, which would be 48's or 5 in., potting them in some good soil. Syringe if the weather is hot for the first few days, instead of saturating them with water. Then give them one good watering. After that water in the usual way and according as the plants fill the pots with roots, manure water should be given and when the bud shows it must be retained, breaking away all side shoots, and increasing the strength of the manure water till the maximum is reached. House in the first week of October, fumigate, and treat them the same as the other Chrysanthemums. —*J. Harewood.*

Hardy Fruit Garden.

MANY of the fruit trees are now laden with blossoms, and so far the outlook is very favourable, although the sudden drop in the temperature for a night or two some time back, caused much anxiety amongst fruit growers. Nowhere can a prettier picture be seen than in the large fruit-growing districts at this time of the year. This season the trees are laden with blossom, and if the weather holds favourable for pollination and king frost does not make war on the sets, we may look forward to heavy crops.

WALL FRUIT.—Peaches and Nectarines require a lot of attention now, as they must be gone over several times for the purpose of disbudding. It is a practice that cannot be condemned too strongly, to go over the trees and do the disbudding all at one time, or to do it hurriedly. It is an operation that requires a deal of forethought, and to do it properly is not so easy as it looks. It must be borne in mind that the buds that are selected to remain on the trees are to produce the next year's fruiting growths. Endeavour to leave shoots that will be able to obtain

a full amount of sunlight and air, so that the wood may be well ripened, and at the same time furnish the wall. All breast wood should be removed early, as it is never any good, for it cannot be laid in without disfiguring the trees. See that the roots are well supplied with water, or the young fruit will fall instead of swelling. If the roots have not been mulched this should be done without delay, for it conserves the moisture which the soil may contain, and when water is applied, or rain falls on it, it acts as a gentle stimulant to the roots. But do not stimulate too much, or a rank sappy growth will be produced, which is very undesirable in any tree, especially a Peach tree. Aphis are always very troublesome to young Peach shoots, and must be kept in check by the frequent use of the garden engine, and an occasional spraying with quassia extract.

Bush Fruit.—Preparations should be made for netting, if this has not already been done, to protect the buds. It is a good plan to mulch the roots of these also, even if the mulching is not of much manurial value, as it keeps the soil moist by preventing excessive evaporation. Any trees that are noticed to be attacked by fly should be attended to with the syringe or engine.

Strawberries.—These should now be supplied with litter, so that it has time to wash clean before the fruits are ripe. Litter is preferable to straw or hay, as the matter washed down from it to the roots considerably helps the plants to swell their fruit. If in a very dry situation they will require frequent applications of water to ensure a heavy crop.

THE PLANT HOUSES.

The great crush for room in the cool houses is now almost at an end, for the plants that are to be bedded out require hardening off and are stood outside in sheltered positions, allowing more room in the houses, and considerably lessening the anxiety of the gardener; for it is an anxious time for the man in charge when his plants are crowded together. If disease sets in, what can he do? who is to blame? Surely not the gardener! for the quantity of stuff that he is expected to turn out from a few glass houses is incredible. People must imagine that he can grow them two layers thick. Through overcrowding in the spring many plants have their constitutions so weakened that they never make a good show. If more houses are built to relieve the others, when the next spring comes round they are found to be full, for with more glass more plants are expected directly. All that the gardener can do is to use every care, and allow as much air as the external conditions will allow, and weed out immediately any plants that show signs of disease. I am afraid that the importance of the practice of grappling with disease in its early stages, and in a proper manner, is not understood so well as it ought to be among gardeners. One may often see a thoroughly good practical gardener take a leaf from a plant that is infested by disease and shuffle it under his foot. If the disease is of a fungoid nature a greater mistake cannot be made, for the spores, which fungi produce in thousands, are scattered about, and being such minute bodies they float in the air with the least movement. Should one alight on a plant which is suitable for it to make a host, it germinates immediately, and starts its work of destruction by breaking down the cell walls, and feeding on their contents, and when sufficiently fattened, again breaks through to the surface and produces myriads of spores. The whole life of the fungus is very short as a rule, but during that short time it produces enough spores to affect the whole crop. One affected leaf, if not removed, may be the means of spoiling a whole crop. By removing it I do not mean simply take the leaf or plant, and pitch it under the potting bench or on to the rubbish heap; this is not sufficient. Take the whole plant if possible, as carefully as you can, and burn it. Do it at once when any disease is noticed, do not wait until the next day, or until the afternoon, for the delay may mean disaster to the whole batch of plants, for a shake or a draught may scatter the minute invisible spores all over the other plants. Many gardeners often wonder why a whole batch of plants becomes affected and collapses simultaneously. Here is the reason. Do not be satisfied with only taking out the plant but immediately apply a fungicide to the plants in the vicinity. This may seem a lot of fuss to make, but nevertheless it is a precaution that saves many a crop. As far as it is compatible with due economy, do not waste time and money on small matters, but here an expenditure of £1 may save a crop worth £50.

Double-flowered Chinese Primulas.—These have about finished their flowering now, if they have not they should be checked and rested for a month or two. After they have been afforded a rest, if it is desired to grow them into larger plants they should have a shift into the next size pots, using a compost that is well open, and a good mellow loam, for they delight in good soil. Good plants may be produced in one season by splitting up the old ones and starting them again in small pots in a gentle bottom heat, and pot them along as they fill with roots. A better plan even than this is to top-dress the old plants to make each shoot throw out roots, when they may be taken off as rooted cuttings and grown on.

Caladiums.—These are very useful plants in establishments where the housing room is valuable in winter, as they can then be packed away in boxes until the following spring, and their room utilised by other plants that retain their foliage during that season. Crack growers of hard-wooded stuff are apt to look with contempt on the Caladiums; why, I cannot say. They may be common, but they are also beautiful and indispensable to the gardener who has to keep both his glass houses, drawing rooms, &c., bright and gay during the summer. The cultural directions may be summed up in a few words. Start them in a brisk bottom heat, in a rich, moderately light soil. Keep the atmosphere moist, do not give too much shade, keep them away from draughts and feed slightly when the pots are full of roots.

Genistas.—Cuttings should now be made of these sweet-scented favourites. They are often raised from seed, but these are so long before they flower. It is a waste of time to put in hard-wooded cuttings. The best plan is to take some sturdy young growths and dibble them round the sides of small pots filled with a light sandy compost, and place in a gentle bottom heat. They soon take root if treated thus. When they are potted off, keep them near the glass to prevent them growing too tall, and keep well pinched. They are plants that delight in a rich soil.

Cinerarias.—Year by year the strains of Cinerarias are increasing, each nurseryman having his own particular strain. Their improvement has, to the eyes of most people, got to such a pitch that they are vulgar with their dwarf, stiff habit and dense trusses. This season has brought forward something worth having in these plants—strains with beautiful colours, with the tall, light and graceful habit of the original species. For cutting, conservatory or house house decoration at this time of the year they cannot be surpassed, as the flowers range through every colour, from pure white to dark purple, possess long stems, and are produced in abundance. It requires the same treatment as the common dwarf strain, and I have no hesitation in saying that in the near future it will be grown in every greenhouse, to the exclusion of the other gaudy, but inelegant type.

Cyclamen.—The young plants of this indispensable winter flower require careful attention at this time of the year. If out in frames, every discretion must be used in airing, for although the sun has great power now, there is a biting east wind blowing nearly the whole of the time. They are often attacked by mildew. Whenever this occurs they should all be dipped in some form of fungicide. It would not take a great amount of time to dip the whole batch about once a week, following the old truism, "prevention is better than cure."

Gleanings from the World of Science.

Germination of Seeds of Bertholletia excelsa.—Under this botanical name is hidden away the Brazil Nut, the seeds of which are so familiar to people in this country, particularly about Christmas time. Relatively few people are probably aware of the true relationship of the Brazil Nut, and its marked differences from a Hazel Nut. The so-called Brazil Nuts of the shops are seeds and not nuts at all, if compared with a Filbert. The latter is the fruit of the Hazel, whereas the fruit of the Brazil Nut is a globular, woody, or horny vessel about 6 in. in diameter, and so hard that a sharp saw has difficulty in cutting it. This vessel contains fifteen to twenty seeds or so-called nuts shaped like the component parts of an Orange, and crowded together in the interior, which is a veritable prison house with a narrow opening about half an inch in diameter, and closed with a closely fitting plug.

How the embryos make or attempt to make their way out of this natural prison house, is the subject of an article in the *Annals of Botany* for March, 1901, by Mr. William Watson, Assistant Curator, Royal Botanic Gardens, Kew. Several explanations are current as to the way the seeds get liberated or succeed in germinating, and on the arrival at Kew, of fresh fruits from Trinidad about six years ago, Mr. Watson set himself the experiment of finding out how the seeds could manage to escape from confinement or germinate. Two of the most perfect fruits were placed in a bed of moist cocoanut fibre, on October 22nd, 1894, in a temperature ranging from 75° to 85°. They were quite intact, with the apical opening firmly closed with the plug. The outer shell of other fruits broken open was as hard as seasoned Oak, while the inner was even harder and smooth as glass.

No signs of germination had taken place at the end of twelve months in the hot bed, when the shell of one fruit was sawn in half without disturbing the seeds. Some of the latter had begun to germinate, having shoots several inches long, although the shell of the vessel was as hard as ever. The apical plug fell out during the sawing operation, and that of the undisturbed fruit had shrunk, and no longer kept out air and moisture. The two halves of the cut fruit were put back to their proper places and wired.

Eighteen months from the time of planting a seedling pushed its way through the opening of the fruit, and in the course of a few weeks, others to the number of six followed. The seedlings grew apace until they began to squeeze one another in the narrow aperture of the seed vessel. Then came the struggle for existence, shown by the languishing appearance of the seedlings. For a period this struggle for life and liberty continued, some of the seedlings dying outright, and others losing their leaders. Many more seeds, and presumably seedlings, still remained incarcerated in the seed vessel, and Mr. Watson became impatient to know what was taking place inside. The erstwhile woody seed vessel was found to be quite soft, and it was decided to open the fruit, the performance of the operation being effected exactly six years from the time of sowing, namely, on October 22nd, 1900.

What was to be seen is represented in the above mentioned periodical in the form of three photographic reproductions. Plate I. shows a fruit with a portion of the outer shell removed, exposing a number of the seeds. Six seedlings were alive, while one had died back, but was sending out a fresh shoot from near the base of the stem. Plate II. shows the whole fifteen seeds, nearly all of them being intact after six years incarceration. Five had never germinated, but were decayed and mouldy; four had germinated and afterwards died, while six had developed into little plants.

Three of the seeds with their respective seedlings are shown in plate III.; and the twisted and tortuous condition of the basal parts of the stems gripped by the neck of the vessel, shows unmistakably the struggle the seedlings have had for existence. After all the squeezing and the loss of three shoots in succession, one of the seedlings had commenced to form a leader for the fourth time. Two of these seedlings have evidently been living upon the reserve matter stored up in the kernel. The third seedling has a few roots pushed through the lower end of the seed, and the stem is longer than that of any of the others, the inference being that it was amongst the earliest to escape from its imprisonment, and having gained this primary advantage it has since maintained the lead over its fellow.

The Brazil Nut belongs to the Myrtle family, and this experiment shows what a struggle the tree must have in its native forests to liberate its progeny which have been incarcerated with the intention originally of protecting the same from the depredations of animals.

Hints for Amateurs.

THE ROCK GARDEN.

No part of a garden is more interesting than the rock garden when well filled and well kept. It is in the rock garden that we look for the earliest flowers in spring, and the last in the autumn. The miniature plants that are found growing on rock work appeal to all, even if they are not plant lovers. The plants that are usually grown, are the dwarf, free flowering gems from high altitudes, a great many coming from the Swiss Alps, thus accounting for the name alpine garden often given to a rockwork.

Peculiarities of the Alpine Flora.—High upon the mountain sides the vegetation is much changed from that on the plains. The higher we ascend the dwarfer the habit of the plants becomes, until, at an elevation of about 6,000 ft., they lay close to the soil and rocks, and do not raise themselves like their brothers of the same family growing on the plains. Two notable instances may be illustrated by the Willows and Pines; on the plains they are tall growing, and in the case of Pines, noble trees, but at high elevations they lose this character. Some of the alpine Willows do not raise themselves at all but creep as quite small plants on the surface of the ground; and the Pines only form dwarf dense bushes. This peculiar dwarfing is seen in all the plants; when they produce their flowers, the stems are very short. The brightness of many alpine flowers, and their size in comparison to the plants which produce them, are astonishing. They produce them in such large quantities that the ground seems covered by patches of coloured carpet. They differ from many other plants in being stoloniferous, that is, producing side shoots, which put out roots and increase the area of the plants in the same manner that the Strawberry does. The leaves also are different from the leaves on the plains. They are subjected during the short summer that they get to intense light and drying winds. Under these conditions, the leaves of lowland plants would transpire a larger amount of moisture than the plants would be able to supply, and they would consequently suffer; the leaves of the mountain flora are protected from this by being very thick and compact, with a very thick skin. In addition to this they are often further protected by a thick down of close compact hairs. The lesson to be taken from these short notes is this, "Give the greatest amount of light possible during summer and keep as cool as possible in winter." This latter is the greatest trial we have to contend with in Britain, especially in the southern counties. Scotland is more fortunate, as it has generally more severe winters. In the south there are often days in midwinter that are as warm and genial as spring, and the plants are consequently stimulated into pushing their buds, which are then injured by the following frosts and the dull weather. The only remedy is to take advantage of snow when it falls, and collect as much as possible and place over the plants. This will remain a long time without melting, and will not injure them in the least, as they remain covered for months on their native mountains, often to the depth of many feet.

The Rockery.—After looking at some of their peculiarities it will be easier to understand some of their requirements. As they need the maximum amount of light, the rockery should not be built where it will get the shade from neighbouring buildings or trees. The best form is in an artificial valley, the soil which is thrown out going to make the banks higher. A great mistake is often made in building rockwork by having too many stones and too little soil. The stones do not require burying but only fixing in the ground in such a manner that they cannot slip. It is an error often seen, when an amateur is building a rockwork, to put a few large stones then a layer of soil followed by more stones; the result of this method generally is, that after a heavy rain, or a sharp thaw, the whole collapses. If it is to take the form of a bank, build a bank of soil and firmly fix the rocks and stones in the last layer so that they protrude their jagged ends through the mould at frequent intervals, and give a natural appearance. Another great error is to place tree stumps or wood of any kind in a rockery, as they decay and make a habitat for a host of injurious fungi and mice. An ideal place for growing many alpines is on the face of an old stone wall. The plants do not require any soil in the crevices, or only enough to give them a start as they push their roots between the stones, which act as a sponge and form reservoirs of water, supplying the plant as it needs it with that element, and the matter dissolved in it from the decomposition of the stones and the soil supplies their other requirements. By planting them on stone walls many alpine and other mountain plants may be grown successfully which refuse to grow in other positions owing to the damp in winter causing them to rot. During the hot dry weather the wall requires frequent drenchings of water, as the sun takes away so much by evaporation. Shade from trees a short distance away would be an advantage in this case.

Saxifragas.—One of the best families of rock plants for a wall or for an ordinary rockery is the Saxifraga group. They are easily grown, or at least the majority of them are, and have a very pleasing effect, both when in bloom and when only showing their foliage, especially S. oppositifolia and S. sancta, which produce their flowers so early in the season, and are now at about their best. Saxifraga Sibthorpii is a pretty little plant which will grow on most walls. It is easily propagated by seed sown in sandy soil early in the year.

Campanulas are perhaps the next best group. This is a very varied family, varying from the Campanula waldsteiniana, a tiny species from the Alps, with blue flowers to match, to the tall growing Campanula pyramidalis, which makes such a fine show in many large conservatories during the latter part of the summer. They also vary much as to the conditions they require; some prefer shade and moisture, others, a light, and comparatively dry situation. For growing on rock work the carpatica group is the most suitable, being a dwarf, compact, free-flowering species. This is easily propagated by dividing the clump in the spring just before growth commences.

Many of this family suffer from the damp in winter. This can be got over to a great extent by fixing a sheet of glass over them as soon as the wet weather sets in, and by growing them in a place where the water drains away from them easily.

Primulas must not be forgotten, as they are very suitable subjects for rock garden culture, none of them growing to a large size. Primula rosea is one of the most beautiful of the family, being, as its name denotes, a rose-coloured one. It delights in a moist and comparatively shady position. It is often the custom to have some kind of water display in a rockery, such as a dripping well. It is near the cooling influence of such a stream that it will be found to thrive the best. The rosy flowers of this species are admired by every one who forms its acquaintance at this time of the year, when its rosy flowers are at their best. The family is a large one so I will not attempt to recommend a selection; this is better done by visiting some large garden where they are grown, or a visit to a nurseryman who makes a speciality of hardy plants. April is the best month to see them at their best.

Dianthus.—The alpine varieties of the Pink family have a brightness of colour which is astonishing when compared with our common Pink of the plains. They should be afforded a place in every collection. The best species is undoubtedly Dianthus alpinus. They are easily raised from seed sown in shallow pans of light sandy soil in the early part of the year, or they may be propagated by cuttings. The flowers are very large in proportion to the plant, and possess the characteristic alpine feature of having short stems.

Iberis sempervirens.—This old rock work favourite must not be forgotten, but it is far too common, that is the old variety, to need much mention, but common or rare it is well worthy of a place in the best collections. The variety I. s. garrexiana is much superior to the original.

Helleborus niger, commonly known as the Christmas Rose, is a plant very easily managed if given the proper position. It likes a rather rich sandy soil and a sheltered, slightly shaded position. When supplied with these conditions it produces its pure white blooms in the winter months when other plants are dormant.

Salix repens should be afforded a position where it will not suffer from drought. It is a pretty little creeping Willow which has a pleasing appearance in the early spring, when it is covered by its yellow catkins. It is not an alpine but may be found growing on many of the commons in this country. I have not been able to say nearly enough to do the subject justice, so must continue it at some future date.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Lawns.—*Suburban*: If your lawn is thin and patchy, it should be renovated by sowing grass seeds where it is thin. This is best done by scattering the seed thinly on the ground and covering it lightly with fine soil, and keeping it well supplied with water. You will find that sifting fine soil, with a good sprinkling of soot added, all over the lawn, early in the spring, will improve the condition of the turf considerably. This should be done every year about March. The soot acts as a manure for the grass, and at the same time prevents worms from throwing up their stools, which is often such a nuisance on a damp lawn.

Primula obconica.—*Payne*: It is a common occurrence for people's hands to be affected by the leaves of this pretty greenhouse plant. It has the peculiarity of only affecting certain people. We have known ladies who can handle it without injury, and a hard-handed gardener who has touched the same plants to be painfully affected. Primula sinensis has also been known to affect people who have handled its leaves for some time. If you are subject to eczema, you should always wear gloves when handling your plants, as they always have more effect on people who are subject to this.

Lapageria rosea.—*Puzzled*: The reason for your failures in the attempts to cultivate this beautiful climber is to be found in the treatment you give them. First the soil is much too heavy for them; they require a soil about one-half good brown peat, one-quarter well decayed leaf mould, and the remainder, a good fibrous loam with a plentiful addition of sharp sand. The next reason is that the house you try to grow them in is much too hot, a cool, airy greenhouse suits them admirably. It is not a good plan either, to grow them in pots; they do much better in a small border made up with the soil mentioned to the depth of 18 in.

Polyanthuses.—*P. R.*: There is an endless variety of these beautiful spring flowers to be obtained now, as they have received the close attention of raisers during recent years. It is the best to divide them, and plant them out in the autumn after the other things have been removed from the beds, they then have a good chance to become established before they flower in the spring. The effect is improved by the addition of a few Tulips amongst the plants, as they bloom at the same time, and help to break the monotonous flatness, which is often the effect of a large bed. Polyanthuses may be raised from seed by sowing it in shallow pans of light soil, either as soon as ripe or in the spring. The best plants are obtained in this way.

Calceolarias.—*Bedder*: They prefer a soil that is well drained, and recently enriched by a good application of stable manure, well decayed. It is a common occurrence for them to go off in the summer. We have known large quantities of them to go off where used for bedding and their places refilled by Tagetis, &c.

Paraffin barrels for garden use.—*Rex*: They are very useful if properly prepared, as they can be cut in half, and the two tubs thus made, either covered by cork, or their bare appearance masked by a rustic arrangement of branches. They are best prepared by well burning the inside by lighting papers in them, and then allowing them to soak for some time in a pond, or keep them filled with water.

Acer Negundo variegatum.—*P.*: It will only stand a severe winter when in a sheltered position. It can be cultivated easily in pots, which can be plunged in suitable positions during the summer, and protected during severe weather by standing in a shed. It does not need much protection in the

southern counties, where it is extensively grown as a decorative plant for sheltered portions of the shrubbery.

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Mildew.—*Rose*: It is early yet for this to become troublesome. One of the best remedies is flowers of sulphur sprinkled on the plants affected. Take immediate steps to prevent it spreading, by thinning the shoots, or removing the plants, where possible, to where they can get a free circulation of pnre air.

ODONTOGLOSSUM POLYXANTHUM FROM RAVENSWOOD.

LAST year we mentioned a splendid raceme of flowers of this Odontoglot, which we had received from Mr. Wm. Yea, then gardener to Lady Fairfax, Ravenswood, Melrose. Since then the estate has passed into other hands, having been acquired by William Younger, Esq., who retained the services of Mr. Yea, who is well known as an enthusiastic and successful grower of Orchids, samples of whose handiwork we have often seen. Last year the spike was 30 in. long and carried twenty flowers, the lowermost six being in pairs upon branches. The Orchids have evidently fared well during the interval, for on this occasion we are favoured with a spike of O. polyxanthum, which is fully a yard long and carries twenty-two flowers. The lowermost flower is solitary, then come four branches, each carrying a pair of flowers, followed by thirteen, arranged singly upon the axis. All are of splendid size for the species, richly coloured and strongly scented. Last year's spike we considered the best we had seen, hut that before us certainly beats the record. Large chocolate blotches nearly cover the sepals, while the petals have three chestnut-red blotches near the base. The lip is shining bright chestnut red, with white edges and a yellow basal area, making altogether a very handsome flower. Whether Mr. Yea will ever beat this record remains to be seen, but he has certainly excelled himself for the time being.

The accompanying illustration, reproduced from a photograph of the spike sent us by Mr. Yea, will serve to put on record his latest achievement with this particular species. It shows the spike and flowers less than one-third the natural size.

ODONTOGLOSSUM POLYXANTHUM.

CHEMISTRY FOR THE GARDEN.

XIV.—MANURES, CONTINUED.

MANURES may be said to he divided into two classes, viz., natural and artificial. A familiar example of the one is farmyard manure and of the other superphosphate guano. Farmyard manure consists largely of the excreta of the animals usually kept on a farm, and is always valuable in proportion to the food stuffs such animals consume. If the food be rich in nitrogen, then so will their excrements, if not then the manure will be poor. Many were, and perhaps yet are disposed to helieve that such manure is better than all others, notwithstanding the condition which we have pointed out. Guano such as the now extinct Peruvian guano so popular some years ago, and which consisted chiefly of excreta of birds, was also a natural manure. It may be stated in this connection that for years after the source from which this first class guano hecame exhausted, unscrupulous traders were audacious enough to put an artificial preparation purporting to be the genuine article on the market.

The spurious article was not difficult of detection, for the simple test of the weight of hulk for bulk alone sufficed to distinguish the real from the other.

The genuine article per bushel weighed only about 70 lhs. We may be pardoned for re-stating here a matter which we pointed out in an agricultural paper some years ago, about this spurious article.

We had occasion to get some Peruvian guano, but, alas, the colour was the only redeeming quality it seemed to have, and when closer attention was given to the matter it turned out to he the neatest fraud we remember of seeing performed. First we took a portion of the article and washed it after the manner we proposed for the determination of the amount of clay in the soil. After an enormous amount of ordinary fowls' feathers, seaweed, ground cork, &c., were eliminated, the tenaceous bricky colouring matter was separated from the bulky residue. This residue was river sand, and on account of its nature it was not difficult to form an opinion of its geological habitat. The feathers, &c., were a lame attempt to counteract the weighty nature of the shingly material which was slightly over 50 per cent.

We have no doubt whatever but many a poor farmer was mulched by this fraudulent article, perhaps are yet heing so for aught we know. The ordinary amount of ammonia appeared to he present, but that is an easy matter, a few pounds of sulphate of ammonia dashed in will accomplish that little business.

All natural manures as a rule find more favour with tillers of the soil than any artificial preparation. They may, however, be quite at fault here, and indeed sometimes are, for some artificial manures which we know are of a greater value than ever any farmyard manure could possibly be. Farmyard

manure when well made is an excellent fertiliser, and as we previously pointed out has advantages over the artificial article that cannot be performed by the latter. The fertility of the soil in particular is, by this form of manure, much better maintained.

Urine, or what we more commonly designate it liquid manure, is a more valuable fertiliser than farmyard manure. It is needless to say that where this is allowed to escape into the waste drains of gentlemen's stables and farms without an effort being made to utilise it much valuable manure is lost.

Of all classes of animal urine none is so rich in nitrogen as human. Probably this is due to the richest foods being consumed by the human species. The fact, however, is instructive, and ought to lead us to utilise much of what at present is not only a serious waste, but what is more is the just inheritance of the soil.. All mansion house drain systems ought to be (where of course it is possible) terminated in the garden. A huge iron tank should be placed in a convenient situation there, that all the drainage of the house would gravitate into it, and thus the gardener would have an ample supply for use of one of the very best liquid fertilisers.

For the production of Grapes and for the healthy support of the foliage we know nothing to equal this manure. We know two large ranges of vineries where the proprietor was judicious enough to lead the house waste in tapped pipes inside so that the men can use it with scarcely any inconvenience. These Vines have been, we believe, mainly fed by this material for over twenty-five years, and the crops and foliage are truly a sight to see every year. Wherever this species of fertiliser can be turned into account it is almost imperative on the proprietor to reclaim it.

No doubt the day is coming when our large cities will awaken to the importance of realising the sewage for commercial purposes, and thereby vastly increase the municipal coffers.—*Oxygen.*

(To be continued.)

JOHN CLAUDIUS LOUDON.

(Continued from p. 541.)

When Loudon first started *The Gardener's Magazine*, it was a quarterly, but soon after became a bi-monthly, then a monthly paper. The second issue contained a criticism of the London Horticultural Society, whose affairs at that time were notoriously badly managed. It appears that before Loudon's attack no one dared to criticise the society in public. In the same number of his paper he also commenced writing on the "Self-education of Gardeners," a theme on which he devoted a considerable amount of attention to the end of his life, and was in fact writing a book on the subject when he died. In the second number of his magazine he also gave a plan showing how Kensington Gardens might be improved, and suggested small stone lodges with fire places for the shelter of the gate keepers in winter. At the same time he suggested that a band should play in the gardens for the amusement of the public, which should also have the convenience of seats as on the Continent. Most of these things have been brought to pass in our day; but it is evident that Loudon had a mental view of all these advantages to the people much in advance of the times.

In the third number of his magazine he went a step further in the commencement of a series of articles on "Cottage Economy," in which he advised young architects to give attention to the advisability and advantages to be gained from the building of cottages for labourers as well as gardeners on private estates. His plea was that they should be ornamental in the eyes of the proprietors as well as roomy and comfortable for the occupants. Many private gentlemen laid the advice to heart and had cottages built. Loudon was greatly gratified when a gardener told him that his master had built him a comfortable cottage after reading the articles in Loudon's *Gardener's Magazine*. The noble Marquis in question had never thought of comfort in a cottage till he read those articles. The reform of the Horticultural Society was the theme of the fourth number of the magazine. The criticism was continued till 1830, that is, for a space of four years, when the desired reform was brought about.

Garden libraries were kept to the front in the early numbers of *The Gardener's Magazine*, and in the second volume he gave a list of the books which he considered useful to a gardener. Amongst those mentioned were the *Encyclopaedia of Plants*, and the *Hortus Britannicus*, both of which were then only being printed, an operation so laborious that they did not appear till two or three years after that time. The idea of a library was largely taken up in the course of two or three months, and many garden libraries were established in various parts of the country. They are yet far too few, however, in modern private establishments. Several letters were written by working gardeners acknowledging the advantage they had derived from these libraries. In 1827, Loudon advised the planting of trees and shrubs alongside of walks, and having them properly named. This was carried out in Kensington Gardens, and was, in fact, continued till quite recently, but for some years past has been suffering neglect or relapse. During the same year the Horticultural Society commenced offering premiums for superior exhibits of fruits, flowers, and vegetables, the notices being inserted in Loudon's *Gardener's Magazine*.

In 1828 Loudon established *The Magazine of Natural History*, the first work of its kind, and though popular, was not so great a success as the gardening periodical, owing to the upcrop of numerous imitators. About the end of that year Loudon paid a third visit to the Continent, in order to get information for a new edition of the *Encyclopaedia of Agriculture*. France was first ransacked, after which he went in succession to Strasburg, Munich, Stuttgard, Heidelberg, and Carlsruhe. He returned by way of Metz to Paris and thence to England. Loudon gave an account of his tour in *The Gardener's Magazine* for 1828, and continued to give articles during several succeeding years. His own ideas and suggestions for improvement were freely interspersed with the descriptions of the places he visited, to make the information as useful to gardeners as possible.

During the course of 1829 Loudon made several useful suggestions, all in advance of the times, but all carried out in some fashion in succeeding years. He suggested that the London of those days should have breathing spaces about half a mile wide and situated at intervals all round the growing metropolis. He then called attention to the waste of manure that was being carried away by the common sewers, a subject that has since engaged the talent of many learned and deep thinking persons. Other cities and towns as well as London now economise the sewage more or less for utilitarian purposes. He next proposed parochial institutions for the purpose of national education. His proposal for the establishment of a fund for the benefit of the wives and families of deceased gardeners has since been realised and carried a step further by the establishment of the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund.

About this time he made the acquaintance of his future wife, whose father died in 1824, without having made provision for his family. The Mrs. Loudon to be, had to do something for her own support, and taking to literature wrote a novel entitled *The Mummy*, in which she laid the scene in the 22nd century, and attempted to predict improvements which would possibly take place in this country. Loudon read a review of it in the *Literary Gazette*, and this containing a mention of the steam plough attracted Loudon's attention, so that he procured the work from a circulating library. He was so pleased with the book that he wrote an account of it in *The Gardeners' Magazine*, entitled "Hints for Improvements." The author he supposed to be a man, and had a great desire to make his acquaintance. In February, 1830, he mentioned this fact to a lady friend, who chanced to know the writer of it; and promising an introduction invited both to a party. Loudon was greatly surprised on discovering that the author was a woman; but from that evening he evidently formed an attachment for her, and married her on the 14th of the September following.

SOOT AS A MANURE.

The value of soot as a manure is pretty generally appreciated. Soot, as chemists tell us, consists of an impure variety of carbon or lampblack, but it is not from the carbon that the goodness of soot as a fertiliser comes, but from the presence of nitrogen in the form of ammonia. Just as large quantities of ammonia are produced in our gas works and are turned to commercial account by being converted into sulphate of ammonia, so also when coal is burned in the kitchen grate, the ammonia evolved from the fuel combines with other chemical elements (chiefly sulphur) simultaneously evolved, and thus forms an ammoniacal compound having very much the same manurial properties as sulphate of ammonia. The quantity of such ammonia present in soot, varies very considerably, and is largely influenced by the quality of the fuel from which soot is obtained.

Soot yields on an average from three to five per cent. of ammonia, and as this is present in an easily accessible form, soot is a comparatively quick acting fertiliser. It can be used as a dressing for crops of all kinds. When good soot can be obtained farmers and large market gardeners are pleased to pay from 25s. to 30s. a ton for it. The lighter it is, the purer it is likely to be. Soot is usually sold at so much per bushel, and when the bushel weighs heavy there is always a suspicion that it contains an abnormal quantity of lime rubbish, sand, or other useless material.—*F. G.*

PLANTS IN FLOWER AT CHELSEA.

Something may be seen at all seasons of the year in the nursery of Messrs. J. Veitch & Sons, Ltd., Chelsea. Various subjects have their particular seasons; while certain members of other groups, such as the Orchids, and hybrid greenhouse Rhododendrons, keep up a succession all the year round.

Orchids.

The prettiest and most interesting of all the forms of Spathoglottis is S. aureo-Vieillardii, an artificial hybrid whose parentage is expressed in the name. The sepals are yellow spotted with purple and the petals more heavily so; while the lip has a crimson lamina, the rest being spotted with crimson. Amongst Phalaenopses in bloom we noted P. schilleriana, P. Manni and P. rosea leucasta. The flowers of P. Manni are heavily banded with chestnut on a yellow ground; while those of P. rosea leucasta are soft rosy-pink. One of the racemes of flowers was borne by a little plant on an old flower stem. The scented Miltonia Roezlii alba is always a desirable plant.

It is seldom we see so many forms of Chysis all flowering together as on this occasion. The massive flowers of C. bractescens are white with a yellow lip. C. langleyensis is a hybrid between C. Chelsoni (itself a hybrid), and C. bractescens. The sepals have a pale fulvous tint overlying the white; and the petals have a rosy tint in addition. The lip is red with white veins. C. Sedeni is another hybrid having the white sepals and petals tipped with purple, and the lip purple. A third hybrid, namely, Chelsoni, has orange sepals shaded with buff and creamy at the base, the lip is buff-red, with broad white veins. All of the above were flowering at the same time in one house.

Dendrobium atroviolaceum also does well at Chelsea, the plants being grown in small Orchid pans suspended from the roof. The yellow beard in the centre of the white flowers of D. barbatulum makes this both choice and interesting. One of the finest of the Laeliocattleyas is Lc. Pallas, with its huge, wavy, crimson-purple lip. Equally choice is Lc. digbyano-Trianaei, whose huge lip is pink and deeply fringed all round the edges of the lamina and side lobes. Cattleya Mendelii and C. Schroderae are now in season, and the latter is always well represented by fine varieties. The same may be said of Laelia flava, flowering in various parts of the Orchid range and showing a considerable amount of variation amongst the different individuals the golden yellow ones being handsome.

The Orchid rockery always contains a large number of flowering specimens, and on this occasion we noted a large number of the primary and secondary hybrids derived from Epidendrum Wallisii and E. Endresii. E. Endresio-Wallisii has short purple petals and a soft violet and white lip A race of secondary hybrids named E. elegantulum has short reddish-purple sepals and petals; and a white lip, blotched with white and fringed at the edges. Another race of secondary hybrids, named E. Clarissa, is very variable in colour, the sepals, petals and lip showing quite a number of arrangements in different individuals. The greatest advance amongst them is that named E. C. superbum, which has much larger and darker flowers. A First-class Certificate was recently accorded it by the Royal Horticultural Society. Choice and useful are the massive sweet-scented flowers of Cymbidium ebur-

neum. Close by was C. lowianum, the two being the parents of C. eburneo-lowianum, of vigorous constitution and having creamy flowers, and a brownish-red blotch on the lip. A well-flowered specimen of Oncidium harrisianum was suspended from the roof on a block and doing well. O. sarcodes is also in season and even more showy.

Another house contained quantities of Cattleya lawrenciana in bloom. Laeliocattleya highhuryensis has come into great repute lately and includes several distinct varieties, the orange being more or less heavily shaded with purple. Lc. Latona belongs to the same group and has orange flowers, the petals being shaded with buff and the lip crimson. Lc. Ihera was derived from Laelia cinnabarina and Laeliocattleya bella, and has orange sepals, while the petals are shaded with orange-buff, and the lip intense purple.

In the cool house Masdevallias and Odontoglossums were throwing up flower spikes in abundance, amongst them being a plentiful array of O. odoratum, O. crispum, O. triumphans, and O. ruckerianum, some varieties of the latter being very finely spotted. Masdevallia ignea and M. Alceste were also in bloom. The last named is a hybrid which received an Award of Merit recently from the Royal Horticultural Society.

GREENHOUSE.

Bordering the main walk of the nursery is a house which everyone who has been in the nursery must have noted on account of its gay condition for the greater part of the year, at least, and particularly from the time that the forcing of bulbs is commenced, to be supplemented later on by forced flowering trees and shrubs, and afterwards by hard and soft wooded plants that come into bloom without forcing. Though usually spoken of as the greenhouse it might well be designated a conservatory, for it is kept as gay or more so than many a private conservatory.

Indian and other Azaleas were flowering plentifully on the occasion of our visit, some of the former having large wavy flowers like a regal Pelargonium. The pure white Deutsche Perle is never absent from good or anything like representative collections of Azaleas. Usually there is a plentiful assortment of sweet-scented plants amongst others, so that a delightful aroma pervades the atmosphere of the house. Amongst fragrant flowers on this occasion we should mention East Lothian Stocks, chiefly white, Boronia megastigma, Mignonette, Cytisus racemosus, and Primula verticillata, the latter being well grown and flowering freely. Cinerarias are also distinctly scented, if not powerfully so, and on this occasion were represented by the bright blue strain, known as Kew Blue.

Heaths are always plentiful during winter and spring, in the shape of small, well-grown and well-flowered plants. Erica Cavendishi, E. ventricosa coccinea minor, E. spenceriana, and others of that class were in full beauty. A feature of the house was some large plants of fine varieties of hardy Rhododendrons, hybrids of ponticum, lifted from the open ground and flowered in baskets. They may, of course, be returned to the open ground after they go out of flower, and after being hardened off. Cerasus Pseudo-cerasus and its varieties were also a striking feature from their numbers. The darkest flowered and the best is that named C.-P. James H. Veitch. Very pretty was the new Clematis Nellie Moser, with a broad purple band down the centre of the white sepals, and flowered in small pots. Other showy flowers were Deutzia gracilis, Hydrangea hortensis, and H. h. Thomas Hogg, the latter being white flowered; also Azalea Phidias, pale yellow, semi-double and deciduous; Richardia africana, Cytisus scoparius andreanus, Guelder Roses, &c.

Fruit Cultivation in the Caucasus is a chief industry for the people of this beautiful South Russian region. There is, however, vast room for improvement in their cultural methods. The same old systems of routine have been practised since fruit growing on commercial lines was first attempted in that region. The variety of kinds they cultivate is by no means limited, for Pears, Apples, Peaches, Strawberries, Cherries, Figs, Nuts, and Grapes are among a few of the fruits that succeed with them. The produce is largely exported due north to the great Russian towns, where the conditions are such as to prevent gardeners or farmers from attempting to grow these fruits in any quantity. The system of transportation also requires revision.

NOTES FROM HAMILTON.

THE WEATHER.

THE fine weather which has been switched on for the British Isles something like ten days ago, still continues, and it is the earnest desire of everyone that it may do so for some time in the future. In the middle of April—and later—it appeared to be more in keeping with December weather than anything we ever remember of seeing. Still, the lookout may not be, after all, so black as most of us then were profane enough to prognosticate. To-day, on reference to my jottings, I find certain trees in leaf as soon as former years.

We have some fine Chestnut (horse) trees in full leaf, and to my astonishment they have expanded their foliage in a marvellous short period, much shorter than I ever before remember. A shower of that superabundant element which April this year changed in a solid form, would do the much parched soil a world of good, especially as young and tender seeds above and coming through the soil require it very much. All kinds of fruits which are so far forward, show very well by the abundance of blossom.

The Glasgow Exhibition is beginning to put a good many of our gardeners about here in a flutter, for there will be some handsome prizes to be had at the flower show which takes place in the autumn. Some of my friends will make good not a few, judging from the enthusiasm and quality of their things already.

I would remind your young friends, who so strenuously wielded the pen *re* their grievances, that nothing short of a windfall has happened to the profession since the short time they were engaged discoursing the subject. A journeyman, I am told, cannot be got for love or money, either in Glasgow or Edinburgh, and if that is true, other places will fare even worse. So far, good; but on the other hand, a gardener's appointment was recently vacant not very far from here, and though the inducements were by no means enticing, there were, it is said, one hundred applications from persons who considered themselves qualified for the post. I have not heard whether any of our "bloomer" friends were in it or not. Query: Where do all these head—or would-be head—gardeners spring from, seeing journeymen have been scarce now for several years?

IS GARDENING A SCIENCE ?*

THE century which has just closed, and especially the latter half of it, will go down to posterity as the most remarkable that the world has ever seen, for scientific discoveries and inventions, and the advancement of all arts and crafts generally. In whichever direction we turn our attention the same thing prevails. Scientific discoveries have followed each other in rapid succession, and invention has succeeded and superseded invention. Steam as you all know has revolutionised the systems of manufacture, and travelling whether by land or sea, is revolutionised also; so that to-day the countries which are the most distant from each other, are brought into close contact with each other by the very waters which divide them.

There is not a continent or island, wherever it might be situated, but which almost seems as our near neighbour. Therefore not only is trade and commerce facilitated by steam and telegraph, but it is also accompanied by the rapid change and interchange of ideas. We flash our thoughts and ideas in the space of a few minutes to our brethren in the most distant part of the world, consequently there is a general diffusion of knowledge through this constant interchange of ideas, a happier relationship is established between man and nations; and thus civilisation has advanced with rapid strides by those great achievements of science and invention.

Art also has advanced with equal pace, in fact, the two, science and art, are bound together by an affinity which cannot be broken, and thus in mutual agreement those two advance conquering and to conquer. Obstacles are overcome, difficulties surmounted, and thus by determination and perseverance have those great results been achieved.

Therefore, the Victorian reign will go down to posterity as the most stupendous, not only for scientific discovery and invention, but for the spread of civilisation and the uplifting of mankind generally.

But what of horticulture? In the face of all these scientific discoveries and inventions, has it kept its place with the human family, or has it paled and become old-fashioned? Has it ceased somewhat to attract the amount of attention in these days of bustle and excitement, when everyone is on tiptoe looking for something novel, something new? No; it has a greater charm to-day than ever. As civilisation advances its charms will be much more appreciated. It has been a benefited recipient by almost every discovery and invention.

To-day it stands higher than when Bacon said, "It is the purest of human pleasures and the greatest refreshment to the spirit of man." And now, with all the tension of business life, the constant bustle and excitement, its pleasures are the more appreciated and its powers of refreshing more enjoyed. Come, it says—

"Into the calm retreat,
Far from the busy haunts of life,
Where Flora trains her lovely offspring up,
To captivate and charm."

Art, stimulated by its successes, has had a try to supersede Nature; but has it succeeded? No. We see Palms, Begonias, Camellias, and a host of other things planted in pots to imitate her, and fortunately it is only imitation. One can never fail to recognise at a glance the broad lines of distinction between the two. In fact, it will bear no examination, because it has not that great vital principle called life. Then, again, we hear and read of what is called architectural gardens, where the beds are filled with different coloured bricks and suchlike, to save the trouble of planting twice a year, and to imitate Nature and flower colouring. Has that succeeded? No; because it has not that beautiful charm, that fascinating principle which these flowers, the stars of earth, have; for all who have a soul to enjoy what Nature alone can impart—perfect beauty of form and colouring. How harsh, how unnatural; what ridiculous mockery this appears to those who have an appreciation for that which is beautiful and real.

Let the architect build a beautiful house by all means, and therewith be content, and leave the garden to those who are better qualified to make a garden or fit receptacle for what a garden is intended, namely, a home for beautiful shrubs and flowers.

Here then, I claim that gardening is a science, because it will not submit itself to the idea of art with anything like good grace. Nature must be strictly adhered to, her laws followed as far as possible if the garden is to be a place of beauty. The natural slope of the ground and its surroundings must be taken into consideration if it is intended that it should assume the beautiful. Then I claim that gardening is a science, for what is science but a knowledge of Nature and her laws.

Bacon wrote, "When ages grow to civility and elegance, men come to build stately sooner than to garden finely." Consequently gardening requires a higher degree of civilisation, an education of refinement, a degree of elegance, which art can never impart.

Then, I say, that if the gardener requires this greater refinement, this higher development, this keener appreciation of what is beautiful, than art requires, then I say the gardener is a scientist of no mean order. Therefore, how forcibly the words come home to us of one of our great historians when he said, "That a nation's civilisation can be judged by the standard it has attained in horticulture." Gardeners, these are words which bring home to us a great responsibility, personally and collectively, and let us unite in one common cause, namely, that we bear this standard of civilisation aloft among the nations of the earth. Well, then, is a gardener a scientist? Yes, most decidedly so; perhaps often unconsciously, aye, and even unintentionally, but a scientist nevertheless; because when he is using every means in his power to bring Nature to her highest state of perfection, all his operations have to be carried out upon scientific principles. What is it with which the gardener has to deal; not material of the inorganic world, no, but with plant life, and if to be successful in the cultivation of plants, every condition necessary for its welfare must be carried out, and all the surroundings of its natural home have to be brought into play in its successful cultivation.

Why, a gardener is a physiologist, a biologist, a

* A paper read by Mr. R. W. Hodder, The Gardens, Ponsonby, Torquay, Devon, at a meeting of the Devon and Exeter Gardeners' Association.

pomologist, a geologist, a chemist and every 'ist and 'ism that it is possible to conceive. In fact, for a gardener to be able to grapple with every question which confronts him in the cultivation of plants, it is necessary that he should be somewhat of the nature of a walking encyclopaedia and an up-to-date edition among all the callings and professions of men (with the exception of a doctor). There is nothing which will uplift, to educate, enlighten, and, in fact, inculcate those great principles which makes a man so worthy of the name of man, as this great profession of gardening or horticulture. With all the interesting operations connected with gardening —if we regard the labour involved as a labour of love; then gardening is invested with an interest all its own, and which has a mysterious power to draw us closer and closer in our considerations of all Nature's beauties and her perfect laws; and thus our interest becomes intensified, our being expands, and we are able to drink deeper and deeper of the pleasures which Nature affords.

(To be continued.)

SOCIETIES.

CORNWALL DAFFODIL AND SPRING FLOWER SHOW.—*April 11th.*

THE fifth annual exhibition under the auspices of the Cornwall Daffodil and Spring Flower Society, was held in the Concert Hall, Truro, on April 11th. We regret being so late with our report, but the delay has been unavoidable owing to want of space. There was a magnificent display of flowers, the Daffodils and Rhododendrons making a fine contrast. The Daffodils were of a very high standard of quality, and close competition resulted. The Rhododendrons were not quite up to last year's standard. Mr. Shilson had, as usual, a large exhibit of these, and sustained his reputation as an expert cultivator of these beautiful shrubs. Primroses and Polyanthuses made a good show, and with the large assortment of other hardy spring flowers, deservedly attracted great attention. Apples were shown in good condition for the time of the year.

The first prize for the best collection of fifty distinct varieties, was won by Lady Margaret Boscawen. Golden Spur, Emperor, Autocrat, Queen of Spain, Victoria, Sir Watkin, and Orange Phoenix, were a few of the best varieties in this interesting group. The second prize was awarded to Mr. P. D. Williams, his blooms of Lucifer and Blood Orange were much admired by all who saw them. In the class for forty varieties, the Rev. A. T. Boscawen was first with a splendid collection of blooms. Miss F. Currie was a very close second, many of her blooms being of exceptionally good colour. For ten varieties of the Magni-Coronati group, Mr. W. N. Carne was awarded the first prize for some very fine blooms of the newest varieties; the second went to Mr. H. M. Williams. For five distinct varieties of the Medio-Coronati group the Rev. A. T. Boscawen was first; and Mr. M. H. Williams, second. Mr. W. N. Carne was first for five distinct varieties of the Parvi-Coronati section.

For four double varieties, Mr. Nowell Usticke was first. Mr. H. M. Williams and Mr. W. C. Pendarves were so close in their exhibits for second place that the judges placed them both equal for that honour.

The competition was keen in the class for fifteen distinct varieties of any section. There were fourteen entries, and all of such a high standard that they must have caused a considerable amount of trouble in the judging. They decided that those exhibited by Sir George Smith were the best of this huge competition. Some of his best blooms were Emperor, Sir Watkin, Golden Spur, Figaro, Nelsoni major and Minnie Hume. Mr. A. P. Nix was second and the Rev. A. T. Boscawen, third.

The first prizes in the classes in which the price of the bulbs was not restricted were won by Mr. J. C. Williams, who took four; Mr. P. D. Williams, three; and the Rev. A. T. Boscawen, two. The finest of the blooms in these unrestricted classes were Cardinal, Torch, Flamingo, Lucifer, Sirius, Blood Orange, Orifamme, King Alfred, Mdme. Plemp and Victoria.

For the finest bloom of an English-raised variety not in commerce, the Rev. G. H. Engleheart was awarded the first prize for a magnificent bloom of Orifamme.

Mr. J C. Williams received a First-class Certificate for a handsome flower of the Parvi-Coronati section, named Dante. King Alfred, shown by Lady Margaret Boscawen, also received this distinction; also Seagull, shown by the Rev. A. T. Boscawen, and General Roberts, shown by Messrs. Barr & Sons, Covent Garden.

There was a fine collection of over a hundred varieties from the Scilly Isles, shown by Mr. Dorrien Smith. Mr. Watts, also of Scilly, had a smaller but not less beautiful collection.

Mr. D. H. Shilson was the principal exhibitor in the spring flower section. His exhibit of fifty trusses of Rhododendrons was a conspicuous feature of the show. They showed every transition of colour from pure white to the deepest crimson. He carried off most of the first prizes, being first for six Camellia blooms, first for six trusses of Rhododendrons, first for eight cut blooms of Azalea mollis, and first for a collection of hardy herbaceous plants, not forced, of which he exhibited nearly 100 varieties. Mr. P. D. Williams had a very meritorious exhibit, and was deservedly placed second. The third prize was awarded to Mrs. Powys Rogers.

The class for hardy flowering shrubs was well represented, there being five magnificent collections shown. Mr. R. Fox was awarded the first prize with a very showy exhibit. The colours imparted by the free use of Camellia and Rhododendron blooms were very effective. Mr. Pendarves Vivian was second, and Mr. H. M. Williams, third.

In the class for the finest individual bloom of Camellia, Mrs. J. Williams was first with C. reticulata. This lady won the first prize last year in this class with a bloom from the same plant.

Mr. R. Fox was the most successful exhibitor of Violets. There were twenty-seven entries in this class, their perfume pervading the whole building.

MISCELLANEOUS.—Messrs. Barr & Sons exhibited an attractive group of bulbous plants, chiefly Narcissi.

Messrs. R. Veitch & Sons, Exeter, exhibited a group of hard-wooded plants, the most conspicuous being Betula Maximowiczii, the large-leafed Birch.

Messrs. T. S. Ware, Ltd, Feltham, Middlesex, showed a fine collection of hardy spring plants, including many beautiful Irises.

Messrs. Gauntlett, of Redruth, exhibited a collection of hard-wooded plants, Polygonum baldschuanicum being an attractive feature in this group.

The show was well attended and the organisation was perfect with one exception, that the space was too limited to admit of a full display of the beauty of many of the plants.

MIDLAND AURICULA.—*April 25th.*

THE second annual show of this society was held in conjunction with that of the Midland Daffodil Society, in the Birmingham Botanical Gardens, and was favoured with numerous exhibits and fine weather, making it a great success.

In the class for six show Auriculas, Mr. James Douglas, Edenside, Great Bookham, Surrey, made his presence felt with splendidly grown plants of Mrs. Dodwell, Hero, Acme, Abraham Baker, Mrs. Potts, and George Lightbody, all showing a master hand in the matter of cultivation. Mr. Stokes, Harborne, was a very close second. The third prize went to Mr. R. Holding, Balsall Heath. For four show varieties, Mr. J. Douglas was again first; Mr. J. Clements, Harborne, was second; and Mr. J. W. Bentley, Stakehill, Castleton, Manchester, third. All three of these exhibits were well grown. For two show varieties, Mr. A. R. Brown, Handsworth, was first with Conservative and John Spalding, both beautiful plants; Mr. J. W. Bentley was a very close second.

In the class for single specimens, Mr. J. Douglas took most of the first and second prizes, namely, for gray-edged, white-edged, green-edged, and for selfs.

For six alpine Auriculas, Mr. A. R. Brown, Handsworth, was first, a plant of Mrs. Gorton, was superb; Mr. J. Douglas was second; and Mr. R. Holding, third. In the class for four alpine Auriculas, Mr. J. Douglas was first. His plant of Duke of York was much admired. Mr. A. R. Brown was second; and Mr. R. Holding, third. For two alpine Auriculas, Mr. J. Godwin, Handsworth; and Mr. Cheshury, were first and second respectively.

For seedlings, Mr. J. Douglas was first with a beautiful gray-edged variety named Peri; Mr. R. Holding was second with Elsie M. Cadbury, a very dark self. Mr. J. Douglas staged the premier Auricula, his Magpie receiving that distinction The premier in the alpine class was G. F. Thew, shown by Mr. Brown. A beautiful basket of hardy Primulas was exhibited by Messrs. Pope & Son, King's Norton. It was nearly 3 ft. across, and filled with alpine and Japanese species.

MIDLAND DAFFODIL.—*April 25th and 26th.*

OWING to the space taken up by the report of the conference, we were unable to give an account of the show in our last issue. Like all other flower shows organised at Birmingham, it was a great success. This was the third exhibition of this society, and, if possible, it was an advance on the previous two. Birmingham people seem as enthusiastic over the Daffodil as anyone, and it might be called a Daffodil craze. The Midland section of the National Auricula Society holding their show in conjunction with the Daffodil Society's show, considerably enhanced the interest in the meeting.

The chief class in the show was for a collection of fifty varieties of Daffodils, representing the three main divisions—Magni-Coronati, Medio-Coronati and Parvi-Coronati. Mrs. R. O. Backhouse was first with a magnificent collection; Horsfieldi, Glory of Leiden and Madame Plemp were exceptionally fine blooms. Sutton Court, Hereford, must be a good district for their cultivation, for this expert lady specialist who lives there was first in this class last year. The Rev. J. Jacob, Whitewell Rectory, Whitechurch, was second; and Mr. F. A. Walton, The Friary, Handsworth, third. All three exhibits were very close as regards quality, and were about the chief feature of the show.

For six varieties, Messrs. J. H. White & Son, Spalding, were first. Their selection was Emperor, Madame Plemp, Victoria, Horsfieldi, Madame de Graaff and Maximus. Mr. W. B. Latham, curator of the Botanic Gardens, Birmingham, was second.

Mr. J. Douglas, Great Bookham, took the first prize for twelve trumpet Daffodils; King Alfred was much admired. Mr. P. D. Williams, St. Keverne, St. Austell, was second; and Messrs. J. Pope & Son, Nurserymen, Birmingham, were third.

MEDIO-CORONATI VARIETIES.—For twelve bunches of these the exhibits were difficult to judge, as all were of a very high quality. Mr. P. Williams was first; Mr. H. B. Young, Metherington, Lincoln, second; Mr. J. Douglas, third. For six varieties, the Rev. G. F. Eyre, Far Forest Vicarage, Rock, Bewdley, was first. Messrs. J. T. White & Son, Spalding, who were overlooked in the judging, were afterwards awarded a special extra first prize in this class.

PARVI-CORONATI.—For six varieties, Mr. P. D. Williams was first; Mr. H. B. Young, second; Miss F. W. Currie, Lismore, Ireland, third.

In the class for twelve varieties none of which must cost more than 10s. per dozen, Mr. R. Chatwin Cartwright, Selly Oak, Birmingham, was first. His blooms of Sir Watkin and Golden Spur were very fine; Mr. J. W. Cunnington, Moulton, near Spalding, was second; Mr. J. H. Harthell, Arden Vale, Olton, third. For six varieties, with the same restrictions, Mr. C. L. Branson, The Gardens, Coleshill Park, was first; and Mr. J. Sceaney, Harborne, second.

DAFFODILS IN POTS.—Mr. A. Cryer was first with twelve pots of well grown stuff. In the class for six pots, Mr. R. Chatwin Cartwright was first.

POLYANTHUS NARCISSUS.—Mr. A. Cryer was first for six pots in this class, a pot of the Maestero was much admired.

TULIPS.—The competition was close for a collection of these, Mr. Cryer was first; Mr. R. Chatwin Cartwright was again close to him and made a very good second; Mr. R. Sydenham was third.

FIRST-CLASS CERTIFICATES.—The following were awarded First-class Certificates: General Roberts, Gloria Mundi, and Lucifer, shown by Messrs. Barr & Sons, Covent Garden; King Alfred grown by Mr. J. Douglas; Earl Grey and Robert Berkley, grown by Miss Willmott; and Sunrise grown by Mrs. Backhouse.

AWARDS OF MERIT were given to Daffodil, Giant Edge, a very fine bicolor with a yellowish white trumpet, shown by Rev. C. Wolley Dod; Sunbeam shown by Mrs. Backhouse; Maggie May and Sir Watkin shown by Messrs. Barr & Sons; Charles Wolley Dod shown by Miss W. Willmott; Primrose

Phoenix, originally known as John Walker shown, by Mr. John Walker.

King Alfred, shown by Mr. J. Douglas, was selected as the Premier Trumpet in the show, and Almira as the Premier Small Crowned. The latter is a much improved form of Poeticus ornatus.

Miss Swinfen was first for table decoration; and the Rev. J. Jacobs, second. For a basket or box of cut bloom, packed for market, Messrs. T. White & Son, and J. W. Cunningham were first and second respectively, both are market growers at Spalding.

The following firms put up non-competitive exhibits of Daffodils. Messrs. J. T. White & Son, Spalding; Messrs. R. H. Bath, Ltd., Wisbech; Messrs. Dicksons, Ltd., Chester; Messrs. Hogg & Robertson, Dublin, who also had a group of Tulips; Mr. R. Sydenham; Messrs. J. R. Pearson & Sons, Lowdham; Mr. F. A. Walton; Messrs. Wallace & Co., Colchester, with the addition of many other spring-flowering plants; Messrs. Gunn & Son, Olton; Messrs. T. S. Ware, Ltd., Feltham, Middlesex; Mr. Leonard Brown, Brentwood; and Mr. P. D. Williams. Messrs. Hewitt & Co., Solihull, Birmingham, had some very elaborate floral decorations which came in for a large amount of attention from lady visitors.

ROYAL HORTICULTURAL.—*May 7th.*

THE Drill Hall was very full on Tuesday last, with spring flowers in great variety. Orchids were strongly represented, as were also Tulips, Cinerarias, Amaryllis, hardy herbaceous plants, hardy Polyanthuses, Auriculas, Daffodils, Apples, &c.

de B. Crawshay, Esq. (gardener, Mr. W. J. Stables), Rosefield, Sevenoaks, exhibited a small but very choice collection of Odontoglossums, including finely blotched varieties named O. crispum Raymond Crawshay, O.c. Alice Gibson, O. andersonianum Theodora, and a handsome white variety of O. crispum, bearing twelve flowers on one spike and two large seed pods on another. (Silver Flora Medal.)

J. Leeman, Esq., West Bank House, Heaton, Mersey, exhibited a large and showy group of Orchids, including well flowered pieces of Odontoglossum crispum Confetti, O. c. Mrs. J. Leeman, O. c. Domina, O. Hallii leucoglossum, Cymbidium lowianum, Oncidium marshallianum, Laelia grandis tenebrosa, L. purpurata, L. digbyana, Laeliocattleya digbyano-Mendelli, Odontoglossum triumphans and O. t. Gold King. He also had the interesting bigeneric hybrid Brasso-cattleya nivalis with almost pure white flowers; and the pure white Cattleya intermedia alba. (Silver-Gilt Flora Medal.)

Major Joicey (gardener, Mr. F. J. Thorne), Sunningdale Park, Sunningdale, Berks, exhibited a large piece of Epidendrum bicornutum, bearing seven spikes of its handsome white flowers.

Walter Cobb, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells, exhibited Odontoglossum Adrianae Frankii, O. A. Leo, O. A. Helen and O. A. cobbianum, the flowers of which were almost wholly of a dark chocolate red, the darkest variety of it we have seen.

W. W. Mann, Esq. (gardener, Mr. J. Simon), Ravenswood, Bexley, exhibited Odontoglossum crispum mannianum. Mr. Thos. Rochford, Turnford Hall Nurseries, Broxbourne, exhibited Odontoglossum crispum turnfordianum, O. c. mirabile, O. c. guttatum, and Cattleya Mendelii Turnford Hall var.

Lt. Col. Shipway (gardener, Mr. W. Walters), Grove House, Chiswick, exhibited Laelia purpurata russelliana Grove House var, a very pretty light coloured form.

H. T. Pitt, Esq. (gardener, Mr. T. W. Thurgood), exhibited an interesting group of Orchids. Amongst them were some handsome forms, including Odontoglossum Hallii King Edward VII., O. andersonianum, O. ruckerianum Rosslyn var. Oncidium sphacelatum, Cattleya Schroderae heatonense, Laeliocattleya William Murray, and many other fine things.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, Middlesex, staged a group of Orchids, amongst which Dendrobium thyrsiflorum, Cattleya Skinneri, C. Schroderae, C. S. rotunda, with a large round lip, Dendrobium devonianum, Oncidium concolor, O. sarcodes, and O. marshallianum were very conspicuous. They also had Dendrobium Nestor (macrophyllum × Parishii), Bifrenaria Harrisoniae eburnea, a beautiful yellow variety; and Epidendrum stamfordianum.

Messrs. J. Veitch & Sons, Ltd., Chelsea, set up a fine bank of Orchids, amongst which Cattleya Schroderae in great variety was very conspicuous. They also had bold pieces of Masdevallia veitchiana, Oncidium marshallianum, Odontoglossum Hallii, Cymbidium lowianum, C. eburneo-lowianum, Laelia purpurata, the hybrid L. Latona, Odontoglossum crispum, and others in variety.

Oncidium lamelligerum, and Epidendrum Wallisii, were exhibited by R. B. Leech, Esq., Woodhall, Dulwich, a Cultural Commendation being accorded a fine plant of the latter, and two large plants of the former. Dendrobium macrophyllum Glebelands var. was shown by J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford.

One of the features of the show was the group of Cineraria stellata, shown by Messrs. James Carter & Co., High Holborn. Their height ranged from 2 ft. to 4 ft., and their colour showed every transition from pure white to the deepest blue. (Silver Flora Medal.)

Messrs. W. Paul & Son, Waltham Cross, put up a handsome group of climbing Roses over a groundwork of Aralia Sieboldi and Pteris. Field Marshal, a new dark climbing Rose, was much admired; also the buds of a beautiful new bedding Rose, Sulphurea. The colours of two or three blooms of Souvenir de Catherine Euillot and Souvenir de Madame Salbayrollis attracted a lot of attention, as they were shades seldom met with in Roses. (Silver Banksian Medal.)

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, staged a pretty collection of cut branches of hardy flowering shrubs. Some of the best were Spiraea argentea multiflora, Cerasus silvestris plena, Berberis rotundifolia Hervei, Exochorda grandiflora, and several highly-coloured pieces of Japanese Maples. (Silver Banksian Medal.)

Mr. H. J. Jones, Ryecroft Nurseries, Lewisham, had a pretty collection of Narcissi, Tulips, and Begonia Gloire de Lorraine. Tulipa elegans was a very distinct thing, the acuminate apices of the segments had a unique appearance when seen in the bud. (Bronze Flora Medal.)

Messrs. B. S. Williams & Son, Upper Holloway, staged a miscellaneous group of stove and greenhouse foliage plants.

Lord Rothschild (gardener, Mr. Hill), Tring, had a magnificent group of Calla elliottiana and Pentlandi. One of the blooms had a double spathe, the larger and outer one was tipped with bright green. (Silver Gilt Flora Medal.)

Messrs. Paul & Son, Old Nurseries, Cheshunt, showed a few pots of a new H.T. Rose Lady Battersea. It looks a good grower, the colour is good and the petals beautifully curled. They also had two baskets containing a varied collection of early rock plants. (Bronze Flora Medal.)

A conspicuous feature was a group of Hippeastrums, Spiraeas and Adiantums. One very fine plant had sixty-one fully developed blooms on it. The seed was sown in 1893. Some of the others were not two years old. They were exhibited by Wilberforce Bryant, Esq., Stoke Park, Slough (gardener, David Kemp). (Silver Banksian Medal.)

Mr. Charles Turner, The Royal Nurseries, Slough, had a large collection of seedling Auriculas. (Silver Flora Medal.)

Messrs. Storrie & Storrie, Florists, Dundee, exhibited six large baskets of Polyanthuses. A seedling Hose-in-Hose variety of a deep yellow colour was an exceptionally good thing in this line. (Bronze Flora Medal.)

Messrs. Cannell & Sons, Swanley, Kent, exhibited a large quantity of cut blooms of their Regal Pelargoniums which they make such a speciality of, Lord Carrington, Mrs. W. Hemsley, Crimson King, Queen of the Whites (double) and Countess of Warwick were some of the best varieties.

Mr. M. Prichard, Nurseryman, Christchurch, Hants, exhibited a large variety of early herbaceous and rockery plants. Tulipa retroflexa and Tulipa cornuta came in for a large amount of admiration. Phlox canadense and P. Nelsoni were also much admired, and they well deserved the attention they received, for there is nothing that can surpass them for rock garden work. Gentiana verna was also to be seen in this collection. (Silver Banksian Medal.)

Miss Jekyll, V.M.H., Munstead Wood, Godalming, exhibited a beautiful collection of Primroses.

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, staged a large quantity of Colens, Statice and double Zonal Pelargoniums edged with the pretty little Nepeta Glechoma variegata. Statice profusa had some very good blooms of a deep blue colour. (Silver Banksian Medal.)

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, staged an interesting exhibit of hardy rock garden plants. Cypripedium Calceolus, Tulipa kolpakowskyana and Fritillaria recurva were some of the most attractive. (Silver Banksian Medal.)

Messrs. W. Cutbush & Son, Highgate, London, exhibited Calla elliottiana and an excellent new border Carnation H. J. Cutbush. (Bronze Flora Medal.)

Messrs. Hogg & Robertson, Dublin, staged a large and varied collection of Tulips. Tulipa viridiflora praecox came in for a great deal of attention, being of a large size and almost green. Tulipa Isabella is a unique spidery variety. Koh-i-noor was very good, being a lustrous dark variety. Lutea major was a very good variety of the Parrot type. (Silver Banksian Medal.)

Amos Perry, The Hardy Plant Farm, Winchmore Hill, exhibited a pretty group of early herbaceous plants including many beautiful Irises and Orchis. (Silver Banksian Medal.)

Messrs. Hugh Low & Co. staged a dozen plants of a beautiful new Schizanthus named wisetonensis. The colour was white shaded with pink and yellow, with a brown blotch on the standard petal. He also exhibited the American clove scented Carnation Mrs. Thos. W. Lawson. The colour is a beautiful rose-pink, and it also has the advantage of good calyx.

Messrs. James Veitch & Sons, Chelsea, staged a large variety of Narcissi, Tulips, and Crown Imperials. Two vases of Narcissus incomparabilis Sulphur Phoenix and N. i. Orange Phoenix were very good. Two vases of a beautiful Muscari, named Heavenly Blue, were a conspicuous feature surrounded by the various yellow hues of the Narcissi. Crown Imperials, gold variegated, has beautiful golden striped foliage. (Silver Gilt Flora Medal.)

Messrs. G. Jackman & Sons, Woking Nursery, Surrey, exhibited a collection of herbaceous and rockery plants. A beautiful rose-pink Canterbury Bell was a noticeable plant. (Bronze Flora Medal.)

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, filled a long table with Primulas, which had a very gay appearance. Some of the best were P. alba magnifica, Victor, Admiration, Ware's White, Lilacina, Dora, Violacea, Ruby Queen, Mrs. Ryder, and Princess Beatrice.

John Peed & Sons exhibited a group of alpines arranged on an artificial rockery composed of cork and stones.

Messrs. B. Cant & Sons, Old Rose Gardens, Colchester, exhibited a pretty group of Roses in pots. (Silver Gilt Banksian Medal.)

Mr. P. R. Dunn, Brockley Park, Forest Hill, exhibited a group of herbaceous Calceolarias. (Bronze Banksian Medal.)

Messrs. J. Laing & Sons, The Nurseries, Forest Hill, London, exhibited a pretty group of Japanese Maples.

Messrs. Barr & Sons, Covent Garden, exhibited a group of Narcissi, Tulips, &c. The Darwin Tulips, with thin, long scapes, standing out from a bed of Pteris were very effective. (Silver Banksian Medal.)

Mr. John Russell, Richmond Nurseries, Richmond, exhibited a large and highly-coloured group of Japanese Maples.

Messrs. F. Cant & Co. were awarded a Silver Banksian Medal for cut Roses, and the best in the collection was Maman Cochet.

Messrs. H. Young & Sons, Pansy Nurseries, Cheshunt, showed several beautiful varieties of their speciality.

Messrs. J. Veitch & Sons were awarded a Silver Gilt Knightian Medal for a collection of Apples.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating

plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to "Cumbria," for his article on "Cinerarias from Seed," p. 570.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

PHOTOGRAPHS OF PLANTS.—The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in THE GARDENING WORLD. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups.*

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Herbarium Labels for Naming Botanical Specimens.—*M. M.*: Some years ago a book of labels for the naming of British plants was published by Messrs. George Bell & Sons, York Street, Covent Garden, at 5s. each. We learn that it has since gone out of print, and is not likely to be reprinted. The names of plants within the last decade have undergone a great deal of revision and alteration, which would necessitate the re-writing of a book having any pretentions of being up to date, so that it is unlikely that a book of the kind will be printed again for many years. We have tried several dealers in botanical sundries ourselves some years ago, and failed to find a printed or ready-made set of labels. Your best plan would be to cut a piece of paper to the size and shape you desire. Then write upon the slip the words that would occur on all the labels. Show this to some local printer and ask him how much per hundred he would charge for the printing and preparation of the same. The name of the plants, date of collecting, &c., could then be written on when the specimens are mounted. This seems to us the best and most expeditious way out of the difficulty. If you desire a recently revised list of names you could get the *London Catalogue of Plants*, ninth edition, from the publishers above mentioned, price 6d. each.

Growing the Water Violet.—*G. C.*: The best plan would be to imitate natural conditions as nearly as possible by submerging the plant in a tank or pond that is not very frequently cleaned out, if that is ever done at all. The plant floats freely in water, or may be more or less entangled amongst decaying vegetation, and that seems to be its favourite condition as to surroundings, as it grows in ditches, ponds, pools, &c., generally stagnant and more or less encumbered with a weedy vegetation, which no doubt supplies the food necessary for the plant. If you have no still pond or tank at command you might well try to cultivate the plant in a tub or bottom of a strong barrel, sunk to the rim in soil in some convenient part of the garden. At the bottom of this you could put some good compost consisting of fibrous loam and leaf mould, which would be of some service to the plant by liberating plant food. Other interesting aquatics might also be grown in the tub, and possibly the association of other plants with it would enable you to grow this beautiful and interesting subject.

Holly Leaves Disfigured.—*R. S.*: The gray or brown streaks on the leaves are due to the work of the larvae or grubs of a small black fly named phytomyza Ilicis, the Holly-leaf fly. As the grubs feed inside the leaves your only remedy is to destroy all the worst of the leaves at least by burning them so as to destroy the grubs before they change to perfect flies during the early part of summer. As they will presently be hatching out, if that operation has not already begun, you should lose no time in picking off the damaged leaves to prevent the flies from laying their eggs in the new leaves about to be developed. Possibly you would be able to pick out the pupae from some of the least damaged leaves. If so, you could best detect their position by examining the underside of the tunnelled leaves. This would, of course, be a tedious operation, more so than the picking of the leaves, so that only the more valuable specimens could be dealt with. The leaves picked off should not be thrown on the rubbish heap, but destroyed by burning to make sure of killing the grubs in them.

Propagating Ligustrum coriaceum.—*R. M.*: The name of this is usually rendered as L. lucidum coriaceum. The shrub grows rather slowly, and to add to the difficulties of the cultivator it is rather tender except in the more favoured parts of this country. Your best plan therefore would be to graft small shoots of it on the roots of young plants of Ligustrum vulgare, that is, the common Privet. This would at least give the young plants the advantage of a hardier root system, and perhaps stimulate the rate of growth slightly. The operation could be performed with greater certainty of success if plants of the Privet were grown in pots and placed in a cool propagating pit where the proper degree of moisture could be maintained till a union has been effected, after which the plants could be hardened off and stood out of doors, or, better still, plunged in ashes where they could grow to some size before being planted in their permanent positions. Shoots could also be rooted in sandy soil in a cool propagating pit, but they grow very slowly as a rule.

Hardy Crinums and their Requirements.—*James Webster*: The most easily grown of the hardy Crinums are C. longifolium, C. Powelli and Powelli album. The two latter are hybrids. If your soil is in any way heavy you must prepare a bed for them in a warm and sheltered border, taking out the natural soil to the depth of 18 in. and constructing a drain from the lowest side or end of the bed to take away any water which may accumulate there. Put in 6 in. of brick rubble to act as drainage and after covering this with turves or something to keep the soil out of the drainage, fill in with rich sandy soil and leaf mould. You can further enrich the ground by mulching it with stable manure during winter. Should the subsoil be sand, gravel, chalk or anything sufficiently open to let the surface water pass away freely there will be no necessity for putting in drainage. In this case you had better take out 9 in. soil and mix some good loam, leaf soil and some well decayed hotbed manure with it. Then take out another 6 in. or 9 in. of soil, removing it altogether to make room for the fresh material.

Late flowering Varieties of Narcissus poeticus.—*A. H. D.*: There are three very late ones if you could really get hold of them, one single and two double. The single one is N. p. recurvus and is often spoken of as the Pheasant's Eye, but that name is applied to several other single varieties of the species. In any case it is the late flowering single variety which blooms in May, keeping on till the end of the month in the cooler parts of the country. The perianth segments are incurved at the sides, by which feature, as well as its lateness and large flowers, the variety may be recognised. The double varieties are N. p. patellaris fl. pl., and N. p. flore pleno. The former has some red in the centre of the flower, while the latter is pure white, resembling a small Gardenia. These two flower into the month of June in the cooler parts of the country and till the end of May in the south if growing in a cool, shady position.

Names of Plants.—*A. G. B.*: 1, Pyrus japonica; 2, Kerria japonica flore pleno; 3, Pyrus floribunda; 4, Berberis Thunbergii; 5, Viburnum Tinus.—*W.S.*: 1, Daphne Cneorum; 2, Iberis sempervirens garrexiana; 3, Scilla nutans alba; 4, Narcissus Jonquilla; 5, Primula capitata; 6, Narcissus biflorus.—*B. J.*: 1, Forsythia viridissima; 2, Dendrobium devonianum; 2, Odontoglossum odoratum; 3, Phalaenopsis grandiflora; 4, Cypripedium villosum Boxallii; 5, Odontoglossum Pescatorei; 6, Odontoglossum ruckerianum; 7, Oxalis nutans.—*D. W. M.*: 1, Adiantum caudatum; 2, Asplenium flabellifolium; 3, Cryptogramme crispa; 4, Asplenium bulbiferum minus; 5, Pteris cretica cristata; 6, Pteris quadriaurita argyrea.—*H. J. J.*: 1, Acer platanoides (the Norway Maple); 2, Populus balsamifera candicans (the female tree).

The Colour of Tulip Keizer Kroon.—*Rustic*: The rosy-pink Tulip, if that is a correct description of it, as seen in Hyde Park, must have been wrongly named, if such a label was placed against it. There must have been a mistake somewhere, as Keizer Kroon Tulip is not rosy-pink in any sense of the term, but orange-scarlet with golden yellow edges. It is certainly a very handsome Tulip and it is possible after all that the label and the plants were right but that the description of the colour given you was wrong. You would do well to remember that Keizer Kroon is orange-scarlet with golden edges.

Communications Received.—Methuen & Co.—J. T.—R. W.—A. R. D.—C. A.—Watts.—T. H. D.—R. A.—Oxygen.—T. W. Dollery.—A. P.—W. A. S.—E. D. M.—A. J.

TRADE CATALOGUE RECEIVED.

DICKSONS, The Royal Nurseries, Chester.—Bedding and Border Plants, Dahlias, &c.

Manchester is contemplating the expenditure of £230,000 on a new park.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

MAY.

13.—United Horticultural Benevolent and Providential Society Committees' Meeting.
16.—Royal Botanical Society Meeting.
21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S Counties Society and Somerset County Agricultural Association at Croydon (5 days).
25.—Royal Botanical and Horticultural Society of Manchester, Whitsuntide Exhibition (25th to 30th).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show; Farningham Rose and Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days).
11.—Bath Floral Fete and Rose Show.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S, Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days).

THE GARDENING WORLD.

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"Gardening is the prrest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, MAY 18th, 1901.

The Editorial and Publishing Offices are now **removed to 4, Dorset Buildings, Salisbury Square, Fleet St., London.**

Editorial matters are to be addressed to **the Editor.**

All other communications and Remittances must be addressed direct to the Proprietors—

HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 21st.—Kew Guild Dinner at the Holborn Restaurant.

WEDNESDAY, May 22nd.—R.H.S. Great Temple Show (3 days); Annual Dinner of the Gardeners' Royal Benevolent Institution at the Hotel Metropole; Bath and West and South Counties Society and Somerset County Agricultural Association, at Croydon (5 days).

SATURDAY, May 25th.—Royal Botanical and Horticultural Society of Manchester Whitsuntide Exhibition (25th to 30th).

"THE BRITISH GARDENER."*—If books on any art, craft, or profession, are a criterion that the subject under notice is in a flourishing condition, then we may take it for granted that gardening is advancing by leaps and bounds, for the books dealing with it have been numerous lately. There has certainly been a demand for gardening books and writers, and publishers are evidently determined to meet the demand. The book under notice, like several others, takes in the whole field of gardening, but though it is a solid volume of 410 pages, including the index, it is evident that all of the topics cannot be dealt with exhaustively, for the literature of gardening is certainly very extensive, the additions to it within the last decade or two having been considerable. No one can now take up all the branches of gardening, so that the material here furnished may supply the wants of a considerable number in the matter of gardening. The author is not unknown in the horticultural world, having hitherto written at least one other book on his favourite theme. In the preface he says that "practical information on every phase or aspect of gardening is its aim and object," and also states that he has treated the subject in a way which will be "easily understood by the inexperienced amateur as by the practical gardener." He does not seem to have taken the water garden into consideration, however, which we think is a mistake, seeing that this style of gardening is much in vogue at present, and Scotland, at least, offers many advantages for the water culture of a very interesting lot of plants, the "land of the mountain and flood" being traversed by perennial streams of running and crystal clear water in every direction. The book is divided into six parts, and the general headings will give a fair estimate of the contents of the book. These are: a calendar of gardening operations, landscape gardening, plants, fruit, flowers, and vegetables, the two latter phases being dealt with rather exhaustively. A chapter on garden implements, and others on soils, manures, hotbeds, glass structures, fungicides, and insecticides come into that portion of the book devoted to landscape gardening.

In dealing with greenhouse foliage and flowering plants, the author arranges the generic names alphabetically, and mentions the more important species and varieties under their respective names. In some respects the arrangement seems somewhat arbitrary, when one, for instance, desires to get information on the Auricula. The show or stage section is unsuited to open air culture, so that to get it in perfection it must be grown in a cold frame or unheated house built on purpose for the accommodation of these dainty flowers. The fine distinctions brought about by the presence of paste on the flower are liable to be broken down or spoiled by rain, thus showing how artificial a creation this favourite of the florist has become, notwithstanding the fact that their wild prototypes or forbears were hardy mountaineers, defying the rigours of winter on the Alps. The alpine Auriculas, on the other hand, being devoid of paste, are not liable to have their finery spoiled, and can therefore be grown in the open air. The reader must pass from the second to the fourth division of the book in order to get the desired information about them. They are in fact relegated to that part of the book which deals with hardy border flowers. The show varieties are described at considerable length, as they are now the object of returning favour after many years of neglect. While giving guidance for the amateur's enjoyment of these flowers at home, he also gives many useful hints for the enlightenment of the exhibitor. This applies to exhibition plants generally, as may be expected of the author of *The Horticultural Handbook and Exhibitor's Guide.* On turning to the fourth division of the book, however, we fail to find that alpine Auriculas have received any special attention, there being merely cultural directions for the hardy border Auriculas. While the alpines might be regarded as belonging to the latter section, they need not, and in fact do not include all border Auriculas either in England or Scotland. For the benefit of the would-be exhibitor of the clearly-defined alpine Auriculas, which alone of the hardy strains are fit for exhibition, a definition of this particularly handsome race might have been given. Border Auriculas also include varieties belonging to the show section though not in the wedding garment as defined by the florist proper. The Dusty Miller, grown on both sides of the Cheviots, is evidence of this fact.

Chrysanthemums, in all their sections, enjoy more space in the book than most other subjects, though Ferns being more numerous in the matter of species, come in for a good few pages, under the headings of exotic and British or hardy Ferns. The two latter terms are not synonymous, though the author sails very close to the wind in that respect when dealing with them. For instance, under Osmunda we read of O. interrupta, O. regalis cristata, and O. spectabilis, and that "these are amongst the best of British Ferns." Only O. regalis cristata is British, and that, in all probability, is entirely confined to cultivation. Orchids are grouped under the more important of the genera, such as the general cultivator might be supposed to take in hand. The specialist is not catered for in this section of gardening, and, indeed, it could hardly be expected, seeing that the subject, if adequately treated from this point of view, would fill the entire book, and then only touch on the fringe of the subject.

Hardy fruit culture comes in for a fair share of attention, and the author, like many modern writers on the subject, would feign raise the hue and cry "let us grow our own Apples and be independent of the foreigner." The large importation of fruit he attributes not to the inability of the British soil and climate for quality of produce, but to the "lethargy displayed by the British public." The dessert varieties of Apples imported are sweeter and more melting than the British article, but devoid of its fine aroma and piquant flavour when properly ripened. The foreign culinary Apples in like manner lack the "sprightly flavour and good cooking qualities." In the matter of stocks for Apple trees we do not admit that the French Paradise is a suitable stock for trees planted in the open ground; it is too dwarfing in its nature to be profitable. The author's cultural directions are, however, generally excellent, and, no doubt, is more applicable to the northern than the southern half of Britain. The paper and printing of the book are good, while a few illustrations are intercalated with the text.

*THE BRITISH GARDENER: A Manual of Practical Instruction in Gardening. By William Williamson, Author of "The Horticultural Handbook and Exhibitors' Guide," and Gardener to J. Home Rigg, Esq., Tarvit, Fifeshire. Methuen & Co., 36, Essex Street, W.C. London, 1901. Price 10/6.

"One Touch of Nature," &c.—M. Gaston Bonnier, a French botanist, tells a story which illustrates the democratic simplicity of the King of Sweden and Norway. M. Bonnier was botanising in the environs of Stockholm, when he met a stranger similarly occupied. The two fraternised, and M. Bonnier suggested that they should lunch together at an inn. "No; come home and lunch with me, instead," said the stranger, and he led the way to a mansion and opened the gate. M. Bonnier's new acquaintance was most apologetic. "I'm sorry," he said, "but I happen to be king in this country, and this is the only place I've got to entertain anybody in." So they went in and lunched and talked botany together all the afternoon.

The Wholesale Fruit Merchants at Newcastle-on-Tyne have been obliged to give up their position at Malmo Wharf. They have presented a petition to the Corporation appealing against it.

Nursery Blaze.—It is not often that we hear of a horticultural nursery burning down, but such an occurrence happened on May 2nd, at Derby, when stock, chiefly Rhododendrons, was destroyed to the value of £1,000. The origin of the fire is unknown.

The Influence of Incandescent Light on Carnation Culture.—An interesting experiment has just been terminated at the Agricultural College, Michigan, to test the effects of incandescent light on plants by having two 32 c.-p. lights alight at night in one half of a house of Carnations, the other half remaining in darkness. After careful observations taken from October 15th to the end of March, it has been proved that the effect of light increases the length of the stems and the size and quality of the flowers.

Register of Nurseries, Market Gardens, &c.—We have just received the May issue of a booklet containing a large number of detailed descriptions of nurseries, market gardens, farms, seed businesses, &c., which are for disposal in various parts of the country. It is a very useful publication, and a useful medium for letting or selling anything connected with agri-horticulture. It is not confined to home sales alone, but extends to the Colonies and foreign countries also. It is issued by Messrs. Protheroe & Morris, 67 and 68, Cheapside, London, E.C.

October Sowings.—The cultural calendars that appear in agricultural papers of Australia at this season of the year furnish one of the best means for impressing on the mind the alteration of seasons between the countries of the southern and the northern hemispheres. For instance, the October calendars advise growers to sow as many things as possible during the month, in order to get the seeds up and well started before the hot, dry weather sets in. Beans, Beet, Cabbages, Carrots, Water Melons, Pumpkins, and Tomatos are mentioned. Thus we can meditate on the co-operation and providence of Nature!

Raffia Fibre. — This universally used tying material is the product of a Palm which is indigenous to Madagascar. It is by no means a stately Palm, but the leaves are a tremendous length, often attaining the length of 40 ft. Each of these leaves produces about 100 pinnae about 4 ft. long. The under part of these peels off easily in strips running from the base to the apex. When this is dried in the sun it changes from the pale green to the straw colour which is so familiar to all gardeners. It is woven into articles of clothing by the natives; who are very clever in this art. The supply in Madagascar is practically inexhaustible, and only scarcity of labour keeps up the price. About 20,000 bales are exported annually.

Reading and District Gardeners at Bucklebury Place.—On Tuesday afternoon last the members of the Reading and District Gardeners Mutual Improvement Association paid a visit to Bucklebury Place, Woolhampton, Berks., the residence of Arthur W. Sutton, Esq., for the purpose of seeing his beautiful Dell Garden, and the other spring gardening on the policies where the subjects grown there are now in perfection. The association numbers over 200, of whom many travelled by train from Reading and other stations, and when all had assembled at Bucklebury Place there were over a hundred in the party. Last year the association organised some half-day summer outings, and the project proved so successful that it was resolved to repeat it this year, the May meeting being arranged for as above stated. The members were under the leadership of Mr. Neve, the chairman. The president of the association, Mr. Leonard G. Sutton, also turned up, and when all had assembled, they were hospitably entertained to a sumptuous tea in the Fireside Club Room, before proceeding round the gardens. After the inspection of the latter, the large party was photographed on the slopes of the Dell Garden by the gardener, Mr. A. Wright, who afterwards read a paper on Wallflowers. What they saw and heard at Bucklebury Place we must give in more detail on a future occasion.

American.—At San Jose, Mrs. McKinley is to be presented with a gigantic bouquet on the occasion of her tour across America. It is to measure 100 ft. in circumference, and is to weigh over two tons.

Size.—An interesting question was brought forward at a recent meeting of the Philadelphia Florists' Club. The controversy was, "What size constitutes a plant, when speaking of herbaceous plants?" It is not a question that can be easily answered. When plants are in pots it is an easy matter to state the size of the pots and settle the difficulty. We think then the only way when it is a matter of buying a plant is to see it first and judge the size of it.

Malaria and Mosquitoes — A writer to the *Journal of the Society of Arts* recommends the use of the "XL-ALL" solution at the rate of eight drams to the gallon as a prevention against mosquitoes. The manner of applying it is to sprinkle a pint of this solution on an old bed sheet. This should then be hung up in the sleeping apartment. The odour of the nicotine and camphor effectually prevents the approach of the mosquitoes. But what about the odour to the occupant of the room?

Sand as a Manurial Dressing.—Many people ridicule the idea of using sand as manure. But it is used in many districts by farmers, with very good results. The two things that must be considered are the sand and the soil. Sand, as a rule, is very slow in becoming available as a plant food, but when it consists largely of shells in a state of extreme comminution it quickly supplies phosphate of lime, a substance which greatly improves heavy and sour soils.

Oenanthe crocata.—This is a very dangerous plant to get into pasture land, owing to its very poisonous nature. From time to time we hear of cattle being poisoned by it. Recently, on a well managed farm in Co. Down, seven bullocks died in one field all showing the same symptoms of poisoning. On the herbage being closely examined by Mr. Moore, consulting botanist to the Royal Dublin Society, it was found that the field contained a quantity of this noxious weed which had been closely eaten by the cattle, thus causing the mischief. The plant much resembles the Water Hemlock, and is known amongst farmers, &c., as Hemlock Water Dropwort.

Prevention of Potato Scab.—The following useful information for horticulturists appeared in the columns of *The Farmer's Gazette*:—"As a result of many experiments it has been found that one of the best methods of checking its ravages is to steep or soak the seed Potatos sometime before planting in a weak solution of formalin. The strength of the solution employed is about half pint of the formalin to 15 gallons of water. Potatos soaked in such a solution for two hours and then allowed to dry by evaporation before being planted are found to enjoy almost complete immunity from scab even when growing alongside of others badly infested with the disease."

Croydon and District Horticultural Mutual Improvement Society.—A very interesting paper was read before this society recently by Mr. Percy Bunyard, entitled, "Gardeners' Feathered Friends and Foes." He contended that the amount of harm done by birds in the garden was infinitesimal as compared with the large amount of good which they did. He thought a garden without birds would be like a garden without a Rose, and condemned the ruthless destruction of them. He owned that the thrush, blackbird, and starling undoubtedly wrought great havoc with the fruit, but this was fully compensated for in the good they did by destroying injurious insects; and if their good and evil deeds were fairly balanced one would find a great preponderance in their favour. The chat family he mentioned as being among the most useful, as their food consisted of flies, beetles, slugs, caterpillars, small snails, &c. The lecturer did not speak very favourably of the sparrow. He said its food included everything that was eatable. The bullfinch, he thought, was the worst enemy, but even it was not so black as it was painted. Amongst those which indirectly took an active part in the garden, he mentioned the owl and hawk. The lecture was splendidly illustrated by lantern slides, taken by Mr. R. B. Lodge, Enfield, a well-known photographer of bird life.

Old Farmer to His Son.—"Now, don't fergit while ye're in the city to git some uv them 'lectric light plants we heern so much about. We kin jis ery well raise 'em ourselves an' save kerosene."—*Irish Farming World.*

Royal National Tulip Society.—The conference and annual southern exhibition of this old society, which was founded in 1849, will be held under the auspices of the Birmingham Botanical and Horticultural Society, on Thursday, May 23rd, 1901, in the Botanical Gardens, Edgbaston, Birmingham. There are fourteen classes in all, which ought to provide a good show.

National Sweet Pea Society.—The schedule of prizes and regulations for exhibitors for the first exhibition and fair of the above society is now out. The classes are very numerous and the prizes offered very substantial. Decorating with Sweet Peas and light foliage forms a large item in the schedule, there being no less than seven classes. It is to take place on July 25th and 26th at the Royal Aquarium, Westminster.

Gathering Figs.—Figs, unlike many other fruits, do not become sweeter after picking; they should, therefore, be left on the tree until quite ripe. When a fig is fully ripe it hangs down, becomes very soft, and its skin cracks in lines running from apex to base. They should not be bruised or they decay immediately. When gathering, it is best to cut them off, so that they are not injured by the pull. When fully ripe, a fig contains fifty per cent. by weight of pure sugar.

Temple Show.—This great horticultural event of the year is almost on us again, and gardeners from all parts of the British Isles are making preparations for a visit. It is well patronised by Continental gardeners, and some of the most distinguished horticultural men of the time are to be met during the three days of this colossal exhibition. It is held in the Temple Gardens, facing the river, midway between the Temple and Blackfriars stations (District Railway). By kind permission of Colonel Lord Binning, the band of H.M. Royal Horse Guards (Blues) will be in attendance, so that by the aid of a first-class firm of caterers all the senses may be gratified, both smelling, hearing, seeing, and tasting. On the first day, May 22nd, it opens at 12.30, on the other two days at 9 a.m. For further particulars see advertisement columns.

The "Hurst & Son" Musical Society.—This society gave their last concert of the third season, which took the form of a "Smoker," at the London Tavern, Fenchurch Street, on Wednesday, May 8th. A good number of members and friends were present. The chair was occupied by Hugh Aiton, Esq. (in the unavoidable absence of the president, N. N. Sherwood, Esq.). A capital programme was arranged and carried out without a hitch. The orchestra opened the proceedings with a spirited march. Mr. D. Fairley followed with a fine rendering of the serenade, "I Arise from Dreams of Thee." Messrs. T. A. Baldwin, J. E. Dixon, Arthur Cox and V. F. Cummins were heard to advantage in their respective songs. Mr. Baldwin, in response to an encore gave "A Jovial Monk." Mr. R. C. Tucker's character recitations were given in a manner which merited the hearty recall this gentleman received for "The Three Parsons" and "Geese." Mr. Frederick Wimble's piccolo solo, "The Wren," a somewhat difficult piece, was rendered in capital style and gained a hearty recall. The selection from "Maritana" by the orchestra was given in a manner which merited the hearty applause of the company. The humorous element of the evening was in the capable hands of Mr. Harry Briden and Mr. Alec Meade, the former's song, "The Ballymoney Conversazione," followed by "The Story of a Tin-tack," and Mr. Alec Meade's "My Next Door Neighbour's Garden," "The Old Dun Cow" and a parody on "Daddy," kept the audience in good humour. Mr. Bentley-Green's ventriloquial efforts were a great feature of the evening and his imitations on the concertina were very effective. A vote of thanks to the chairman brought a very pleasant evening to a close with the National Anthem. The committee are to be congratulated on the success of their efforts, not only on this occasion, but the previous concerts during the season.

Cricket.—Hurst & Son C. C. v. St. Mildred's, played at Walthamstow, Saturday, May 11th, and won by Hurst & Son by nine wickets. Score: St. Mildred's, 57; Hurst, 72 for 1 wicket.

Daphne Cneorum in a Station Garden.—Some people seem to consider this a difficult subject to grow, and occasionally plant it in peat, when they take that risk in hand at all. It seems to me that a friable loamy soil and a cool bottom will meet all its requirements. A fine patch of it has been flowering for some time past in the small garden at Shepperton station, where it is regarded with great favour. No special treatment is given it, except that it has been planted on the north side of the garden fence and may be slightly shaded during the early part of the day. —*P. C.*

Spiraea prunifolia flore pleno.—Gardeners often speak of this as a fine thing, though many of them only know it as such by repute. There seems to be an impression that it is tender, and it is often planted against a wall to protect it. The result is that the flowers open too early in some seasons and get injured with the frost and cold winds of March and April. This year it has flowered splendidly in the garden at Shepperton station. Here it forms a free growing bush in the open, every arching branch being covered with a mass of white blossom. I fear also that the pruning, nailing and tidiness supposed to be necessary on a wall causes a great deal of the flowering shoots to be destroyed.—*P. C.*

United Horticultural Benefit and Provident Society.—The monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last. The chair was taken at 8 o'clock by Mr. C. H. Curtis. The minutes of the last meeting were read and confirmed. Messrs. Pollett's tender for printing agenda forms was accepted. Ten new members were elected and three others nominated. The secretary announced the death of Mr. Michael Davis, and it was resolved that the amount standing to his credit in the books of the society, viz., £55 0s. 8d., be paid to Mrs. Davis, and that a vote of condolence be also sent her. The sum of 7s. per week from the Benevolent Fund was granted to Mr. H. Saunders (No. 14), until his case demands further consideration. Mr. G. Clinging was granted 10s. per week for three weeks from the Convalescent Fund, for change of air, in addition to his sick pay. It was resolved that 1,000 copies of the rules be estimated for, and submitted to the committee at the next meeting.

Journal of the Royal Horticultural Society.—Vol. xxv., Part 3, of the R.H.S. *Journal* contains several very interesting chapters on various horticultural topics, including a concise history of the society from the time it left South Kensington and started on its present more energetic career. Several chapters relate to the cultivation of various subjects abroad, and will no doubt prove serviceable to those interested in the same. The account of the fruit show at the Crystal Palace last autumn will serve to put the matter on record for those preparing for the next contest. Chapters on Figs in pots, mistakes in orchards, the Black Currant Mite, mistakes in fruit culture, and heating and ventilating of hothouses, will all appeal more or less directly to gardeners in various parts of Britain. There are also some interesting papers on several phases of the scientific side of horticulture. We refer to such articles as "The Law of Separation of Characters in Crosses," "On Crosses with Dissimiliar Heredity," "Fumigation with Hydrocyanic Gas," "Cherry-leaf Disease" and "Meteorological Observations at Chiswick." The reports on the various trials at Chiswick should also be of service to gardeners and cultivators in general, if for nothing else than the descriptions of the various plants on trial, and which serve to show the leading characteristics of the respective varieties, thus giving the readers an opportunity of selecting for themselves what will suit their own requirements. The fumigation of plants with hydrocyanic acid gas is more practised in America than in this country, for the purpose of destroying insect pests; but the description of the method of proceeding to work will enable the practice to be taken up more freely by cultivators in this country, with a view to combatting plant enemies.

Cup for Daffodils.—For some time past Mrs. R. O. Backhouse, of Sutton Court, Hereford, has been very active in the cultivation of this popular class of plants. She also makes a point of getting new, rare and choice varieties. At the recent Manchester spring show she won the cup in the Amateurs' Class for thirty bunches of Narcissi.

Gardening Miscellany.

APPLE EDGAR.

The fruit of this new variety of Apple bears a close resemblance to Cox's Orange Pippin, which was indeed the pollen parent. The seed bearer was Cornish Aromatic, so that two Apples of first-rate quality were concerned in the production of this new Apple. The size is very similar to that of Cox's Orange; while the skin is russety and shaded with red in places. The flesh is yellowish-white, soft and pleasantly sweet like that of Cox's Orange, but without its aroma, at least in the latest stage of its ripening. The fruits towards the end of March become soft and slightly shrunk just in the same way as the last named when exposed for some considerable time to a dry atmosphere. In a properly appointed fruit room the sound and perfect samples could no doubt be kept good to the end of April at least. In any case the variety makes pleasant eating, and when properly tested may prove to be a useful variety for dessert purposes. It was raised by Mr. Charles Ross, gardener to Captain Carstairs, Wellford Park, Newbury, Berks, who has raised several fine varieties within recent years.

BRUNFELSIAS.

The merits of these beautiful stove shrubs are not sufficiently known or they would be more extensively cultivated. They produce their large blue flowers in the autumn and spring in great profusion. They do best when planted out, as they seem impatient of cramped roots. They delight in a light, rich soil and a moist atmosphere. They are easily propagated by cuttings which should be inserted in sand and placed under a bell-glass in a moderate heat. Pruning should be accomplished just before they make their new growth to keep them compact. Whilst growing they require a very moist atmosphere, but after growth is completed they should be subjected to drier atmospheric conditions to ensure the new wood becoming well ripened. The genus takes its name from a Carthusian monk named Otto Brunfels, who published the first good figures of a species of Brunfelsia as long ago as 1530. Sometimes it is known as Franciscea.

CYCADS.

The plants of the interesting order Cycadeae, says Dr. Masters, are actually the same now as those that existed when the world was young. They create a large amount of interest, but not so much as if some of the antediluvian beasts which rambled amongst them then could be found and exhibited with them, especially such beasts as were represented at the Crystal Palace as belonging to that age.

BULBS.

Year by year flowering bulbs are becoming more popular. They make a very effective display all through the winter at a comparatively small cost, and require very little attention. They are invaluable in establishments where large quantities of bloom are required, for the majority of the spring flowering bulbs will bear hard forcing and can be had at almost any time of the year. What can surpass the Roman Hyacinth for purity and fragrance in the depth of winter? They are in great demand for Christmas decorations. To obtain them at this season they must be potted up the last week in September, placed in a batch and covered by a few inches of sifted ashes. They will immediately start to make roots, and by the time they are required for placing in the forcing house the pots should be well filled. In this manner a succession may easily be kept up. As they start into growth at the top, they should be removed from the ashes and stood in a cool house only just protecting them from frost. They can then be pushed on as required by placing in warmer houses. Double Hyacinths will not stand the amount of forcing that the Romans will bear, for if hurried along too quickly they do not produce a robust growth. They should be potted in September and then brought along gradually. Water culture is very popular with Hyacinths, as the roots form an attractive feature. Narcissi, especially the single forms, may be grown in water also. They are more often grown in a bowl filled with stones and water, after the Chinese style, than in glasses. When they are grown in water care should be taken that it is frequently changed.

SPARROWS.

Europe possesses four distinct species of sparrow, viz., the house sparrow (Passer domesticus), the Italian sparrow (Passer Italiae) and the Spanish sparrow (Passer hispaniolensis). It is found in most temperate countries in the Old World, and wherever it is found we think it is safe to say that the agriculturists could do without it. Many people of a sentimental turn of mind are raising an outcry against the wholesale slaughter of the vermin. They contend that it does not do so much harm as it does good, and that it is a mistake to consider it destructive as it is almost omnivorous.

It is evident that these people do not write from a knowledge of the subject, or from investigations which they have themselves made, but assume that all animals, &c., are created for the express use of man. These people who pray for the protection of the sparrow would not hesitate to kill a mouse, or a rat, or a cockroach, therefore it is unreasonable to expect a farmer to withhold his hand when sparrows are doing damage to crops often amounting to thousands of pounds. It is often stated that sparrows feed on the eggs and grubs of cockchafers and on the mature insects themselves. One has only to consider the habits of the two and it is soon found how ridiculous the whole theory is. Dealing with the eggs—these the female generally carries about with her in a case; next, the grubs inhabit the ground and the sparrow is not a bird adapted to picking in the soil; and finally, cockchafers do not leave their haunts until after dark and the sparrow is by no means a nocturnal bird, being one of the first to go to roost.

Another old excuse brought forward in favour of the sparrow is that whenever the pouch of a young bird is examined it is always found to contain only insect substances. The statement is true enough, for sparrows feed their young exclusively on soft food which is generally of an insect nature. It can hardly be expected that a parent bird would feed her young on hard grain. Unfortunately it increases more rapidly than most other birds and if left alone for a few seasons it absolutely swarms. They have a peculiar liking for Crocuses and Primroses and complaints are being made more this year than at any time about the wholesale destruction. They also evince a special taste for green Peas when the pods are full, or before that.

As man travels and opens up new agricultural districts so the sparrow follows and annoys him. American farmers are suffering extensively through their enormous increase. It is not a native of that continent but was introduced by colonists, and the result has been about the same as that in Australia when someone introduced rabbits. Not only is it very destructive to crops but it drives away many birds that are purely insectivorous. The martins seem to be persecuted more than any others, being turned away from their nests as soon as they have completed them in many instances, and their place taken by the marauders. If one is killed it will mate again often within the hour; they will often mate three or four times if either are destroyed.

ROSES.

It is curious to note that there are no yellow Roses in the bedding section. For the best yellow Roses we must go to the climbing Teas, or Maréchal Niel, one of the most beautiful of all Roses, and a Noisette to boot. It would be a great acquisition, however, if we could get a robust, free-flowering yellow bedding Rose after the style of La Fraicheur. What a splendid contrast would a bed of this crimson variety and a similar growing yellow Rose make! Some of the Teas, such as Medea, Marie Van Houtte and Mdme. Hoste may be selected as the best yellow

out-of-door Roses we have that in any way answer for border culture. Even here, however, it is only in the most sheltered sites and on the best, well-drained loams that these can be expected to exist and flower well. Once the Teas have become established in a certain soil, they thrive most wonderfully, so that is well to make the fullest and best preparations possible. Isabella Sprunt is more robust, and Amazone, or Etoile de Lyon, are in most cases fairly successful out-of-doors.

The beautiful Mdme. C. Guinoisseau is one of the finest yellow Roses that one could name, for open-air work. Maréchal Niel, which has been already named, is far hardier, I think, than many people will believe. It is successfully grown, I have heard, by Messrs. Croll, of Dundee, and even pruned in the open-air in their nursery, during the month of February, if the season is mild. Frequently, branches of indoor plants of Maréchal Niel are allowed to grow through the ventilators of the house in which this Rose is planted, and such branches have wintered well in their exposed condition. Other good yellow Roses that receive considerable attention are Mdme. Eugène Verdier, Celine Forestier, Belle Lyonnaise and Le Soleil. Besides these Roses for borders and walls, the Austrian Briers, Harrisonii and Persian Yellow, should not be overlooked. Austrian Yellow is another good sort. What is wanted is a cross with some of the best yellow Teas, H. Teas and Noisettes with the robust Hybrid Perpetual Roses. Again, too, what about the climbing polyantha class? We have Aglaia or Yellow Rambler, as it is called, but we want also a Rambler like Turner's crimson variety. There is yet a wide field open to growers of Roses, and the Rose growers are quite wide-awake.—*E. N. V. R.*

BROMELIADS.

One hears of Bromeliads, but outside of botanical gardens very few plants of this genus are ever seen. True, the Tillandsias find a fair acceptance and Ananasa sativa variegata may also be found in the generality of stoves, but for a genus so striking and picturesque, and so interesting, not forgetting their usefulness as floral receptacles, a little more might be known of them. The Bromeliads, like the Aroids, are most of them purely tropical, inhabiting the forest regions of the Amazon where they form quite a feature of the vegetation. Many of the species are terrestrial and as such they are cultivated in pots in our stoves. They readily adapt themselves to an epiphytic form of existence, and at Kew for instance many of the Bilbergias are grown upon the pillars of the Mexican house, in cork bark pockets.

In their forest habitats many species have become purely epiphytal, and as they have a grand adaptation for seed distribution they are able to spread and grow luxuriantly. It is said that they surpass the Orchids in the number of individual specimens to be found, though there is a greater variety amongst the Orchids. There are some forty genera of Bromeliads with about 400 species. The plants have a markedly characteristic rosette arrangement of the leaves, which are fleshy in a great many genera; sometimes rigid and spiny as in the Pine Apples, and all clasp the stem with their base, usually forming a hollow arrangement in which water collects.

It is this adaptation that has afforded the enterprising American florists a subject which they use as a floral receptacle. In their native environment these hollow-like axils become clogged up with decaying debris in which certain small insectivorous plants, as for instance, Utricularia, live. The roots of these epiphytal Bromeliads do not draw much support for the plant. Water seems to be the chief medium of nourishment, and this is absorbed into the leaves through the action of peculiar scaly hairs at the base of each leaf. A species of Tillandsia T. usneoides *L.*, however, has a totally different structure, but the foregoing describes the general characteristics of the order. The flowers of the different genera, especially Puya, Tillandsia, Pitcairnea, Bilbergia and Bromelia, are very conspicuous. They rise in scaly spikes straight from the centre of the plants, and are variously bright coloured. Bromeliaceae, according to Wittmack's classification, is divided primarily into four sub-orders, as: (1) Bromeliae; (2) Pitcairnieae; (3) Puyeae; (4) Tillandsieae.—*B.*

ARABIS LUCIDA AUREA VARIEGATA.

This is unquestionably the prettiest and most durable gold variegated dwarf hardy plant in existence. I know it fails with many who admire it, and after a few years slips away, in spite of rich soil and *too much* attention. It likes a solid loam, not rich, where it should be allowed to remain for several years. It must have its flower stems removed previous to seed production; an operation best performed in early morning, with a sharp knife. This Arabis may be propagated in September by division. This note is prompted by a reply to "T. R.," in The Gardening World, of April 6th, p. 508, where he is told of some beautiful plants for his "Carpet bed of hardy plants." Should his eye catch this, he will find Arabis Lucida aurea a charming subject to blend with those there named.—*Ulsta.*

PROPAGATION OF FICUS ELASTICA.

Having a plant of the above which had grown too tall to be of any use, I determined to propagate the same by stem rooting. I took the top of the plant off first, put it in a thumb pot and plunged in a good bottom heat. I then proceeded to cut the stem nearly half way through, about 1 in. below each leaf and put a small pebble in to keep it open. I proceeded, in the same manner, with fifteen of the leaves. After cutting each leaf, I bound the slit and the stem with sphagnum moss and placed in one of the vineries we had started. The plant was syringed thrice a day to keep the moss damp. In about a month's time roots were seen coming through the moss and I took the young plants off. The operation was a complete success, and I have now fifteen nice young plants coming on. It is a much easier method than taking eyes of the above and does not entail as much labour.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

FORCING FRENCH BEANS.

The forcing of these Beans is a very simple and rapid way of getting a good crop. Little trouble need be taken as regards the crocking and cleaning out of the pots, as they only require a constant damping with the syringe. Large sized pots are preferable to the small, say, 8-in., which should be filled to within 2 in. of the top with a mixture of loam and mushroom manure in equal parts. The soil should be pressed firmly to promote a strong growth. The Beans may then be laid carefully on the top, putting about ten in an 8-in. pot, and then the fine part of the soil should be obtained and the pots filled to within 1 in. of the top, pressing the soil loosely with the finger-tips apart, thus enabling the soil to settle between the Beans. Start them with a bottom heat of 70° or 75°, and when they attain the height of 6 in. stake them carefully, putting the stakes between the growing Beans, as the roots will get easily damaged in their young state. When they have reached the height of about 8 in. no more bottom heat will be required, but a house temperature of 60° or 65°. Constant syringing should be given to prevent attacks of insects. Progress and Ne Plus Ultra are two good kinds.—*G. W. D.*

TWO USEFUL BEGONIAS FOR WINTER FLOWERING.

Among the many fine varieties of Begonias for winter flowering, Gloire de Lorraine, and Glorie de Sceaux stand first, producing their beautiful pink flowers in such profusion in mid winter. Those who have not already started propagating these, should do so at once. As soon as cuttings are obtainable they should be taken.

It is well in preparing the cuttings to remove the scales at the base of the leaf stalk as they often decay and cause the cutting to damp. Insert them in fine soil composed of peat, loam, and leaf soil, with plenty of sand. Place the cuttings in a warm propagating pit, leaving on a chink of air to allow superfluous moisture to escape. Do not damp overhead too often. As soon as the cuttings are rooted remove them to the stove.

When they are sufficiently rooted, they should be potted singly in 3-in. pots using light soil.

When ready for another shift they should have 5-in. pots using a mixture of loam one part, peat and leaf-soil one part, and enough sand with a little charcoal added to keep the whole porous.

Well crock the pots and pot moderately firm. By this time a heated pit where they can be kept close to the glass will suit them.

When well rooted give occasional manurial waterings. Pinch out all flowers until autumn, when they should be taken to the stove to flower. There is a white flowered variety of Glorie de Lorraine which is very effective.—*E Brown, The Gardens, Nostell Priory, Wakefield, Yorks.*

GLOXINIAS.

The two best ways to propagate Gloxinias are sowing seed or by leaf cuttings. Sow the former in February in pans of light soil, equal parts of peat, leaf mould and sand, cover the seed lightly and place on a brisk bottom heat of 70°.

When the seedlings appear prick them off, eight or ten in a 5-in. pot, replace them on the bottom heat; and shade from direct rays of the sun. Pot them off singly when large enough and flower in 4½-in. pots. The same kind of soil as prescribed for the seedlings, adding a portion of fibrous loam, and not potted too firmly, should produce some good specimens. By an occasional sowing, a succession of bloom may be obtained from March until September. Take leaf cuttings when the plants are ripening, with a portion of the leaf stalk attached; insert in the same kind of soil as above.

When the plants have finished flowering, gradually diminish the supply of water, discontinue shading until the foliage is dried off, then store them in a dry shed in the pots in which they have grown A few may be started in January. Shake out the old soil and do not over-pot them, and the crown of the tubers should be on a level with the surface of the soil. Little water will be needed until growth has commenced. Pot on as required and put them on a shelf in the stove near the glass. Give plenty of light, and sturdy plants with strong flowers will be the result.—*G. B.*

GREVILLEA ROBUSTA.

The other week a correspondent wrote of the difficulty of raising these elegant plants from seed. I have never experienced the least trouble to raise a full supply every spring. I sow in 5-in. pots about the middle of February, give a gentle watering, and cover the pots with a square of glass, place in a close case, and in about four weeks the plants begin to appear. I prick them off into small pots as soon as the first true leaf is formed. A shift into 4-in. pots serves for the first season. It is wonderful how well the Grevillea thrives in very small pots. This is a great advantage, as no plant is better suited for dinner table decoration, where small pots are so often necessary. I have heard that the nurserymen receive fresh seeds of this plant in March, so those who have any difficulty with raising these plants might procure their seeds at the beginning of April, and may have better luck then. Here is a wrinkle in the cultivation of the Grevillea that I do not think is much known. When kept for two years the plants get very "leggy" and unsightly. Too many then fling the plants away as useless. This is wrong. All that is required is to cut it down to about 2 in. from the soil, and in a short time it will break and quickly grow into as handsome a plant as a seedling would make. This may be repeated every time the plant gets too big, with the very best results.—*C. Blair, Binny, Uphall, N.B.*

THE PALM HOUSE, KEW.

So much is written in the horticultural papers about this famous house and wonderful collection of plants that one would expect the supply of matter would eventually give out. In spite of this publicity, however, there is, at all times, and at all seasons, something about the house that renders a visit interesting and enjoyable. There is always some new charm to be seen, some new feature developed. During the past winter the plants have all been re-arranged and a great improvement has been obtained in the general effect. It has been found necessary to cut down many of the large Palms, and several of the tropical Dicotyledons in the Cycad end.

Cocos plumosa has been cut down and replaced by Hyophorbe indica; the giant Sugar Palm, Arenga saccharifera, has been replaced by Pandanus Lais; Archontophoenix Cunninghami (Seaforthia elegans) has given place to an Arenga saccharifera; the graceful Caryota has also been removed and a Prichardia pacifica planted in its place.

The beds have been arranged in such a manner as to allow of two more walks through the house from end to end. Visitors will appreciate this much required improvement, as it will obviate much of the uncomfortable crowding that is often experienced in this house on Sundays and other days when there are many people about. A much better view of the specimens is also obtained, as they can now be seen from the underside, whereas before they could only be seen from the outside, in the form of a bank. Pots for the large specimens have almost entirely been dispensed with and have been replaced by neat teak tubs, which must have necessitated a tremendous outlay of money, and a large amount of labour to change the enormous quantity of plants from pots into these. One does not expect to find a large amount of bloom in a Palm house, but here there is nearly always something attractive in bloom. At the present time there is a large number of Crinums and allied plants in bloom. The beautiful Crinum asiaticum, a native of tropical Asia, and introduced into this country about 1732, is producing magnificent umbels of bloom, which focus the attention of everyone who passes up that side of the house. The variegated variety is also in bloom. The flowers are not so good as those of the green one, but the foliage is very conspicuous. C. Moorei is also producing a profusion of blooms. This is really a greenhouse species, but it seems to thrive well under the warmer conditions. It is a magnificent species, having large funnel-shaped flowers, which are faintly tinged with red. It was first introduced from Natal in 1874. C. podophyllum magnificum has been in bloom but has passed its best. It is a beautiful species, and one that is rarely met with. It delights in a high temperature, being a native of Old Calabar. The flowers are borne in umbels of two, and are of a beautiful white, tinged on the outer side with green. It was introduced in 1879. C. pedunculatum is bearing some tremendous umbels of flowers. It is a species perhaps more common than the others, but none the less beautiful. It is a native of Australia and will thrive well either in the stove or greenhouse if given generous treatment.

There are many Palms in fruit, including Sabal blackburniana. Astrocaryum Malybo, Synechanthus fibrosus, which has a cluster of bright red fruits; Wallichia densiflora has a cluster of fruit lying down on the surface of the soil; it is a very interesting genus, only containing two or three species. The Cycads look much happier where they are now, dispersed amongst the other plants, than when in a heap in front of the door, looking as though they had just been turned out from somewhere and thrust there in a hurry. Many of them have produced new fronds, and look the picture of health and vigour. Encephalartus Fredrici-Guilielmi looks magnificent, having thrown up forty new fronds which are just falling into their positions. Sterculia neo-caledonica has some pretty racemes of bloom, the scent of which pervades the surroundings for a considerable distance. It blooms on the old stem, the flowers lasting a long time, and gradually getting lighter in colour as they get older, and also changing their perfume. Clavija ornata is in bloom close by, also producing its flowers on the old stem.

Gnetum Gnemon is also in fruit. This is one of the few leafy Gymnosperms, and we believe this is the first time it has been known to produce fruit in this country. Carapa guianensis is making a striking display with its young fiery coloured foliage. It is found both in South America and in West Africa, where it makes the forests a blaze of colour when growing. Saraca indica is a mass of bloom and comes in for a lot of admiration. The first Passifloras of the season are just opening, and are draping the somewhat bare roof with their graceful branches. Coffea arabica is just ripening a heavy crop of berries and creates a lot of interest. Anthurium scherzerianum is making a bright dash of colour in a small bed near the side door. The curious spathes and spadices cause much amusement to the amateur visitors, but they are also greatly admired for their brilliance. The stages are looking better than they have done for some time; they have been embellished by a few Codiaeums, &c., but a house of this height is not adapted to the culture of small plants, as they are so far from the glass, and often overhung by their larger neighbours, and only seem to linger out a miserable existence until cut down by the friendly knife and consigned to the rubbish heap.

THE FLOWER GARDEN.

"Doing things in good time is the main secret of successful gardening." These are words from a work by Alfred Austin, Poet Laureate, and no truer expression was ever made by professional or amateur gardener. There are many things which require doing at the same time, in the spring, and it is difficult to decide which shall receive attention first. One that demands first attention is the thinning and transplanting of annuals, for with the warm sunny weather they are growing vigorously and soon crowd and struggle for life if left too long.

Mignonette.—An old favourite in the garden is Mignonette. It does best if left almost entirely to itself. A good position for it is on the Rose border. Here it gets plenty of good soil and a supply of water in the dry weather, that is, if the Roses are carefully attended to. When once established in a good soil it will require no more attention for years, beyond watering occasionally, as it is a favourite of bees and seeds freely. No better groundwork can be obtained for covering the bare ground so often seen under standard Roses. It does not take much nutriment from the soil and helps to protect the Rose roots from the heat of the sun. Growing wild, it is generally found in chalky districts and to grow it to perfection as a special plant in the flower garden a light chalky soil should be provided for it.

Fritillaria imperialis.—These beautiful old fashioned flowers are now coming into bloom. They were introduced from Persia as long ago as 1596, and mentioned by Shakespeare in his "Winter's Tale":—

"The Crown Imperial; Lilies of all kinds,
The Flower de Luce being one! O, these I lack,
To make you garlands of."

They were very popular then, but have now been crushed out of many gardens by the craze for new plants. It cannot be because they are not beautiful that they have been neglected, for they rank amongst the best of the early spring plants on the herbaceous border. When once they are planted they resent any interference with their bulbs for several years. This must be borne in mind when planting them. The ground should receive a good application of manure when it is being prepared for them so that it does not soon get exhausted. They have been greatly improved during the past few years and seem once again to be coming back into public favour. There are many shades to be seen now that could not be found twenty years ago. One variety has beautifully gold striped foliage and makes a conspicuous plant in the early part of the season. They require a sunny position but must not be in too dry a soil.

Sweet Peas.—This bids fair to be very soon one of fashion's favourites. Certainly one cannot wish for a much more graceful and varied hued flower, either when cut or when growing. It makes a useful and pretty screen to hide the borders from the vegetable garden when fruit trees are not employed. There is an endless variety of shades to be had, and year by year they are being improved in some way. So great has the enthusiasm become that a National Sweet Pea Society has been formed. They require a light, deep, rich soil, and a light, open position. When blooming care must be taken to remove all the old blooms as they fade, and not allow them to stay on the plant and seed, for if this is allowed the flowering season is greatly shortened by the seeds demanding all the nutriment the roots can supply. If they are well supplied with water a good supply may be obtained throughout the summer.

Chrysanthemums.—These form a useful addition to the flower border in the autumn, and must be carefully attended to during the hot dry weather, for failure is sure to follow any neglect in this direction. A great help will be given to the plants if a little nitrate of soda is pricked in round the roots when they are making active growth. They must not be fed too much or they will produce nothing but rank growth. The condition of the plants must be the guide.

Hollyhocks.—For making an elegant background to the flower garden, there are not many plants to beat the Hollyhock. It can be obtained in a variety of colours, from pure white to deepest crimson. They should be planted out now into well prepared soil. It must be deeply dug, light, and rich soil which they are put in if they are to do well. They look nice when in a row, but look much better if they can be planted in a clump somewhere where they will not be crowded, for if they are the dreaded Hollyhock disease is almost sure to attack them. If in an exposed position they must be securely staked.

In ordinary seasons the tender bedding plants and Dahlias would be safe out in the beds, but this year we are a week or two behind with everything, and it is not safe to trust them out yet, especially in low-lying gardens.—*P. R.*

Kitchen Garden Calendar.

The recent rains have done the garden good, but the cold winds accompanying them have somewhat checked the growth of tender vegetables.

Cauliflowers.—The earliest batch of these should now be consigned to the open ground as soon as possible, giving them plenty of room and a good soil.

Brussels Sprouts.—The strongest plants of these also ought to be got out now without delay.

Celery.—Prick out the young plants into nursery beds in a sheltered position, or even in frames if the same can be spared, and prepare the trenches for them.

Lettuces.—The ridges of the Celery trenches make admirable positions for Lettuce plants. A row should be sown about half an inch deep and the thinnings planted in any vacant positions between rows of Peas, &c., or on a warm fruit border. When planting crops on a fruit border only those should be grown that are dwarf, and those that will not exhaust the soil to any serious extent, for it is unfair to expect a fruit tree to thrive where its roots are intersected by the roots of other rank growing plants which rob them of the nutriment.

Runner Beans.—The main crop should now be sown, and those that are up should have the soil gently drawn up to their stems to prevent them falling over. The early Dwarf or French Beans sown on the borders should be ready for thinning by now; 6 in. to 9 in. should be allowed between the plants.

Vegetable Marrows.—Too often ground is wasted on these when it could be better occupied by other things. I do not mean that Marrows are not worth growing, but they occupy a lot of room on the soil when they might be grown much better on an old manure heap. It is a mistake to sow them too early, as they only have to stop in their pots and starve if the weather is cold. When they are planted out it is a good plan to place a bandlight over them and take off the top during the day, or they may get nipped by a late spring frost. When grown on a ridge or bank of manure they require a large amount of water in the dry weather, as it so soon drains away from them. As soon as the fruits get a serviceable size they should be cut; this helps the others to swell.

Peas.—Another batch may be put in for late use, and carefully attended as to watering, for if allowed to get dry they often go off.

Turnips.—Sowings for late summer use may now be made. The earliest batch should be thinned as soon as they are large enough.

Radishes.—These should be sown on light, well prepared soil at intervals, to keep up a succession. They should be given every inducement to grow quickly, as when they grow slowly they are generally pithy and rank.

Carrots.—Sowings of these for the main crop should be made at once if not already done.

Cabbage.—Those for winter use should now be sown. The others may be planted out as soon as fit, either on to special ground or between the rows of early Potatos.

Asparagus.—Keep this closely cut, taking care not to injure the crowns. Asparagus beds seem well adapted to all sorts of weeds, for they seem to flourish there better than anywhere, or perhaps I ought to say worse than anywhere. If they are taken in hand early they may be kept down, but if once allowed to seed, there is always a difficulty in eradicating them.

Leeks.—A sowing for the late crop should be made now to be planted out on the ground, previously occupied by early Potatos. The early crops should be planted out now in open positions.—*K.*

The Bird Cherry (Prunus Padus) is becoming popular as a lawn tree.

Hints for Amateurs.

SALADS.

We are not like our neighbours across the Channel—a salad-eating nation; doubtless it would be better for us if we were, as far as our health is concerned. In England the majority of amateurs who conduct their own gardening operations do not often indulge in the luxury of salads, from the simple reason that they are deficient in the knowledge of how to produce the ingredients. Salads supply the frame with many elements that are essential for the preservation of good health. This week I shall enumerate a few of the principal plants, and endeavour to give a few hints on their cultivation. Lettuce, Onion, Mustard and Cress, Cucumber, and Tomato, form the chief basis of all good salads.

Lettuce.—With the amateur as with the professional salad grower, these form the chief ingredients for summer salading. Lettuce will not thrive in poor soil, neither should they be planted where they will receive any shade, but in a position exposed to the full sun for as long as possible. There are two divisions, the Cos and the Cabbage. The Cos seems a general favourite when in a large state, but the Cabbage Lettuce is useful; even when quite small, the thinnings from the seed bed, when washed, are very tasty. For early crops they should be sown in boxes and pricked off into a warm border, and protected from severe cold. The best method is to sow them in drills, and then thin them out to the proper distance, as when transplanted they often have a tendency to run to seed, especially the Cos variety. As soon as they reach a good size they should have their tops tied with a piece of string or bast, but not too tightly; this enduces them to produce a better heart than when left to themselves. Where they are to be grown, especially the seed bed, the surface of the ground should have a copious dressing of soot and lime to prevent the depredations of slugs, &c., which always have a special liking for the tender young leaves of Lettuce plants. For early use there are none to beat Early Paris Market in my estimation, either for earliness, flavour, or easy cultivation. Before planting out Lettuce, the ground should be deeply dug, and if poor, enriched with a dressing of well decayed stable manure.

Endive.—These are nearly related to the Lettuces, but have a much more bitter flavour. By blanching them this is done away with, and they are nutty and tender. They require treatment similar to the Lettuce. A sowing should be made in the spring for summer use, and then in succession for later requirements. The mossy curled variety is the favourite with most English growers. Care must be taken that they do not suffer from drought in the summer or they will be sure to fail. When they reach the desired size a flower pot should be inverted over them, covering the hole in the bottom with a piece of slate, or a box may be utilised so that several are covered at once. Whatever is used it must be something that will thoroughly exclude the light. It is essential that they should be perfectly dry when covered, or they will soon rot. The best time to do it is in the afternoon of a hot day.

Dandelions.—This is such a plentiful subject that its utility is generally overlooked. It delights in a moist situation and a rich, deeply dug soil, as it is a plant that sends down a tremendously long tap root when in a good position. Like the Endive it has a very bitter taste when green, but loses it considerably when blanched. Many people enjoy the flavour of it when green, and seeing how largely the plant is used medicinally, it must be a useful article of diet. It is sometimes blanched by tying up like a Lettuce, or under a flower pot, but the simplest way is to select a dry day and then place a slate on them.

Tropaeolums.—The Nasturtium of our flower gardens is generally looked upon as a decorative plant only, but it can be grown for utility as well as beauty. The young leaves give a very refreshing flavour to a salad, the young seed pods also if not allowed to grow too large, when they become too sharp to be pleasant. The young leaves are often eaten by people who recognise this plant as edible between bread and butter. It likes a sunny position, and unless one of the dwarf Tom Thumb varieties, a suitable place should be provided for it to climb up. It may be grown with good effect as a screen on sticks, in the same manner as Peas. It requires plenty of moisture, and like all other ingredients of salads, a rich light soil; for if they do not grow freely, the foliage is tough and unfit for eating.

Tomatos.—These are very popular subjects for salad making, but they are too often bought in the market when they could be easily grown in large quantities at home. They require a sunny position, and do well nailed up to a wall or fence which helps them to ripen their fruit by reflecting back much of the sun's heat during the day, and keeping them warm at night. They prefer a light well drained soil; if deficient in lime it should be supplied with a good dressing of old mortar rubbish. It is often said that a gardener's work is a work of sacrifices, and nowhere does that apply more than in Tomato culture. If a good crop is desired, the plant requires constant mutilating; only the one main stem must be allowed to go away; all the side shoots must be constantly pinched out as soon as they appear. As soon as the plant has produced four or five bunches of fruit the main stem also must be cut back to within two leaves of the top bunch. This induces the plants to throw their vigour into the formation of fruit. Sometimes after the stem growth has been checked the leaves have a tendency to grow to a large size and thus cover the fruit, and prevent the direct rays of the sun from reaching them; this should be prevented by shortening in the leaves or by tying them back. Some amateurs go to the extreme and almost denude the plants of foliage, thus spoiling the flavour of the fruit, for it is in the green leaves that the sap has first to be elaborated before going into the fruit. It is safe now or will be a week later, to plant out the young plants, keeping a sharp eye through for a snatch of frost, which would immediately kill them if not protected. Always keep them well supplied with water when swelling their fruit, or it will ripen prematurely. The red varieties have the best flavour, but the golden ones look very nice mixed with them in the salad bowl.

Cucumbers.—One of the best and easiest to cultivate is the outdoor variety known as the ridge. The flavour is much better than those which are grown indoors. All it needs is a warm sunny position and a soil containing a good quantity of old stable manure for the roots to ramify in. They should be stopped at about every fourth joint by having the ends pinched off. Of course when grown in frames they can be obtained over a longer period but they require a little more attention to grow them satisfactorily.

Mustard and Cress.—These are perhaps more extensively grown by amateurs than any other of the salad plants, especially by the lady amateur. Perhaps it is because she sees the result of her work quicker in these seeds than in most other slower growing kinds. A difficulty is often experienced in the hot weather in getting it to grow to a reasonable height and thus free itself from grit, &c. To prevent this trouble the soil should be light, rich, well pulverised and kept well moist. The Cress seeds should not be buried, but only pressed down with a slate or board; those of the Mustard should be only just covered by a little very fine soil. They should always be kept heavily shaded, and until they have germinated complete darkness will be found to be beneficial.

Onions.—Most people love Onions but do not care to say so. Certainly the smell of them is offensive after eating, but a few young ones should be included in every salad as they greatly improve the flavour. For salad purposes they may be sown in succession on a small piece of well worked ground and pulled as required. In conclusion I would advise all who grow their own salad ingredients not to gather them before they are required, as the fresher they are the better they taste.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Dwarf Japanese Trees.—*F. P.*: In a good position in a light window, which you say you possess, they do well. They do not require any special treatment, only careful watering. They are usually very expensive, but a good specimen for a window may be obtained through a good nurseryman for about £r. We should not advise you to shift it yourself into the Japanese bowl in which you wish it to grow, but entrust this operation to some experienced professional gardener.

Heavy Soil.—*S.*: You are wrong when you suppose that a heavy soil is not much good. We should prefer a heavy soil to a light one on taking possession of a garden, for this reason: light soils are very often poor, and are known as hungry soils, because the water passing through them quickly washes down any manurial agents that are applied to such a depth that they are useless for most plants. To improve your soil, give it a thorough dressing of long dung for the first season. In the following winter give it a good quantity of lime or broken mortar, which must be worked well into the soil. Road sweepings also may be dug in with advantage. With a course of this treatment you will find that your soil in a year or two will be something to be proud of. It will not be hungry and will not get too dry in summer or too sodden in winter.

Disfigured Branch Tips.—*House*: The trouble is doubtlessly caused by a very small mite, especially as you say you have frequently examined the affected parts and can see nothing to cause it. Many large establishments are troubled with this and perhaps your plant has been near some that are affected. Isolate it immediately, as it soon spreads on to other plants, and give it a good syringing with extract of Quassia, or if not too large it may be dipped bodily into the liquid. Whichever method is adopted, see that the affected parts are thoroughly wetted.

Azalea mollis.—*Planter*: They are perfectly hardy in the southern counties. They should be planted out as soon as they have finished flowering and kept well supplied with water during their first season until they are well established. They like a light position; one in a dwarf shrubbery exposed to the sun will suit them.

Apricots Dying Back.—*Anxious*: The reason for this has puzzled many scientific men. We believe it can be prevented by giving the trees generous treatment and seeing that the wood is well ripened.

Woodlice.—*Pest*: The best way to capture them is by halving Potatos, scooping out the inside and placing them amongst the pots. They will congregate in large numbers in such a trap and may be brushed off into boiling water. If they are outside, a few pots with a wisp of hay in them will answer the same purpose if placed at the base of the plants which they attack.

Recently flowered bulbs.—*J. P.*: The pots should be placed in a sunny position and be kept well watered and supplied with a little liquid manure occasionally. When they show signs of resting, water should be gradually withheld, and then early in the autumn they may be transferred to the border or wherever it is desired they should be naturalised.

Holy Thistle.—*F. H.*: The proper name of this plant is Silybum Marianum. It is one of the many plants to whose history a legend is attached. The story says that a drop of the Virgin Mary's milk fell on the leaves of a plant and since then it has always borne the characteristic milky marking on the foliage. It was at one time cultivated for culinary purposes, the heads being treated like those of Artichokes. It is found growing wild in waste places, but it is not indigenous to Great Britain.

Rose Galls.—*Country*: The peculiar mossy growth often seen on wild Roses in the summer is caused by a small insect, Rhodites Rosae. When cut open they will be found to contain numerous cells, in each of which is a larva or a pupa which eventually emerges as a four-winged fly.

Date Palm.—*J. S*: The name of this useful Palm is Phoenix dactylifera. In its native country nearly every part of it is utilised by the natives. It seldom grows over 30 ft. under cultivation in this country, but in India it attains the height of 120 ft.

Wood Ashes as Manure.—*W. W.*: Many soils are greatly enriched by applications of wood ashes,

especially heavy loamy soils. Wood ashes are rich in potash, a manure that is very often deficient in heavy soils, and it soon becomes exhausted in gardens, for Potatos show in the analysis that 48·80 per cent. of their ashes, when burned, consists of potash. The ashes of Cherry wood contain over 20 per cent. Peas are greatly benefited by dressings, also the Cabbage tribe.

Temple Show.—*Visitor*: It is a three day show commencing on May 22nd. The nearest station is the Temple on the District Railway. If you are coming to King's Cross take a 'bus which is going to Fleet Street, and there alight and walk down on to the Thames Embankment. The show faces the river.

RANUNCULUS ACONITIFOLIUS FL. PL.

The single flowered form of this Crowfoot seems to be the more common in southern gardens, but the double form under notice is by far the most effective for border decoration, and seems to be the only form known in northern gardens, where the climate seems more to its liking than in the sunny south. Like the Globe Flower (Trollius) it seems to prefer cool northern districts and damp upland places. At all events those who would like to succeed with it in the dry atmosphere of southern England should plant it in cool, moist borders, or even on the wet margin of a pond or lake where its roots could dip into the moisture which sustains its foliage and flowers. When once established in soil to its liking, it occasions no after trouble except when the plants get too large or too crowded and exhausted to flower well. It is a bad plan to plant it in dry or gravelly soil, as the flowers soon reach their final stage of development and the petals drop, if the weather is at all dry and hot during May and June when the plant is in bloom. The double flowers, represented by a shoot in the accompanying woodcut, are much more durable and more effective than the typical wild state of the plant with five small petals.

Propagation is easily effected in March, earlier or later according to the weather, by division of the rootstock, each crown with its roots forming a nice plant, which will soon increase in strength when put into cool and fertile fresh soil. A little peat might be used by those who have not a suitable soil of the above character. Where it succeeds well in almost any garden soil it is a popular plant, and well known to gardeners and country people under various fanciful names. White Bachelors' Buttons is the most common name by which it is known throughout the greater part of Britain. Its companion, Yellow Bachelors' Buttons, is R. acris flore pleno, which is of easy cultivation. Other names for the white one are Fair Maids of France and Fair Maids of Kent. While a congener of the Buttercups, it has foliage more like that of a Trollius or Aconite.

AUCHENRAITH, LANARKSHIRE.

The county of Lanark not only is the heart of Scottish industrial pursuits but as well contains some of the most exquisite bits of scenery of which our nation can boast. Though the general physical features may not in every case merit a first place in Scottish scenery, there can be no dubiety whatever as to its claim to such a place as far as the far-famed valley of the Clyde is concerned. True, even then we do not meet with the awe-inspiring grandeur of a wild mountainous highland valley, nor its dread stillness and awful solitude, soothing perhaps to some, but replete with terrorizing impressions to most persons. Nay, here amid the throbbing arteries of life and healthy hustle, we find the most perfect retreats from all the turmoil and care incidental to our busy age.

A charming valley is that through which the waters of the Clyde flow. From its source till it opens into the sea it may be said to be full of interest and variety, perhaps in character unique. Rich in woods of countless ages, and hoary ruins of ancient times, round which the shades of the Bruce, Wallace and the dread Douglass linger with a lustre so resplendent as almost that of the day star itself. And many a beetling rock and rugged crag adorn its sides, and could they speak, how many tales of valour and renown would they unfold. Yea, more, they would echo back the woe and anguish of many a bleeding and forlorn fugitive hounded from the haunts of man for freedom of conscience and liberty of worship.

Probably no other valley in the kingdom has such a record of incidents crowded into its history as that of the Clyde. It is, therefore, in consideration of all these things, not wonderful to find here a scene rich in lordly mansion houses and exquisite residences, and among these is the subject of our sketch. Auchenraith is the estate and residence of Archibald Russell, Esq., and is situated about two miles westward from the ancient Burgh of Hamilton, and in close proximity to the ever memorable scene of Bothwell "Brig" where so many of our forefathers' blood was shed for our nation's religion. The name of this estate would imply Celtic origin, and like its old Oaks is evidently a remnant of our ancestors, the ancient Britons, Clydesdale at one time being peopled by the Cymri. The name being purely Celtic would further lead us to suppose the place to have been one of those favoured ones, where the ancient British priest raised up his sacred fane and held intercourse with his gods, and performed many a mystic rite, for *Auchen* means a glade and *raith* a circle.

Ranunculus aconitifolius flore pleno.

The typical features of the valley of the Clyde are brought well into prominence here. We have the rocky crags, over whose ledges float in the breeze the wild Fern and rambling native Ivy, with other denizens of the rocks. Here also is the deep glen through which flows one of the many rivulets that so frequently give point and character to our Scottish scenery. Then here is that blending of heights and hollows always so conducive to the formation of a pleasing landscape. The mansion house is several hundred feet elevated above the glen, on a level plateau, and the intervening long slope is entirely lawns and woodlands. An approach leading to the mansion from this side crosses the valley by a stone bridge of several arches. From this Ivy-clad bridge a very impressive view can be had and very specially of the new alterations which have recently been carried out in the transformation of the kitchen into an ornamental and flower garden. The taste here displayed is at once most creditable both to Mr. Russell and Mr. Millar, his gardener. Where this improvement has been so happily and judiciously carried out, there formerly was the kitchen garden; but whatever its merits for such, it certainly must have been a matter of considerable difficulty to work on account of its steep surface. The position we would think was one very suitable, however, for the production of early fruits and vegetables, but let the merits be what they may every person who has the least iota of the artistic in their constitution will approve of the change.

The whole sloping area is now converted into a grass lawn having large parterres of various shrubs, ornamental and flowering, and also summer bedding plots. The view from the above mentioned bridge is magnificent. At the top stands the conservatory, and a range of vineries and Peach-houses, while away to the right stands the mansion house half hidden among the trees. On the opposite side of this new flower garden, rises high a wall of rugged rocks; a pleasure walk at the bottom flanks the meandering course of the stream, and disappears into the surrounding coppice. From whichever side the panoramic or rather dioramic scene is viewed the spectator is delighted.

The new kitchen garden is certainly now in a much more suitable situation, and besides is in close proximity to the garden offices, a matter of no small importance, and besides is on comparatively level ground. Of course the formation of this was no inconsiderable matter, for all gardeners who have had experience in such work are aware of the labour connected with the construction of a new garden. In this part of the country the work perhaps is of a still more serious nature, on account of the stiffness of the soil, and some years must elapse before the soil becomes the genial sort of mould every good grower likes to handle.

The glass structure here is well to the fore. The conservatory already alluded to is an elegant building, and situated as it is in such an effective position, it adds no small tribute to combine in the general well balanced harmony which presents itself to the view. A few days ago when we visited the place, a beautiful display of Rhododendrons, Azaleas, and a most excellent show of Cinerarias adorned the conservatory.

The centre dome is filled with tall Dicksonias and

other suitable plants. And here we find a few specimen Cape Heaths, the culture of which Mr Millar evidently understands perfectly, for they are in excellent health, well grown and trained. To see these old friends must be a relief to many gardeners, from the spiritualised nature of many of the modern phases of plant culture. At all events we think the almost extinct art of Heath culture should be restored to our gardens.

A range of fruit houses is in the vicinity of the conservatory, and it is comprised of three vineries and two Peach houses. Two of the vineries have been recently replanted and one of them is carrying its first crop, and promises to give a good account of itself. The crops in both vineries and Peach houses are showing well and indicate the cultural treatment they receive.

There is a good plant stove in another department of the premises, wherein we find remarkable evidence of Mr. Millar's proficiency in the culture of Crotons. Some very fine pieces are here, and among others we very specially noted C. Reidii and C. Russellii, whose brilliant foliage is a charming break in the multitudinous collection. Mr. Millar has also a collection of Orchids, but we were just too late to see the best of them in flower. They, however, look vigorous and at home, inferring from the fine breaks some of the Cattleyas are throwing up. The centre of the stove is filled up mostly with Palms in variety, and the usual representatives of other stove plants are also well in evidence.

A Rose house lately added to the establishment is worthy of notice on account of the vigorous growth they have made and the profusion of Roses they bear. The best climbers are of course only grown. We infer from the success here that lovers of early Roses can invest very judiciously in a Rose house.

It may be stated that the house was only built about two years ago. The usual accommodation in pits, ferneries, Tomato house, &c., also is here, and not least of any a Pine pit in which a fine lot of fruiting Pines are showing their heads. Everything that is taken in hand here, we must say, is dealt with in no half hearted manner. From the most trivial class of plant to that which calls for the utmost skill, we find the same evidence of the careful and unremitting attention that is bestowed.

The young gardeners are not even forgotten They have been accommodated lately with a new bothy of a very handsome nature. The mansion house as well as all the establishment is lighted with electricity. The magnanimous proprietor, Mr. Russell, obviously considers the comforts of his servants a matter of prime importance.

Mr. Millar is a thorough gardener, and is one of three brothers who also hold important posts as head gardeners. He is an exceedingly courteous man and spares no trouble to entertain whoever is a visitor to his well kept gardens, and besides is a very prominent prize taker at the principal flower shows in the West of Scotland. We wish him a long connection with the liberal family he now serves, and renewed successes in every enterprise he may undertake.—*Hamiltoniensis.*

CROSS FERTILISING BY BEES.

I WAS much interested in the note which appeared in THE GARDENING WORLD some weeks ago from the pen of "Brightspade," p. 521. His friend, who saved and sowed seeds of the fine Brussels Sprout, was more fortunate than a farmer of my acquaintance, some good few years ago. This farmer used to save his own Turnip seed, making a plantation in spring of any particular variety he wanted to furnish the next crop, a twelvemonth hence. Usually he made the plantation in the corner or sharp angle of a field where the plough could not well be managed to till the ground. This plan generally answered admirably, seeing that the Turnips were isolated from every other crop of the same kind. This might be described as the result of accident rather than carefully considered design, as an accident with less happy results will demonstrate.

One year no suitable corner of a field being available the kailyard in front of the bee sceps suggested the place where the "neeps" would at least be out of the way of other crops, and perhaps more under the eye of the farmer in case the sparrows should prove troublesome. But if the farmer took these precautions designedly, in another respect he was like the stag in the fable, that was blind of one eye, and turned that towards the sea so that he could keep the other open towards the land and so guard against his prospective enemies or probable pursuers, forgetting or not knowing that human enemies could use boats to get within gunshot of him. The "neeps" which happened to be Swedes were planted alongside of Curly Kail, not intended for seed, but merely negligently allowed to flower after the spring leaves had been picked for use in the farm house.

Nothing appeared amiss till next summer when the Swedes or what should have been Swedes were ready for thinning with the hoe. The farmer's surprise and consternation were great when he found the seedlings turned out neither "Swadish Neeps nor Curly Kail," but as he said "a kin' o' Kail," the coarsest he ever saw. They had the blue colour of Swedes but the leaves were more curly than usual, and the plants were rising up on plain kail shanks. Taking counsel of his neighbours and assuring them that he had not mixed the seed, they suggested the bees as the cause of all the trouble. The unforeseen occurrence was a great loss to him, as it was too late in the season to re-sow the Swedes. To compromise the matter he ploughed down the worst of the mongrel kail and re-sowed the ground with a white, quick growing variety of Turnip of small feeding value, and so tender that it had to be used in autumn because unfit for storing. Where a percentage of good Swedes was present he left them and allowed the blanks to be occupied with the mongrel Kail. It was a lesson he never forgot, and he came to the conclusion that it was not always good policy to save his own seed.—*J. McI.*

CHEMISTRY FOR THE GARDEN.

XV.—MANURES, CONTINUED.

WHERE pigeon's dung can be procured no better substitute for the good old Peruvian guano can be had, and its application to all kinds of crops is attended with the highest results. It ought to be thoroughly cleaned from every bit of foreign matter, such as wood, straw, &c., that may find its way into the dovecot. It must also be kept dry, and when it is elected for mixing with potting soil it should be grated fine against the meshes of, at least a ¼-in. riddle, the riddlings to be preserved for making a liquid manure. If carefully used in potting it gives excellent results, and we think in a special way to Cyclamens.

The excreta of sheep constitutes another valuable manure, and when easily procured should always be one of the gardener's fertilisers. This, when converted into a liquid, is far richer in nitrogen than either horse or cows' urine, and withal it does not partake so much of the burning acidulous nature of those, and does not contaminate the atmosphere of glass structures. All things which are benefited by stimulants can be with impunity subjected to treatment by the manure.

Horse and cow urine are valuable manures, but we always thought their application to indoor vegetation, a species of coarse gardening. At one time the intermittent dosing of vinery borders with this liquid almost amounted to a religious rite. No doubt ignorance of its nature led many to use it indiscriminately, which often resulted in burning up, or perhaps a more preferable term, rotting out the more delicate root fibres. We have, on more than one occasion, turned out Vines which were regularly manured with this *wash*, and found them almost destitute of roots, and on mentioning this matter to one of our ablest Vine growers of the time, he substantiated our suspicions. Whatever benefits may be derived from its use directly, it undoubtedly has a tendency ultimately to prove a death warrant to Vines. For other garden purposes, such as vegetables, nothing can suit better.

Blood and offal manure is another high class fertiliser for all kinds of vegetables. If the blood is got by itself and dried, and then ground down fine, the preparation can be used for potting, like any other artificial manure. Of course, we are aware that these natural fertilisers incur a little unpleasant labour to reduce them to this handy state, but we have no doubt whatever that the unpleasantness and the labour too will be amply repaid by the results. There are various other manures used by the gardener which have little or no nitrogen worth noting. These, perhaps, act more as vermin killers than as fertilisers. Gaslime, soot and gas water are in favour with many. Neither of these are of very great manurial value, still, when any of them is easily got, it certainly ought not to be ignored. All of them contain a small percentage of ammonia.

We may just, in concluding, be allowed to say a few words in reference to the inexhaustible variety of artificial manures. It is not our intention here to praise or condemn any one of them. Some, of course, will stand extolling, and, of course, others will perhaps not merit any special tribute of that description. The whole of them, however, are far too dear for their value. We could never be convinced that a ton of any compound manure is worth £20. It is certainly an enormous price, considerably more than the value, bulk for bulk, or for that matter weight for weight, of any product the farmer grows. Compare price per ton of Wheat, corn, Potatos and Turnips, with price of fertiliser, and one can form an idea of their relative values. Our Sugar, even under the pressure of the new tax, is not so dear.

Farmers, we believe, do not pay so much for the same material as the gardener If the farmer has a difficulty in making ends meet we think the market gardener should have immensely more (of course the squire's gardener is not in the reckoning) for he, as a rule, pays very much dearer for his land, and besides, his whole plant is of a more expensive nature to keep up. His profits we have nothing to do with. They are truly the effects of his assidious exertions, the fruits of his sweat. Supposing he nets a profit £2 per cwt. on Strawberries, he may not net 3s. on Gooseberries, Currants or Plums. As for vegetables they must be sold as near the wind as any yacht must ever sail, which aims to redeem the now famous Challenge Cup. Everyone must have his own favourite manure, as we suspect everyone has, and whether it does good or not, if the individual thinks so half of the work required is accomplished.—*Oxygen.*

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 7th inst.

Orchid Committee.

LAELIOCATTLEYA DIGBYANO-MENDELII. — Of the several bigeneric hybrids in which Laelia dighyana has been one of the parents, we think this the largest and most finely formed flower of all. The sepals and petals are blush-coloured, the latter being slightly fringed at the edges. The lip is of huge size, and blush-coloured with a very large lemon blotch on the disc, these colours being in keeping with the delicate hues of Cattleya Mendelii. The lamina of the lip and the side lobes are deeply fringed at the edges. (First-class Certificate.) The Hon. Walter Rothschild (gardener, Mr. Hill), Tring Park, Tring.

LAELIOCATTLEYA MRS. GRATRIX TRING PARK VAR. —The flowers of this variety are larger than usual, with orange sepals and petals. The lip is most conspicuous for its size, and is orange-yellow, with deeper veins, making a fine contrast to the other segments; it is also fringed at the margin. (Award of Merit.) The Hon. W. Rothschild.

ODONTOGLOSSUM CRISPUM CONFETTI.—An Award of Merit was accorded to this beautiful variety at the last Temple Show, and on this occasion being much finer, it was granted a First-class Certificate. The sepals are lanceolate, and the petals ovate, all being white, suffused with rose, and thickly marked all over with purple-brown spots, those on the petals being darker. A more or less conspicuous line of spots encompasses both sepals and petals just within the margin. The lip is small, white at the apex, with a Chestnut-red blotch in front of the yellow base. J. Leeman, Esq. (gardener, Mr. A. Edge) West Bank, Heaton, Mersey.

BRASSOCATTLEYA NIVALIS.—This bigeneric hybrid was derived from Brassavola fragrans and Cattleya intermedia. The sepals and petals are lanceolate, pointed and white. The lip is white, with a lemon tint on the disc, and the side lobes are folded over the blush column as in Cattleya. (Award of Merit.) J. Leeman, Esq.

CATTLEYA SCHRODERAE HEATONENSE.—The sepals and petals are soft blush-rose, as is the lip, except a very large, soft lemon blotch in the throat. These delicate markings make it a choice variety. (First-class Certificate.) H. T. Pitt, Esq. (gardener, Mr. T. W. Thurgood), Rosslyn, Stamford Hill.

ODONTOGLOSSUM HALLII KING EDWARD VII.—The flowers of this noble variety are of great substance, with broad, somewhat incurved segments.

The sepals are chocolate-brown with bright yellow tips. The dark colour is more cut up on the petals, which are netted with yellow. The lip is of unusual size, being square-oblong with two large chestnut blotches in front of the much fingered crest, and many small ones round the sides. (First-class Certificate.) H. T. Pitt, Esq.

ODONTOGLOSSUM ADRIANAE COBBIANUM.—The varieties of O. Adrianae have turned up in great numbers lately, but this is the darkest one we have seen. The round flowers are of a rich dark chocolate-brown with a few yellow markings at the base. The colour on the petals is more broken up into blotches on a creamy ground colour. The lip has one large blotch in front and numerous small ones round the sides. (First-class Certificate.) Walter Cobb, Esq. (gardener, Mr. J. Howes), Dulcote, Tunbridge Wells.

ODONTOGLOSSUM CRISPUM RAYMOND CRAWSHAY.—Here we have a large round flower with broad, overlapping segments. The sepals are elliptic, silvery-rose and blotched in the centre. The petals are broadly ovate, and the blotches are more decidedly purple. The lip is white with a yellow disc, and one large chestnut-red blotch in front of the crest, with many small ones at the sides. (Award of Merit.) de Barri Crawshay, Esq. (gardener, Mr. W. J. Stables), Rosefield, Sevenoaks.

CATTLEYA MENDELII QUEEN ALEXANDRA.—The sepals and broadly ovate petals are blush, with a pale purple blotch at the apex of the latter. The lip has a rich purple lamina and side lobes, and is beautifully lined with purple and white in the tube. (Award of Merit.) Mr. H. A. Tracey, Orchid Nursery, Twickenham.

ODONTOGLOSSUM CRISPUM DOMINO.—The flowers of this variety are large, and boldly blotched with brown-purple on a white ground. (Award of Merit.) J. Leeman, Esq.

ODONTOGLOSSUM CRISPUM COUNTESS OF DERBY.—The flowers in this case are suffused with rose on a white ground and thickly marked with brown-purple blotches. (Award of Merit.) J. Leeman, Esq.

SOBRALIA RUCKERI.—The general aspect of this species recalls S. macrantha, but the flowers are smaller, with pale rosy-purple sepals and petals. The lamina of the lip is rich purple, with a dark yellow band along the centre. (Award of Merit.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking.

ONCIDIUM STRAMINEUM.—The small flowers of this species are spotted and marked with purple on a straw-coloured ground. (Botanical Certificate.) Frau Ida Brandt (gardener Mr. Schlecht), Brunnenhof, Zurich.

Floral Committee.

TULIP BRUNHILDE. — The flowers of this single variety are amongst the largest we have in the broad, blunt petalled section, of which Tulipa gesneriana is the type. They are white with a yellow base which runs out in a flamed form on both surfaces. (Award of Merit.) Messrs. Barr & Sons, King Street, Covent Garden.

TULIP WILLIAM III.—Here again the flowers are of enormous size but double, like a Chinese Paeony, and of a shining crimson-scarlet. For pot work or bedding purposes it should become a favourite with those who like something bold and showy. (Award of Merit.) Messrs. Barr & Sons.

BUNCH PRIMROSE SULTAN.—We may describe this as a garden Polyanthus of extraordinary vigour, with large leaves, trusses and flowers, the latter being golden yellow, with a bold orange centre and about the finest of this colour which we have seen. (Award of Merit.) Miss Gertrude Jekyll (gardener, Mr. D. Harris), Munstead House, Godalming.

AURICULA LEONORA (Turner).—This may be described as one of the best white-centred alpine Auriculas we have seen, as the white remains constant as long as the edge. The ground is maroon and the edge purple. (Award of Merit.) Charles Turner, Slough.

MULE PINK LADY DIXON may be described as a hybrid between a Sweet William and a Carnation. It has large, fully double flowers with crisped petals, and recalls Napoleon III., except that the flowers are carmine. (Award of Merit.) Mr. P. D. Williams, Lanarth, St. Keverne.

BORECOLE ALBINO.—This is the nearest approach to a white Borecole which we have seen. The leaves of most of a large number of plants were white, with narrow green edges, the green almost disappearing in some cases. It is stated to be perfectly hardy without protection in the open, and that 95 per cent. come true to the strain from seed. (Award of Merit.) Messrs. Storrie & Storrie, Dundee.

Narcissus Committee.

NARCISSUS MOONBEAM is a beautiful hybrid between N. poeticus recurvus and a Leedsii variety. The segments are white, and the short cup creamy-white. (First-class Certificate.) Mrs. R. O. Backhouse, Sutton Court, Hereford.

NARCISSUS ELAINE.—N. poeticus has also had a share in the production of this lovely variety, which has creamy-white segments, and a cup about the size of that of N. Barrii, but of the palest creamy-white. Practically the flower may be described as wholly white, as in Moonbeam mentioned above, a very unusual circumstance amongst Narcissi. (First-class Certificate.) Miss Willmott, V.M.H., Warley Place, Great Warley, Essex.

NARCISSUS CORYDON.—This may be described as N. triandrus seedling, but many times magnified, and widely different from anything in general cultivation. The creamy-white segments have the breadth of Empress, but shorter; and the lemon cup is nearly as long as the segments. (Award of Merit.) Miss Wilmott.

NARCISSUS AMBER.—The segments of this fine variety are ovate and white, but the trumpet is golden-yellow deepening to orange. (Award of Merit.) Miss Willmott.

NARCISSUS D. E. WEMYSS.—The cup of this variety is yellow, edged with orange, and in shape it strongly recalls N. Barrii, but the segments are white. (Award of Merit.) Miss Willmott.

NARCISSUS AFTERMATH.—The cup of this shows something between N. poeticus and Burbidgei as to size, and is yellow with an orange-searlet edge. The segments are cream. (Award of Merit.) Rev. G. H. Engleheart, Appleshaw, Andover.

NARCISSUS SEA BIRD.—The segments are incurved at the sides like poeticus recurvus, of great size, and white. The cup is much plaited and yellow, edged gold. (Award of Merit.) Rev. G. H. Engleheart.

NARCISSUS SPENSER.—This is a poeticus with large, pure white segments, and a much flattened cup, orange-crimson at the edge. (Award of Merit.) Rev. G. H. Engleheart.

NARCISSUS DAY STAR.—The creamy-white segments overlap one another like a form of Barrii, but they are broader, and the cup is bright yellow. (Award of Merit.) Rev. G. H. Engleheart.

NARCISSUS REAR GUARD.—The segments here are ovate, overlapping and creamy-white. The cup is of a uniform bright yellow, and about half as long as the segments. (Award of Merit.) Rev. G. H. Engleheart.

RAIN AND DEW.

CERTAINLY rain is one of the gardener's best friends when it comes in the proper season. It is of such a common occurrence, that when it does come he never troubles where it came from, why it came, or how. It came out of the air and benefited or ruined his crops, and is gratifying or otherwise, as the case may be. By the heat of the sun a large amount of water is taken up into the air by the transpiration of plants and evaporation from rivers, lakes, seas, &c. This rises as an invisible vapour so long as the air is warm; when it reaches an altitude where the air is cooler it condenses into tiny particles of water and forms clouds. Clouds form and disappear in the air according to the warmth of it.

Often it appears to be raining high up in the air, but none reaches the ground. This is caused by the small drops evaporating before they have time to reach the earth, and then ascending again and forming clouds. This explains why more rain falls at night than in the daytime. The air is not so warm at night, thus allowing the drops to reach the ground. Rain is formed by the small particles falling and joining as they do so to form drops. Snow is formed in the same way, only the tiny particles are frozen. Hail is a phenomenon which is not yet thoroughly understood, but is believed to be caused by electric disturbances.

Warm air can hold a large amount of water in suspension, but as it cools it liberates it. This then accounts for the clouds of mist that encircle many high mountains. The rocks are cooler than the moisture laden atmosphere, and cool a layer of air in the vicinity, causing it to precipitate its moisture according to the degree of coldness experienced. The mists after sunset, which hang close to the surface of meadows, &c., are caused in the same way. The earth radiates out its heat very quickly, and if still, the air near to it becomes cooled, and can no longer hold its moisture in the form of steam, but precipitates it as vapour which condenses on all cold objects, forming dew. When the temperature falls below freezing point, if there is any moisture in the air it is deposited as hoar frost.

The reason for Ireland's large rainfall is because the moisture saturated winds coming off the Atlantic are suddenly cooled when passing over the mountains, &c., and cannot hold the large amount of moisture which they have collected. The farther a place is away from the sea the less its rainfall becomes. Thus in the great Sahara little or no rain falls, while at a place at the foot of the Himalaya Mountains, about 100 miles from Calcutta, the annual rainfall is over 500 in. This is caused by the excess of moisture collected by the hot winds coming over the Pacific, meeting the cold air surrounding the mountains. The magnitude of this rainfall can be better understood when taken in comparison with the average of 25 in., which annually falls along our Eastern shores. As rain passes through the air it collects small quantities of matter which are very useful to plants, such as oxygen, nitric acid, and ammonia. For this reason rain water should always be used for watering in preference to that obtained from springs.

THE APIARY.

THE long spell of fine dry weather has enabled weak stocks to pull up very rapidly, and strong ones are covering nine and ten frames in districts where there is plenty of fruit blossom. A sharp eye should be kept on all stocks that have none too much food, more especially if the weather breaks down. A very good plan is to keep the slow feeder going constantly, giving one hole in good weather and two when a change occurs. It shows very indifferent bee-keeping to allow a stock to die now after bringing it through the winter, still there are hundreds that do so; more is the shame, when a few pence would do all that was necessary, and save thousands of lives.

In a few weeks from now, swarms will become general, and it is for the bee-keeper to see that he has hives ready for them in time, and that he will not require to push them into any odd box through want of a proper receptacle to hold them. Where swarms are not wanted, see that the bees have room a little in advance of their requirements. When brood chambers are filled give a rack of sections or rack of shallow frames, as the case may be, whichever the bee-keeper makes up his mind to go in for. See also that they have plenty of ventilation, full width of entrance. When the season is advanced the front of hive could be wedged up $\frac{3}{8}$ in. to the benefit of the colony. Where they are exposed to the full blaze of sun all day a little shade might be afforded with advantage, these little matters being carefully attended to, and with the addition of young queens swarming can be reduced to a minimum.

However, in spite of all these measures the bees will sometimes swarm. In that case if we remove two combs of brood from centre of brood nest, and give two frames filled with foundation in their place, returning the swarm, after removing all queen cells from rest of frames, they rarely issue a second time. We may give the two frames of brood to a weaker lot, or raise a young queen for re-queening at end of season. In that case we will have to add the bees from other two frames. Also see that they have a good queen cell attached; place them in an empty hive, place feeder over them, and pack up warmly. Give a look next day to see that there are enough bees left to keep the brood warm, because all the old working bees will go back to their old stance. In about three weeks after you may expect your young queen to commence laying, and it will make a splendid lot for joining on to another stock, before sending to the Heather, after killing the old queen.

Where swarms are wanted we have just to do the opposite from the above, confine in smaller compass, narrow entrance, little ventilation, extra quilts, and feed continually, but slowly, until the desired end is attained. Sometimes we cannot wait until the bees come off naturally, and in that case we can artificially swarm them, which I will describe in another issue. —*Doonfoot.*

IS GARDENING A SCIENCE?

(Continued from p. 592.)

THEREFORE, make your garden interesting; no matter how small it is, let Nature guide you in all your undertakings—

"For Nature ne'er deserts the wise and pure;
No plot so barren be, but Nature there;
No waste so vacant hut may well employ
Each faculty of sense and keep the heart
Awake to love and beauty."

So wrote the poet. Therefore, garden naturally, and you will garden finely; then will your garden be to you an endless source of delight.

Now we must pass on to notice some of the most important operations in connection witb the garden, and where art accompanied science.

The first is the propagation of plants by grafting and budding. Would you apply the same definition to this operation as you would to work done by a carpenter, or any otber artisan, and call it art? I say, most emphatically no.

Before this operation can be performed by the gardener, what has he to consider? What is tbe first great natural law which guides him? Why, the law of affinity, because wbere there is no affinity, there can be no reciprocity, and if no reciprocity then is your labour in vain, in attempting to propagate by grafting. Is tbis science or is this art? Can art solve these problems for you? No; tben I say that gardening is a science, becanse nature is tbe gardener's guide.

Then there is another very important point which confronts the propagator hy grafting, and it is tbis. If reciprocity is effected will there he that mutual agreement between scion and stock, to ensure that tbe union is beneficial to both, so that the strong migbt belp to carry the infirmity of the weak, and the weak mitigate as it were the barrenness of the strong, so tbat both become productive? Will art answer this question for us, or to whom are we to appeal? Why, to Nature! she can solve the difficulty for us. Then is gardening a science or is it an art?

Again, I will say that this operation bas to be performed with a great amount of dexterity and skill on the part of the operator.

Can art teach you anything concerning tbis mysterious phenomenon? I trow not. Here you are trying to effect a change and inter-change of blood; this is gralting, this is science.

Tbe poet speaking of grafting says:

"The engrafted Apple blending kindly growth,
Transforms the kindred Pear tree nothing loth,
Leaves harren habits in the native woods
And joys to yield a fruitage apt for food,
Makes smootb tbe spring Plums and prickly tborns,
And with gay foliage every bough adorns."

Here is a field for labour. Much has been accomplised in the past and without a doubt mncb more might be attained. Undouhtedly there are many plants yet, whicb bave a blood relationship with one another, and which would be improved if a reciprocal union could be brought about. And I think tbere are few places which lend themselves more kindly to experiments than a private garden.

Now we come to another very important operation in connection with the garden, and one too, which is all the better for a little scientific skill displayed, and tbat is hybridising and cross-breeding. I shall allude to hybridising and cross-breeding done only by human agency, and that very briefly.

Darwin said: "One more species added to tbe infinitude of already existing species by human means, is more important and interesting than a host added by natural means."

Dr. Lindley said: "Hybridising is a game of chance played between man and plant, it is in some respects a matter of hazard, and we all know how much more excitement is produced hy uncertain than by certain results. What increases the charm of the game is, that although the end of it may be douhtful, yet a good player can judge of the issue with tolerable confidence; and that skill and judgment have in this case also, all their customary value." To all this I say "Amen." It is sound argument. Here as elsewhere skill has its value.

Well, then, if a good player can tell pretty nearly what the results are to be, I maintain a good player should start with these results in view.

It might be to increase the vigour of a plant, to improve its flower, or its fruit, or its habit, but whatever the end in view, he must adopt the means best calculated to attain that end.

Then where is he to apply for information npon this most important question?

If he wishes to improve tbe babit of his plant, the colour of his flower, or the quality of the frnit, can art teach him? Wbicb shall be the male and wbich tbe female? I say no. Then where is the knowledge to be sought after and the information gained? From Nature. Then I say gardening is a science.

Moreover there is again in this case the question of affinity, or relationsbip. Will art help him here in this difficult task? Not a bit of it. Here, too, Nature must be his guide, he has to learn what her laws have revealed in the past relative to the question of affinity, then he will have guidance for the future.

Anotber point in connection with tbis question, in which scientific skill is required, is in tbe selection of pollen grains.

According to expert experience, which, of course, is the most reliable of all, a hybrid cross can be effected far more successfully by the selection of the pollen grains, tban by using it haphazardly, as taken from another plant in the ordinary way.

Darwin says (and I believe it to be correct) "that the grains whicb are the most irregular in outline, and tbose witb the greatest abnormal developments, are the grains which are the best to effect a hybrid."

Again Darwin asserts that dimorphism plays an important part in the development of pollen, in tbose species of plants where dimorphism prevails. According to his experience, he invariably found that the stamens with tbe sbortest filaments or stalks carry tbe largest pollen grains. Then, of course, tbis would be the pollen to be selected if you wanted to effect a cross between two dimorphic species.

The selection of the pollen by dimorphism is simple, indeed, hut to select the pollen from ordinary anther lobes, and where both filaments and anthers resemble each other, to select the largest grains from these is an operation which requires very careful manipulation on tbe part of the operator.

There is one thing I am conclusively convinced of, and it is this: in all the operations of crossing plants, whetber it be a hybrid cross or merely the crossing of varieties, do away with the brusb altogether, and instead take the stamen clean away from tbe flower, which forms the male, and strike tbe anther lobe carefully across the stigma of the female. By this means you save the largest pollen grains, and these invariably give the best results.

Whereas by turmoiling and turning the pollen over and over, and trying to carry it from one flower to another, hy means of a brush, it stands to reason that the hest and largest and plumpest of the grains fall to the ground, and the chances for the hest results are lost. Is this science or is it art?

Another point in connection with hybridising, and it is this, that the seedlings obtained from these crosses usually hear the characteristics of both parents. But in what way? How does the male parent and in what way does the female parent stamp their likeness upon the offspring? Is there a law which Nature usually follows with these hybrids? Yes; and it is this. In almost every instance the female parent stamps its form upon the offspring in its habit. With the male it is the torm of the flower or some characteristics of the essential organs which generally marks its successors.

"Well," you say, "is tbis always tbe case with seedlings?" There are exceptions, and it is brought about in tbis way through vigour of one of the parents over the other. If a vigorous plant is used as the male, and the female is delicate in constitution, this vigorousness of the male will in most cases stamp itself indelibly upon the progeny. Therefore with these facts hefore us, if we set about tbis work of hybridising under Nature's own light, we shall, depend upon it, play at this game with a great deal of certainty about it.

Now one word upon crossing double flowers. As you all know there are double flowers, where the whole of the stamens unfold into petal form; take the Begonia as an instance.

Well, how are we to proceed with these in order to get the pollen necessary to effect the cross?

If you take the pollen from a single variety and put it upon a female double, will that bring the desired results? No. Then what is necessary? You must get the pollen from a double variety also. The plant which is to be the male must be starved down until these petals which have unfolded to make up the double flower come down again into staminal form; then you can obtain the pollen necessary for a progeny of doubles.

Of conrse there are double flowers wbere tbe stamens do not all assume petal form, then, of course, nothing abnormal in the way of treatment has to be done to get pollen. Is tbe system of hybridising *science* or not, or how do you define it?

Another very important operation in connection with gardening is pruning, and, practised npon scientific principles, is one of inestimable value to borticulture.

If well done, its effects upon plants are enormously beneficial; but if on tbe other hand it is prosecuted with anything like recklessness, tben its mischievous consequences are about the wors that can be performed upon a plant; for not only are its consequences felt at once, but they may spread over years.

Why does it become a necessity that the branches of our trees and plants must be pruned? Well, perhaps, tbe first consideration is to increase and improve the crops; secondly, we desire a well proportioned tree, because where trees are grown exclusively for their beauty, they do not if left to themselves always assume the outline most advantageous to attain the beauty which they are capable of attaining. Then if it is timber a tree is grown for, there are often branches which shoot out, and would, if left, have a very detrimental effect upon the quality of tbe timber.

Well, then, we come to tbe most important of all pruning, and that is pruning for fruit production. In tbis branch of the profession also, bas not science almost everytbing to teacb us, or can art advance single handed, as it were, and bring Nature to adopt its line of action? No; Nature never forgets and never forgives, and if you violate one of her laws, so surely you will have to pay the penalty. But on the other hand, if tbe art of pruning is tempered with science, then, indeed, it does mend Nature or help her rather.

Then comes the question. Which season of the year does Nature say is the most appropriate for tbe pruning of fruit trees? Why, she says the winter, during rest, when there can be no unnecessary waste of blood.

JOHN CLAUDIUS LOUDON.

(Continued from p. 590.)

AFTER his marriage Loudon commenced to rewrite the *Encyclopaedia of Gardening*, which appeared in the course of 1831, so that he must bave been very diligent. Previous to this, in October, 1830, he published the first part of *Illustrations of Landscape Gardening and Garden Architecture*, in atlas folio; and being a work of considerahle pretensions, and expensive, it found only a limited number of subscribers, so that he felt obliged to discontinue it after the issue of the third part in 1833.

Previous to this, in the early part of 1831, he bad an application to lay out a hotanic garden at Birmingham, his wife's native town. He agreed to do the work on payment of his expenses, and proceeded to Birmingham, where he stayed about six weeks, accompanied by his wife. After this they made a tour through the north of England, visiting the lakes in Cumberland and Westmoreland. At Chester they first saw a copy of Paxton's Horticultural *Register*, the first rival to *The Gardeners' Magazine*, which at that time hrought in £750 a year, but which gradually decreased in value from tbat date, till it was given up immediately after tbe death of Loudon.

After witnessing the beautiful scenery of the Lake District, they passed through Carlisle on their way to Scotland, which they entered by way of Longtown and Langholme. At the latter place a fair was in progress, so that no resting place could be procured for the travellers, not even to sit down. Though they had travelled from Carlisle that day they bad only one horse to draw the phaeton, and the animal was very much done up. The prospect of having to retrace tbeir journey to Longtown, the only place they were assured of getting a hed for the night, was not very cheering, as the distance was twenty miles. Fortunately for the travellers, Loudon heard that Mr. Bell, of Woodhouselee, only a few miles from Langholme, had a fine collection of American plants, so he resolved to call and ask permission to see them.

When Mr. Bell heard how the travellers were situated he insisted upon their staying all night with him, though wholly strangers to him.

The next day found them on their way to Dumfries, by way of Gretna Green and Annan. In this neighbourhood they stayed about three weeks, part of the time being spent with Loudon's friend, Sir Charles Menteath, and part at Jardine Hall, the residence of Sir William and Lady Jardine. After that they sojourned for a time at Munches and other family seats in Dumfries-shire, and then proceeded to Ayrshire, London's native county. At Ayr and Kilmarnock he was entertained at public dinners. A similar honour was being prepared for him at Glasgow; but while staying at Crosslee Cottage, Paisley, the seat of Archibald Woodhouse, Esq., one of Loudon's most highly esteemed friends, he received a letter from Bayswater informing him of the severe illness of his mother, and her earnest desire to see him. They had been dining in the neighbourhood, and returning late at night found the letter waiting. Everything was packed up ready to start for Glasgow with daylight, so that they did not go to bed. Arrived at Glasgow Loudon dispensed with the horse and carriage, and both he and his wife proceeded to Edinburgh by coach, riding on the outside during rain. Loudon had not done this since he got the stiff knee by that experience in an earlier part of his history, and on this occasion had great difficulty in mounting the ladder. Loudon's conception of filial duty overpowered every other feeling, so he could brook no delay. It was also unfortunate from the fact that he had to pass through Edinburgh, almost without stopping, after an absence of nearly thirty years. On arriving at Edinburgh they learned that a packet was about to sail for London, after which there would have been a delay of several days. They, accordingly, hurried down to the pier and found the captain just going on board, and hiring a boat they saved their passage. The voyage was speedy, so that the travellers arrived at Bayswater only half an hour later than the letter written from Glasgow to give notice of their coming. Loudon's mother revived somewhat on seeing her son again, but did not come up to the expectation that she would recover, though she lived for six weeks longer, and died in October, 1831.

Next year (1832) Loudon commenced his *Encyclopaedia of Cottage, Farm, and Villa Architecture*, which was the first work published on his own account. He had several draughtsmen in his employ for this work, but Mrs. Loudon was his only amanuensis The work was arduous in the extreme, and the two used to sit up night after night, till they had only time for four hours' sleep. During the small hours of the morning they drank strong coffee to keep themselves awake. The *First Additional Supplement* to the *Hortus Britannicus* was prepared and published during the same year.

Loudon seemed to consider *Cottage Architecture* his best and most useful book. At all events it was the most serviceable to him, and tempted him to publish the *Arboretum Britannicum* also on his own account. He had long contemplated a work on the hardy trees of Great Britain, but he never considered the great expenses it would involve. After making a commencement he found it impossible to compress the matter into the space originally intended; and his determination to make it as comprehensive as possible involved him in financial difficulties, which hastened his death. The *Arboretum* was published in monthly numbers, and notwithstanding the immense expense attaching to it, he commenced *The Architectural Magazine*, the first periodical exclusively devoted to the subject (March 1834). Like *The Gardeners' Magazine* and *The Magazine of Natural History* it only paved the way for other magazines on the same subjects, and which were more successful.

It may not be out of place here to take a nearer glance at Loudon's inner life about this period of great exertion. He had an unbounded love of truth and would punish anyone for disregarding it. In 1831 he had an amanuensis, a young man of whom he was very fond. One morning he sent him from Bayswater to take a tracing of something at the residence of the celebrated Mr. Telford, of Westminster. So eager was the young man to get away from the confinement of office, that he forgot taking pencils and tracing paper till his arrival at Westminster, and did not think of purchasing them. Nor did he cherish the idea of returning to say he had forgot the materials, so made up his mind to tell his master a lie. "Mr. Telford was not at home," he said, falteringly. Loudon fixed his keen eye upon him and observed, "Did I understand you to say that Mr. Telford was not at home?" The assistant replied in the affirmative. "Very well," said Loudon. Ordering his phaeton, he drove direct to Westminster, where he found that Mr. Telford had been unwell for some weeks. On returning to Bayswater, he paid his amanuensis with something extra to pay his lodgings for a week, and discharged him there and then, remarking that he could not permit anyone to remain on his premises who had told him a falsehood.

Loudon had a frequent caller in the shape of a character of ungentlemanly behaviour, of whom he desired to be rid. Hearing the bell ring about the usual time of this caller, he told his servant that if the caller were So-and-so, "just tell him I cannot see him." "Shall I say that you are not at home?" was the servant's reply. "No," replied Loudon; "you would then tell a falsehood, which you must not do. Just tell the gentleman I cannot see him."

He also had a great love of order, which he himself observed, and the observance of which he impressed on all in his employment. His books in the library and manuscripts on his table were so arranged that he could lay his hands upon them in the dark. When any new clerk came his instructions to him were to put everything away before leaving at night as if he never intended to return.

Punctuality as to time and money matters he observed and insisted upon. If a clerk was behind time in the morning, he took no notice for a time or two, but if repeated, he would quietly and sarcastically say, "Oh, if nine o'clock is too early for you, you had better come at eleven or twelve; but let there be just a fixed hour, that I may depend upon you."

An example of his fortitude may also be given. When Drs. Thompson and Lauder called upon him to amputate his right arm, they met him in the garden and asked if he had fully made up his mind to undergo the operation. "Oh, yes, certainly," he replied; "it was for that purpose I sent for you;" and added very coolly, "but you had better step in, and just have a little lunch first before you begin." After lunch he walked upstairs talking to the doctors on general subjects. When the operation was completed, Loudon was about to step downstairs to proceed with his business, and occasioned the doctors great trouble to induce him to go to bed.

For industry he was not surpassed by anyone. During three-fourths of his literary career, he dictated, on an average, five and a-half printed octavo pages of matter daily. He frequently dictated to two amanuenses contemporaneously. He often worked till 11 or 12 p.m., sometimes all night. While his man-servant was dressing him for church on the day of his marriage, he was dictating to his amanuensis all the time.

OBITUARY.

Mr. Mark King.

On Thursday last, May 9th, the grave closed over the mortal remains of Mr. Mark King.

Born on December 28th, 1828, at Lilliesleaf, Roxburghshire, Mr. King served his apprenticeship in the gardens of Minto House, the beautiful home of the Earls of Minto. After a number of years as an improver in various gardens and nurseries, he settled down as gardener at The Grove, Bonnington, Leith, in 1865, to the late Wm. Kinghorn, Esq., a gentleman to whom Stevenson, of lighthouse fame, entrusted much of the building of his lighthouses and breakwaters up and down our rocky shores. Mr. Kinghorn found in Mr. King a true and honest servant, and having a great deal of house property up and down the country, Mr. King acted as factor in such a manner as to gain the esteem of both proprietor and tenants. He acted as scout to the servants on Thirston estate when the first passenger train passed Dunbar to Berwick-on-Tweed on Waterloo Day, June 18th, 1846.

Since 1865 it has been to my pleasure and profit to have been on the best terms of fellowship with Mr. King, and many miles we have tramped in quest of plants, moths, &c., and to get him to walk faster than two miles the hour was almost an impossibility, as he found so much to examine and admire in the handywork of the Creator.

I found him well versed in poetry, chemistry, botany, geology, entomology, and astronomy, but strange to say I could not start him on music, or the art of saving money. Books were the world to him, and he possessed a well stocked library on all and every subject of general knowledge.

Mr. King had a great love for all poisonous plants,

Mr. Mark King.

and all strange weeds to be found on railway banks, ballast heaps, and on the shores of the Firth of Forth. An old sand pit was a very "Mecca" to his soul. For upwards of thirty years, Mr. King and I have met on the forenoon of New Year's Day in the Royal Botanic Gardens, Edinburgh, and marked and moralised on the changes and improvements of those beautiful gardens and houses. Mr. King had a well stored and very retentive memory, being able to recite "The Seasons," "English Bards," &c., &c., and on no subject could anyone wish to get some light, but Mark could give them at once a sparkling illustration.

During my life, I have followed a goodly number of the craft to their last resting place, but at none did I ever witness such a diverse gathering of men of the best qualities.

Mr. King was a strong believer in Job. "And though after my skin worms destroy this body, yet in my flesh shall I see God."

Strange to say, his youngest brother Robert arrived home on the day of his brother's death from Natal, after eighteen years travelling, and having been on the ambulance train since the war began, has seen many sights of pain and death, as well as the funeral of General Wauchope and many of the Highland Brigade at the Modder River.

On Tuesday, May 7th, it was for the first time in my recollection that the deaths of three of the prominent members of the Scottish Horticultural Association were announced from the chair at our monthly meeting, they were D. T. Fish, John Thomson and Mark King.—*James Grieve.*

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communi-

cations for each week should be posted not later than *Monday* night.

The prize last week was awarded to "F. W. M.," for his article on "Clianthus," p. 586. Four other competitors were within an ace of being of equal merit, and all good.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

PHOTOGRAPHS OF PLANTS.—The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in THE GARDNING WORLD. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Dwarf Begonias.—*Bedding*; Considering the size of the bed, we think it hardly necessary to use the rose-coloured variety, except as an edging round a square patch of the white one in the centre. You could do that if you liked, and it would form a blending or a connecting link with the crimson one (Vernon) with the bronze leaves. The latter should fill the remainder of the bed with the exception of a double edging, say of blue Lobelias and Mesembryanthemum cordifolium variegatum, the latter being outermost, because dwarfest. We do not think it advisable to mix the Mesembryanthemum with the Begonias in any way, because they are too dwarf, and would presently cover the ground so as to completely hide any groundwork you might plant. You can only use a groundwork to advantage when using taller plants, such as tuberous Begonias, which could be planted sufficiently far apart to show the effect of the groundwork between them. The dwarf, fibrous-rooted Begonias you propose to use in this bed, will not permit of a groundwork, nor do they require it.

Swollen Buds of Black Currant not opening.—*J. C.*: The buds you speak of are infested with the Currant Gall-mite (Phytoptus Ribis). They will never open, and your best plan will be to carefully pick off every one of them and burn them to destroy the small mites in them. You should proceed with this at once or the mites will soon begin to leave them, if, indeed, they have not already commenced to do so. They begin to change their quarters, or at least the younger ones do in June and the early part of July, by commencing to travel towards the young buds of this season which are being formed. If some of the bushes are too bad they may be grubbed up at once and burned, filling their places by healthy bushes in the autumn. If there are swollen buds upon them be careful to cut off every one without breaking them or some of the mites may escape to work further mischief.

A Dozen Good Cactus Dahlias.—*T. B. W.*: This number could now be easily doubled, but the varieties named will furnish the nucleus of a collection. Cycle is clear crimson; Mrs. John Goddard, crimson-scarlet; Night, maroon; Magnificent, pale orange-salmon; Starfish, orange-scarlet; Fantasy, scarlet; Earl of Pembroke, rich purple; Keynes' White, white; Mrs. Gordon Sloane, terra-cotta; Britannia, salmon-pink; Island Queen, rosy-lilac; and Lady Penzance, canary-yellow. There are many others more or less differing in being lighter or darker, and in the profusion or otherwise of the blooms they produce. Some have long stalks and others short ones, but those named above are of all round good average quality and worthy of attention.

Hardiness of Maize.—*W. Cox*: When properly hardened off before putting them out, Maize plants are fairly hardy by comparison, for instance with bedding plants. When the latter can be put out with safety, so can Maize, which we regard as hardier than Dahlias or Heliotropes. About the end of this month or the beginning of June, therefore, will be the time to plant them out, if the weather is fairly settled about that time. The point is to get your plants properly hardened before putting them in the open. Plants taken out of a warm house with a more or less confined atmosphere, and planted in the open ground would be as liable to suffer from the effects of the sun and wind quite as much as from a low temperature at night. Put them in a cold frame for a time and then take off the lights at night or stand the pots in front of one of the hothouses for a few days.

Bed of White Ageratum.—*Bedding*: Of the various plants you name we think the plan would answer best to fill the bed with the White Ageratum and surround it with a double edging. Place a line of Iresine Wallsii next to the Ageratum, and outside of all a band of Mesembryanthemum cordifolium variegatum. A bare line of the latter next the Ageratum would form no contrast, while at the same time it would be too dwarf to form an edging to plants 8 in. or 9 in. high. The edge would be, in fact, too abrupt or flat. The Iresine would make a better contrast and should go next the Ageratum.

Propagation of Pyrus Maulei.—*A. R. M.*: You could raise it from seeds, which it produces freely. Plants so raised would take longer to bloom but you stand the chance of getting something new, with lighter or darker flowers. Another method would be to graft it about the end of March on young plants of the Japan Quince (Pyrus japonica). If you have any young plants of the latter in stock you could bud them with Pyrus Maulei in July or August This latter would be the readiest or quickest means of getting up a stock of the shrub in question.

Names of Plants.—*R. M.*: 1, Cercis Siliquastrum; 2, Arabis albida flore pleno; 3, Cytisus proliferus; 4, Berberis buxifollus; 5, Berberis stenophylla; 6, Kalmia angustifolia.—*A. D. M.*: 1, Phlox amoena; 2, Phlox subulata var.; 3, Doronicum plantagineum; 4, Brodiaea uniflora; 5, Allium neapolitanum; 6, Scilla campanulata alba.—*A. S*: 1, Anemone fulgens; 2, Trollius europaeus; 3, Coronilla glauca; 4, Pyrus Maulei.—*H. M.*: 1, Calathea zebrina; 2, Tradescantia multiflora; 3, Ribes aureum; 4, Cupressus obtusa; 5, Cupressus pisifera plumosa.—*D. C.*: 1, Doryopteris palmata; 2, Cyrtomium falcatum; 3, Pteris cretica cristata; 4, Asplenium viviparum.—*Filix*: 1, Todea barbara (greenhouse temperature); 2, Polypodium pectinatum.—*A. L.*: 1, Cattleya Mossiae reineckeana; 2, Oncidium sarcodes.—*J. M.*: Kerria japonica flore pleno.—*Gardener*: Cedronella triphylla (Balm of Gilead).

Communications Received.—T. W. Dollery.—M. Temple.—T. D.—W. L. (we had a report, but thanks).—E. L. M.—Barr & Sons.—J. Gregory.—R. H. S.—Secretary, Staketgatan, No. 15, Gefle.—T. B.—A. M.

TRADE CATALOGUE RECEIVED.

L'HORTICOLE COLONIALE, SOCIETE ANONYME, Parc Leopold, Brussels, Belgium.—Special Illustrated Catalogue of Orchids.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

MAY.

21.—Kew Guild Dinner at Holborn Restaurant.
22.—R.H.S. Great Temple Show (3 days); Gardeners' Royal Benevolent Institution Annual Dinner at Hotel Metropole; Bath and W. and S Counties Society and Somerset County Agricultural Association at Croydon (5 days).
25.—Royal Botanical and Horticultural Society of Manchester, Whitsuntide Exhibition (25th to 30th).

JUNE.

1.—Royal Botanical Society Meeting; Societie Francalse d'Horticulture de Londres.
2.—Ghent Show.
4.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
6.—Linnean Society Meeting.
10.—United Horticultural Benevolent and Providential Society Committees' Meeting.
12.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days).
18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S., Richmond.
27.—Colchester Rose and Hort. Society Show.
29.—Windsor and Eaton Rose Show in Eaton College Grounds.

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days).
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show; Farningham Rose and Horticultural Society Show.
4.—Norwich Rose Show.
6.—N.R.S., Metropolitan; Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days).
11.—Bath Floral Fete and Rose Show.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S., Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days).
24.—Strathbane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Prescot Exhibition; Selby Exhibition; National Sweet Pea Society (2 days).
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts. Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldcarn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.
21.—Banffshire Exhibition; Eastbourne Exhibition; Hastings Flower Show.
27.—R.H S. Committees.
28.—Henley-on-Thames Exhibition; Hinckley Exhibition.
29.—Dundee Exhibition; Thame Exhibition; Stirling Exhibition (2 days).
30.—Bradford Horticultural Society (2 days)

SEPTEMBER.

3.—Bicester Horticultural Society.
4.—Milton and Sittingbourne (2 days).
6.—National Dahlia Society (2 days).
10.—R H.S. Committees; Durham Flower Show (2 days).
11.—Royal Caledonian Horticultural Society (2 days).
17.—Dahlia Show, Royal Aquarium, Westminster (3 days).
18.—Botley Show.
24.—R.H.S. Committees.
28.—Tamworth early Chrysanthemum Show.

OCTOBER.

8.—N.C.S. Exhibition (3 days).
10.—Fruit Exhibition, Crystal Palace (3 days).
15.—R.H S. Committees.
29.—Croydon Exhibition (2 days).
30.—Exmouth Exhibition (2 days).

NOVEMBER.

1.—Newport (Isle of Wight) 2 days; Cowes (2 days).
5.—N.C.S. Exhibition (3 days).
6.—Cardiff Exhibition (2 days).
7.—Doncaster Exhibition (2 days).
8.—Walthamstow Exhibition (2 days).

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The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, MAY 25th, 1901.

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Editorial matters are to be addressed to **the Editor.**

All other communications and Remittances must be addressed direct to the Proprietors—

HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS.

SATURDAY, June 1st.—Royal Botanical Society Meeting; Société Francaise d'Horticulture de Londres.

THE TEMPLE SHOW OF 1901.—In some respects we would be perfectly justified in saying that the Temple Show, opened on the 22nd inst., was as large as ever. The same number of tents, probably the same tents, were there, covering an area of 12,000 square feet available for exhibits, and this space was filled as usual. The most notable absentee was Sir Trevor Lawrence, Bart., whose magnificent exhibit of Orchids has never before been conspicuous by its absence in the history of the fourteen shows, held under the auspices of the Royal Horticultural Society in the Inner Temple Gardens. The pressure on space has been the president's plea for keeping his Orchids at home on this occasion. His Grace, the Duke of Northumberland, also withheld his fine display of Orchids. On the other hand, Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), came to the front in the amateurs' section, and was supported by Leopold de Rothschild, Esq. (gardener, Mr. G. Reynolds), who brought up a fine group of Vanda teres, always very successfully grown and flowered at Gunnersbury Park. Smaller groups of Orchids were staged by John Rutherford, Esq., M.P., and Ludwig Mond, Esq., F.R.S. (gardener, Mr. Clarke), representing a London grown collection. New Orchids were shown by de B. Crawshay, Esq. (gardener, Mr. W. J. Stables), and Henry Little, Esq. Continental exhibits, chiefly of new Orchids, were staged by M. Jules Hye-de-Crom, M. Florent Claes, and MM. Linden, all from Brussels. The trade of this country was well represented by Messrs. F. Sander & Co., Hugh Low & Co., Stanley, Ashton & Co., J. Cypher, B. S. Williams, J. Cowan, Charlesworth & Co., John Robson, and others, so that this section was fairly well sustained, all things considered.

The large exhibits of Caladiums were not so numerous as we have seen them in several previous years, but after a remarkably long and sunless winter and spring, it is surprising what difficulties the British gardener or grower can overcome with the aid of glass and artificial heat. A large proportion of the varieties had the foliage as handsomely coloured as usual, though the plants themselves were dwarfer than usual. For general decorative purposes dwarf habit has few drawbacks, as the pots and tubs can so easily be elevated, and the supports concealed by the massive shield-like leaves. Messrs. J. Veitch & Sons, Ltd., and J. Peed & Son were the principal exhibitors. Another special feature of this show was the number of exhibitors who had wonderful displays of really well grown Calceolarias and Gloxinias, with smaller lots of other useful greenhouse or conservatory plants such as Cinerarias, Streptocarpi, and Hippeastrums, the latter coming from the well-known and extensive collection of Captain Holford (gardener, Mr. A. Chapman). Some of the leading exhibitors of Calceolarias were A. Myers, Esq. (Epsom), Messrs. Sutton & Sons, J. Carter & Co., Webb & Sons, and J. R. Box, names sufficient to give an indication of the quality of the plants staged. Gloxinias in like manner were put up in fine form by Messrs. Sutton & Sons, Webb & Sons, J. J. Upton (Manchester), Laing & Sons, and others in smaller quantity. Grand groups of different types of Clematis were again brought up by Messrs. Richard Smith & Co. and Geo. Jackson & Son, the champions of this class of plants. Though all are hardy subjects they require the aid of glass and a little heat to get them advanced in time for the Temple Show.

A feast of Roses, such as can rarely be seen of the same quality abroad, was provided by Messrs. Frank Cant & Co., B. Cant & Son, Geo. Mount, Paul & Son, Wm. Paul & Son, C. Turner, and Wm. Rumsey, all well known to those who take an interest in Roses. Among flowering plants the large groups or collections of Phyllocacti and Kalanchoe flammea, put up by Messrs. J. Veitch & Sons, Ltd., may be considered specialities quite unique in their way. The splendid exhibit of hardy flowering trees and shrubs in the big tent from the Coombe Wood Nursery of this firm again demonstrated in better fashion than words could, what a rich and varied array of these plants is at the command of the planter for the decoration of the gardens and pleasure grounds of this country. Akin to this group, though less varied perhaps, was the group of Azaleas and other shrubs put up by Mr. John Russell, and the hybrid and other hardy Azaleas arranged by Messrs. R. & G. Cuthbert, who make a speciality of the hybrids between A. mollis and A. sinensis, with a few of the older types of deciduous Azaleas.

Messrs. Fisher, Son & Sibray again filled their allotted space on the grass with a display of trees and shrubs, valued chiefly for the ornamental effects of their richly coloured or variegated foliage. Messrs. Cheal & Sons had a similar display of the same class of plants, though on a less extensive scale. The large group of pigmy Japanese shrubs and trees served to give the British cultivator an idea of the strange forms into which the Japanese transform their trees and shrubs by torture and restricted space. They must take their pleasures strangely, as the average Britisher is said to do sadly. Moreover, these pigmy trees, hoary with age, are finding their way into British gardens to a considerable extent at present, and will do until the curiosity of the British community has been satiated. Akin to the Japanese art was the group of Messrs. Wm. Cutbush and Son, whose cut-bushes of Yew, Box and other subjects represented the old English and Dutch topiary work. Messrs. J. Carter and Co. had a smaller lot of similarly trimmed subjects; but their Fern elephants have never before been seen in the Temple Gardens. Mrs. Hart represented the amateurs in the way of pigmy Japanese trees.

The Sarracenias and other insectivorous plants exhibited by R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), and—Bruce, Esq., may be considered as very special in their way. Ferns were best represented by Messrs. H. B. May and J. Hill & Sons, both firms being amongst the formest of Fern growers. The extensive collection usually put up by Messrs. W. & J. Birkenhead, was conspicuous by its absence. Carnations were well shown by Lord Hillingdon, Messrs. Wm. Cutbush & Son and others. In the way of cut flowers the Sweet Peas, shown by Messrs. Jones & Sons, may be considered a speciality for this season of the year. Moss Roses were the speciality favoured by Lord Rothschild (gardener, Mr. Hill). From the very commencement of the Temple Shows hardy herbaceous plants and cut flowers of Tulips, Irises, Lilies, Calochorti, Pyrethrums, Poppies, Paeonies, Lupins, Aquilegias, Globe Flowers, Lily of the Valley, &c., have been a marked feature of the same; and numerous miniature rockeries, that have appeared from time to time may be considered appendages to this class of exhibits. The number and names of exhibitors vary in different years, but amongst those present on this occasion were Messrs. Barr & Sons, R. Wallace & Co., T. S. Ware, Ltd., Hogg & Robertson (Dublin), Purnell Purnell, Esq. (Streatham Hill).

Fruit was well represented by Messrs. T. Rivers & Son, who had fruit trees in pots, Messrs. Geo. Bunyard & Co., Apples; and Mr. John Watkins in the trade section. Lord Wantage (gardener, Mr. Fyfe), Sir Joseph Pease, Bart. (gardener, Mr. J. McIndoe), and Alexander Henderson, Esq., M.P., well maintained their reputation in the amateurs' division. Vegetables for this early period of the year were well shown by Lord Aldenham (gardener, Mr. E. Beckett), A. Henderson, Esq., M.P., Messrs. Sutton & Sons, J. Carter & Co., H. Cannell & Sons, and others.

Her Gracious Majesty Queen Alexandra has consented to become Patron of the Royal Horticultural Society in place of the late Queen Victoria.

After careful investigation a Frenchman announces that early struck Chrysanthemums are much more subject to the attacks of rust than those propagated later.

Poisonous Daffodils.—These popular spring flowers are not considered poisonous by the majority of people. Their deadly effects were seen recently at Knaresborough, where a little girl ate some of their blooms when on her way to school. She was taken sick, and the doctor was sent for, but he was unable to save her life.

Presentation of Diplomas.—There was a very select gathering at the Botanic Society's Gardens, Regent's Park, on the afternoon of May 17th, it being the first distribution of diplomas to the students of the society's Practical Gardening School. Lady Aberdeen made the distribution, and spoke highly of the work being carried on by the school. Mr. Jordan, the examiner, bore testimony to the high character of the instruction given to the students. The School Board are so well satisfied with the teaching given that they have doubled the number of their scholarships, and in future twenty boys and girls will be eligible for the school.

Window Gardening Society.—Will you allow me, through the medium of your paper, to invite your readers to help us in an effort we are making to brighten this dreary and uninviting neighbourhood. We are just starting what we call a Window Gardening Society; and, as our people are extremely fond of flowers, I anticipate for it a very useful future. Our difficulty is to get bulbs and seeds for distribution; and if any of your readers have such things at their disposal, I shall be glad to receive them on behalf of our people. When I tell you that flowers are practically unknown here, that we have only two or three very small trees in the whole of this district, and not a single grass plot on which our children can play, you will understand that we are very bare and towny indeed.—*Richard Free, St. Cuthbert's Lodge, Millwall, London, E.*

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Case of Libel.—In the High Court of Justice, Mr H. J. Jones was on Tuesday last awarded £50 damages against Mr. W. Wells for libel.

Paris Green.—This well-known insecticide and fungicide is extensively used by United States fruit growers. The official report for the year 1899-1900 states that in Lousiana alone, over fifty-three tons were examined by the authorities as it was brought into the country. Seeing how far a small quantity will go it must have been used over a large area.

New Free Pleasure Resort.—The beautiful palace and grounds known as Alexandra Palace have been opened to the public for ever free, except on certain special occasions, not to exceed twenty each year. The original structure put up to commemorate the exhibition of 1861 was burnt down in 1873. The present building covers seven acres of ground and cost upwards of £300,000. The interesting opening ceremony was performed by the Duke of Bedford. There were many high officials and notable people present.

Quassine for Aphides on Roses, &c.—Some little time ago we received a tube of Quassine from Messrs. Thomas Christy & Co., 4, 10, and 12, Old Swan Lane, Upper Thames Street, E.C., for trial on Rose bushes. Quassine is a liquid or semi-liquid preparation from quassia chips, and being in this form is easily and quickly prepared, compared with the time necessary to manipulate quassia chips. It is a new preparation, but instructions for using it are given upon the tubes. We placed it in the hands of an amateur whose Roses were badly affected with aphides owing to the sheltered position in which they are growing. He engaged the help of a gardener, and the two made an attack upon the pests. Besides the Quassine a little soap was also dissolved in the water according to custom, to make it more effective. The preparation did its work well as the aphides, which completely covered the young shoots, became motionless even where they were not dislodged, and Siphonophora Rosae is not easily overcome even with strong tobacco water. The applications did not extend to neighbouring gardens, however, and winged specimens again colonised the bushes. Our advice is that other Rose growers should also take the remedy in hand.

Kew Guild Dinner.—The annual dinner of the above Guild was held at the Holborn Restaurant on Tuesday, May 21st. There was a meeting of the Guild before the dinner, and the reports submitted showed that the financial position is very satisfactory. The Guild started as quite a small affair, consisting of one or two generations, but it has advanced rapidly in importance. The *Journal* of the Guild gives this year over 600 names and addresses. They are widely distributed; the directory shows that 45 are in Asia, 20 in Africa, 56 in America, 16 in Australasia, and many scattered out in islands in the Pacific and other oceans. In fact, it is, as the director said, when proposing the toast of the Guild, that there is not a country where British enterprise is active, but where one may find a Kewite doing his share in the country's interests. There was never a time when Kew men were in more demand; a sort of stamp is put on them when they pass through the Kew training, and the Kew trade mark is known throughout the world as a mark of recommendation. Kew is always open to a limited number of Continental horticulturists, and it gives great pleasure to the men to mix with their *confrères* of other countries and study their ways and manners, and their various methods of horticulture. Some professional singers were engaged to enliven the proceedings after dinner, and that their efforts at entertainment were well appreciated was well shown by the repeated encores. The song of the evening was a very appropriate parody on "The Absent-minded Beggar," which was loudly encored. It was worked on a gardening theme, and Dig! Dig, Dig! was substituted in the place of the familiar words. The old favourite, "The Fine Old Irish Gentleman," was given as an encore. A lady singer gave many delightful sentimental songs and took part in several pretty duets. About 150 sat down to dinner, which was well served and thoroughly enjoyed. The usual toasts were given, that of the chairman receiving musical honours. Many of the faces present showed signs of having recently experienced tropical suns.

This year 225 papers were sent in at the R.H.S. examination. This was eleven less than the previous year.

Royal Botanic Society of London.—Botanical people are not credited with being gay as a rule, but the above society mean having a good time during the coming summer. They started their season well at the spring show, and drew together a very fashionable gathering. They have arranged for no less than ten pastoral plays during the season, four in June and six in July, besides numerous evening fêtes and promenades.

Notes from Hamilton.—A few lines in reply to "Notes from Hamilton," p. 591. I should like to ask if the words used, "bloomer friends," were intended as a slur on the young gardeners of Hamilton. It is too bad as accidents will happen, and if intended it is unfair to throw stones. As our famous poet Burns puts it:

"The wisest man the warld e'er saw,
He dearly lov'd the lasses, O."

A word on behalf of these young gardeners. Put them alongside any of our working bodies of men and they will hold their own in any respect, although it is a pity that so many weeds get amongst the good seed. As you mention would be professional gardeners, why not make a step in Hamilton in a mild form to protect that high branch of civilisation. —*A Cabbage Grower.*

[The reference to young gardeners did not include the lady gardeners, but was intended for those who took part in the discussion on "Gardeners' Grievances" in THE GARDENING WORLD some time ago, and none of them were lady gardeners. The terms "bloomer friends," we take for granted, was intended for a rub against the dress rather than for the wearers, against whom we do not suppose any slur was intended. Our correspondent's article, by an oversight, was not signed, but we suppose he will reply to this matter and put it right.—ED.]

LEEKS.

No time should now be lost in planting the early crop of the above. Where it is desirable to grow very fine examples, it is advisable to make a shallow trench precisely as for Celery, but only taking out about 5 in. of soil. The bottom of the trench should have a good coating of very rotten manure which should be dug in a couple of inches or so. The surface should be levelled over and pressed down with the foot. Two rows should be planted in each trench, and should be planted so that each plant in the opposite row is at angles with the other. Water very freely during dry weather. Towards the end of the summer when the plants have made good growth they should have a mulching of fine manure, and some of the soil from the side of the trench should be worked on to it and over it. They should have another good watering with manure water if it can be had, and the plants will advance quickly, becoming blanched at the base previous to use. Many methods are adopted to blanch; but none beats the old fashioned and best method of blanching with soil, as thereby the snowy whiteness everyone admires in the Leek is retained.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

WINDOW BOARDS.

THE time is now approaching when all the windows will look gay with flowers, for to see the sills in front of a house well stocked, is a very pleasing spectacle; it also gives the house a more respectable appearance. The window gardener has to judge for himself the plants and colours that suit his taste best, but let him take a suggestion, a substitute for window *boxes*. This is to say that in place of these boxes boards painted green could be placed in front of the pots so as to hide them. Suppose that one has a good box full of plants all thriving well except one which is infested with insects, this one must be moved at once or all the others will become likewise attacked. Now to remove a plant from a closely-packed box without disturbing the others is not at all an easy matter; therefore the gardener is utterly at a loss to know what to do. But suppose boards instead of boxes are used, and all the plants are grown in pots, when one is deficient it can be removed and another one replaced without the slightest trouble. Those window sills that bend round at the ends can have jointed boards fitted in.—*George William Dickson, 107, Belsize Road, South Hampstead, London, N.W.*

IVY-LEAF PELARGONIUMS.

To grow the Ivy-leaf Pelargonium for winter use good plants ought to be ready for potting into their flowering pots, which would be from large 60's to the 6-in. or 32's. Well draining the pots is very important, next the soil, good loam forming the staple with a good dash of leaf mould, road grit, and bone dust. Repot fairly firm, transfer the plants after potting to cold frame and keep a little closer than before, potting when growth starts. Harden, and expose to the full rays of the sun on a coal ash bottom, watering, stopping and picking off all flower buds that show when the plants get well rooted. Give weak guano water once a week and house about the first week in September, keeping the house open day and night till wanted to flower. Then shut the house, according to the weather, and maintain a temperature of about 55° of a day with a little rise by sun and near about 45° to 50° of a night, keeping the house fairly dry and the air buoyant. When flowering is over, which would be, if well done, about February, take cuttings, cutting them off square below a joint. Insert in sandy soil in a warm house, potting them into 60's when ready.—*J. Harewood, Sussex.*

CATTLEYA LABIATA SCHRODERAE.

This is a very beautiful Orchid, and richly deserves a place in every collection. It is distinguished from the other varieties of C. labiata on account of the flowers being more constant in form and colour than other types of Cattleya. The flowers are of a beautiful and uniform delicate rosy-blush tint with a large blotch of orange-yellow in the throat and a pretty frilled lip. It should be potted immediately after flowering. I find pots suit it best, using peat and a little sphagnum. Pots should be carefully drained, and should be potted moderately firm, bringing the new compost well to the base of the pseudo-bulb. Should any portion sway, steady it by tying to neat sticks. The plants should be watered freely during growth, and moderately dry whilst at rest.—*G. W.*

MULCHING CARROTS, ONIONS, &c.

THE present will be an anxious time for gardeners and others that are troubled with the maggot attacking crops of Carrots, Onions, &c. I have seen several remedies tried, the most successful being a mulching of lawn Grass that has become fermented. It may be applied to the depth of an inch immediately the crops appear above the ground; and several dressings will be required until the crops reach an advanced stage. I have also seen this mulching applied to crops of Cauliflower, Broccoli, &c., and without a doubt is a great preventive against the dreaded maggot that so often ruins such crops.—*Fraser McNicol, Sauchieburn Gardens, Stirling.*

EREMURUS.

THESE are a class of plants that have not the popularity in herbaceous collections that they should be accorded. In fact they are only frequently met with, and that in gardens where herbaceous plants stand in eminence. They thrive well, and have a majestic effect in a rockery if tall flowering plants can be accommodated. If used in herbaceous borders, they are best adapted for the back row, and flowering as they do rather earlier in the season than most of our tall herbaceous plants, help greatly to keep the border bright in the early summer months. There are numerous species in cultivation, but Eremurus himalaicus seems to be the most popular. They are of easy culture and succeed well in any moderately good garden soil, provided it is on the moist side as they seem to be partial towards that. They are quite easily raised from seed, and, if sown in heat in February and kept gradually growing, they may be planted temporarily in a spare corner in the autumn to gain strength before being transferred to their permanent quarters. During the winter months a dressing with spent Mushroom dung will be found beneficial.—*F. Burns, Terregles Gardens, Dumfries.*

Hints for Amateurs.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Carpet Bedding.—*Freda*: This was very fashionable a few years ago, but is now almost entirely done away with, as it is much too formal, and people like to see the plants growing in natural positions and allowed free development sooner than cramped and contorted into designs in a bed, where they have to be frequently clipped and pinched to keep them to the pattern. The plants for very dwarf work are generally either Alternantheras or Herniaria. The former have very prettily coloured foliage, but they are very tender and the first frost turns them black. Dwarf Lobelia is also extensively used, and with the yellow Pyrethrum used to constitute the edging plants for the majority of large beds.

Subtropical Bedding.—*S. P.*: Two of the best plants for foliage effect are Cannas and Chilian Beet. Cannas also produce very beautiful flowers, and nothing makes a more noble plant for summer bedding. They are specially recommended for amateur gardens, as they are so easy to manage. They require much the same treatment as Dahlias. In the autumn they can be taken up and stored in a cellar or under a greenhouse stage until the following spring. The Beets have magnificent foliage and should be raised annually from seed. Both are gross feeders and require plenty of water and a rich soil.

Seakale.—*Omega*: The plants should be grown on a north border and where they get plenty of moisture. It is late now to buy plants for next winter's forcing. They ought to have been planted by February or March at the latest. When they are lifted for forcing the roots should be trimmed in rather closely, and the thickest of them saved for propagation. They should be kept in damp ashes until time to plant them out. When cutting them off, one end should be cut straight and the other wedge shaped, always cutting the wedge at the lower end. By this means it is easy to tell which is the right way up when planting them. They should not be longer than 3 in. or 4 in.

Rose Budding.—*Inquirer*: The best time to bud Roses is either late in June or early in July. It requires a practical demonstration to teach the art successfully. When this can be given it will be found a very simple process. Roses may be propagated successfully by cuttings; these should be taken about September or October, and placed in a sheltered border. They should have just a heel of old wood attached to them and not exceed 1 ft. in length.

FOURTEEN TEMPLE SHOWS.

The Royal Horticultural Society having left South Kensington at the end of the exhibition season, in 1887, was under the necessity of finding a new home to hold its meetings, as well as a site for a big show to compensate for the loss of the great summer show that used to be held in the spacious grounds at South Kensington. It was a bold venture to come citywards, yet, as it ultimately proved to be, it was a happy idea that prompted them to approach the benchers of the Inner Temple Gardens, for the purpose of holding a city show.

1888.—The first of the Temple shows was held on Thursday and Friday, the 17th and 18th May, 1888, and though the elements were unpropitious, the afternoon improved, and the tents filled up with people beyond all expectations. The two days' show proved an unexpected and remarkable success, leaving no doubt in the mind of the society as to the propriety of repeating the experiment the following year. In spite of the weather the supporters of the society did their duty, and were supplemented by several of the Covent Garden people; yet two capacious tents held all the exhibits.

Orchids constituted the most striking and effective feature of the first show by their number and the profusion of flowers they carried. At this tentative exhibition there were competitive classes, which many of the exhibitors boldly entered, while others equally good staged their exhibits not for competition. Baron Schroder, The Dell, Egham, took the Silver cup for the best competitive group, and Sir Trevor Lawrence, Bart., Burford, Dorking, was worthily awarded the Silver Cup for a magnificent non-competitive collection. The most striking Orchid was a tall spike of Lissochilus giganteus, shown by him. Other splendid competing groups of Orchids were shown by Mr. J. Cypher, Cheltenham; H. M. Pollett, Esq., Bickley; and Major Lendy, Sunbury. In the miscellaneous groups of Orchids, Messrs. F. Sander & Co., St. Albans, also received a Silver Cup; as did also Messrs. J. Veitch & Sons, Chelsea; and Messrs. Hugh Low & Co., then of Clapton, now of Bush Hill Park, Enfield. Caladiums, which have now grown to be such a feature of the Temple Show, were first shown by Messrs. J. Laing & Sons, Forest Hill; and W. Melles, Esq., Chingford. Fine miscellaneous groups of plants were shown by Messrs. J. Veitch & Sons, Laing & Sons, H. B. May, Upper Edmonton; W. Iceton, Putney; B. S. Williams & Son, Upper Holloway; and Messrs. J. Carter & Co., High Holborn. Tuberous Begonias were shown by Messrs. H. Cannell & Sons, Swanley. The champions in the way of hardy plants were Messrs. T. S. Ware, Tottenham; Barr & Sons, Covent Garden; Collins Bros. and Gabriel; and James Walker, Ham Common. Cinerarias were good from Messrs. Carter & Co.; Pelargoniums from Messrs. Cannell & Sons; Roses from Messrs. Paul & Son, Cheshunt; and Mr. C. Turner, Slough; Calceolarias from Mr. J. James, Farnham Royal, Slough; and Azaleas from Mr. C. Turner. The principal exhibitors of fruit were Messrs. G. Bunyard & Co., Maidstone; J. Cheal & Sons, Crawley; and A. H. Smee, Esq., The Grange, Hackbridge; while Messrs. G. Monro and J. B. Thomas, Covent Garden, upheld the commercial element for fruit.

1889.—The second show was held on Thursday and Friday, the 30th and 31st May. Orchids were more decidedly a feature of it than on the occasion of the first show. For a beautiful and well arranged display of well grown and flowered Orchids, Baron Schroder took the lead. Sir Trevor Lawrence, Bart., had an equally extensive collection, including much of great botanic interest. Each received a Veitch Memorial Medal. Silver Cups for Orchids went to Messrs. J. Cypher, Sander & Co., B. S. Williams; also to F. Wigan, Esq., East Sheen; F. G. Tautz, Esq., Shepherd's Bush; and G. T. White, Esq., Winchmore Hill. Medals for Orchids were also secured

Caladium W. E Gladstone (See p. 625).

by C. J. Partington, Esq., Cheshunt; H. M. Pollett, Esq.; A. H. Smee, Esq., the Duke of Marlborough, Blenheim; and Messrs. Hugh Low & Co. A magnificent group of Clematis in pots came from Messrs. R. Smith & Co., Worcester. Messrs. W. and J. Birkenhead, Sale, held the sway for hardy and exotic Ferns; Mr. A. Waterer, Knap Hill, for Azaleas; Messrs. Paul & Son, for Roses; Mr. W. Iceton, for stove plants; and Mr. C. Turner, for Pelargoniums. Messrs. Laing & Sons had greatly improved their Caladiums, and in addition made tuberous Begonias a feature of the show. Messrs. H. Cannell & Sons were similarly strong in Begonias. It is but right to say that hardy herbaceous plants and cut flowers of the same have always been strong features of these shows, and on this occasion Messrs. Barr & Sons, T. S. Ware, Kelway & Son (Langport, Somerset), Paul & Son, and Collins Bros. and Gabriel. Roses were well shown by Messrs. Paul & Son, and W. Paul and Son, Waltham Cross. Japanese Maples, which have since grown to such proportions, were shown by Messrs. J. Veitch and Sons. Violas were well shown by Messrs. Cannell & Sons; and Calceolarias by Messrs. Carter & Co., and H. Cannell & Sons. The market element had considerably fallen away, but Mr. H. B. May had a fine group of Crotons, Pandanus, and other stove plants. There was a competition for collections of florists' Tulips at this show. The same exhibitors as at the first show were prominent at the second for fruit.

1890.—The success of the Temple Show was by this time an established fact, and at 1 p.m. on Wednesday, May 28th, it was opened by the Prince of Wales, and continued next day. Orchids continued to be a striking feature, cups for this noble class of plants going to Baron Schroder (gardener, Mr. H. Ballantine), Sir Trevor Lawrence, Bart. (grower, Mr W. H. White), Messrs. F. Sander & Co., B. S. Williams & Son, J. Cypher and H. M. Pollett, Esq. For the same class of plants Medals went to the Duke of Northumberland (gardener, Mr. G. Wythes), Syon House; T. B. Haywood, Esq. (gardener, Mr. C. J. Salter); Messrs. Hugh Low & Co., and F. Wigan, Esq. Ferns were a notable feature, Cups going to Messrs. W. & J. Birkenhead and J. Backhouse & Son, York. Messrs. Laing & Sons were in the first rank for tuberous Begonias; Paul & Son and Wm. Paul & Son for Roses; and H. B. May for fine foliage plants. Messrs. J. Peed & Sons, West Norwood, were much stronger in Anthuriums than in 1889. Messrs. Sutton & Sons, Reading, and Messrs. J. Veitch & Sons had splendid exhibits of Gloxinias, for the first time a strong feature of the show. Messrs. R. Smith & Co. brought up their splendid group of Clematis again. Herbaceous plants were grandly represented by Messrs. Kelway & Son, Barr & Sons, T. S. Ware, Paul & Son, J. Veitch & Sons, Paul & Son and Dobbie & Co., Rothesay, the latter exhibiting pot plants and cut flowers of Pansies and Violas. Messrs. Cannell & Sons were strong in tuberous Begonias; C. Turner in Pelargoniums; J. James & Son and H. Cannell & Sons in Calceolarias; Wm. Cutbush & Son, Highgate, in foliage and flowering plants; W. Iceton in Palms; Laing & Sons in Rhododendrons; Balchin & Sons, Hassocks, Brighton, in Leschenaultias; and F. W. Wiltshire, Esq., South Norwood, in Caladiums. Messrs. J. Veitch & Sons made a fine feature of a massive bank of flowering trees and shrubs. Fruit was best represented by Messrs. G. Bunyard & Co. (Apples), G. Monro, J. Veitch & Sons (Apples); J. L. Mansell, Esq., J. F. Campbell, Esq., E. Pettit, Esq., and Mr. J. R. Featherby, all of them showing Grapes and other fruits.

1891.—The fourth Temple Show was opened by H.R.H. Princess Christian on Thursday, May 28th, and continued next day. Each year the show had steadily been increasing, and by this time required four tents to hold it. The two leading amateurs, Baron Schroder and Sir Trevor Lawrence, Bart., maintained their pride of place; and their splendid efforts were supplemented by the Duke of Marlborough, A. H. Smee, Esq., T. B. Haywood, Esq., F. Wigan, Esq., Malcolm S. Cooke, Esq., the Right Hon. J. Chamberlain and Messrs. de Rothschild (gardener, Mr. G. Reynolds), the latter showing a splendid group of Vanda teres. Other amateurs exhibited Orchids and their presence was a gratifying fact. The long pendent spikes of Odontoglossum citrosmum in quantity, hanging down over the extensive group of Messrs. F. Sander & Co. gave this exhibit a very unique character. Mr. J. Cypher, Messrs. Hugh Low & Co. and Messrs. B. S. Williams & Son, all gave the cause excellent support. The flowering trees and shrubs shown by Messrs. J. Veitch & Sons, and the Roses by Messrs. Paul & Son and Wm. Paul & Son, created a considerable amount of interest on account of their effectiveness. Messrs. Laing & Sons were to the fore with their Caladiums and tuberous Begonias, Messrs. H. Cannell & Sons also showing the latter well. The Streptocarpus and Gloxinias shown by Messrs. J. Veitch & Sons, were well received, the former being yet rather novel. The Calceolarias shown by Messrs. Carter & Co. and Mr. J. James, were supplemented by a fine exhibit from Sir C. Pigott, Bart., Wexham Park, Slough. The Malmaison Carnations shown by Leopold de Rothschild, Esq. (gardener, Mr. J. Jennings) took the visitors by surprise. Messrs. Dobbie & Co. repeated their attractive exhibit of Pansies and Violas. Ericas were grandly shown by Messrs. Hugh Low & Co. Hardy herbaceous plants were a decided feature as shown by Mr. T. S. Ware, Messrs. Barr & Sons, Kelway & Son and Paul & Son. The Anthuriums of Messrs. J. Peed & Son were again fine. In the way of fruit the orchard-house trees shown by Messrs. T. S. Rivers & Son, Sawbridgworth, were unique; and Messrs. Veitch & Sons had a fine collection of Apples.

1892.—The show on this occasion was held on Wednesday and Thursday, May 25th and 26th, and was notable for the crowding now visible in the four tents. Most of the previously named exhibitors maintained their reputation for Orchids, and the large plant of Coelogyne dayana, shown by Baron Schroder, was particularly noteworthy. New comers with fine exhibits of Orchids were C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham; T. C. Jacomb, Esq., Cheam Park, Surrey; and Viscountess Portman (gardener, Mr. Prinsep), Buxted Park, Sussex, the latter creating great interest by his huge specimens of pruned Dendrobiums. Messrs. Lewis & Co., Southgate; Charlesworth, Shuttleworth & Co., Bradford; and Heath & Co., Cheltenham, were additions in the nurserymen's class. Splendid miscellaneous groups of plants were set up by Messrs. J. Veitch & Sons, J. Laing & Sons, and William Cutbush & Son; while Messrs. Richard Smith & Co. were equally meritorious for Clematis; W. and J. Birkenhead, for Ferns; Wm. Paul & Son, for Roses; and Mr. A. Waterer, for Azaleas. Tuberous Begonias, from Messrs. J. Laing & Sons, H. Cannell & Sons, and Mr. T. S. Ware, made highly effective banks of colour. Hardy herbaceous and alpine plants were particularly abundant, from the same sources as the previous year, to which may be added exhibits from Messrs. J. Laing & Sons, Messrs. J. Backhouse & Son, the Guildford Hardy Plant Co., Messrs. Wm. Cutbush & Son, and Mr. M. Pritchard. Messrs. J. Peed & Son supplemented their Anthuriums with Caladiums. Messrs Linden, Brussels, had a fine lot of new plants. Messrs. W. and J. Birkenhead and H. B. May remained the champions for Ferns. Messrs. Dobbie & Co. showed Sweet Peas; Mr. H. J. Jones, Ryecroft Nursery, Lewisham, Pelargoniums; and Messrs. R. Wallace & Co., Colchester, Lilies. Messrs. T. Rivers & Sons were again unique for their fruit trees in pots. The Marquis of Salisbury (gardener, Mr. G. Norman) had a Cup for Strawberries. Messrs. J. Veitch and Sons and A. H. Smee, Esq., had Apples and Pears.

1893.—The show of May 25th and 26th followed a warm dry spring, and many of the plants on which the show had previously depended, were past their best; nevertheless it was quite up to the average, and was housed in four long tents and a large marquee, as in succeeding years, this being the limit of space fixed by the benchers of the Temple Gardens. Orchids again took the lead for general effect. Cups for this class of exhibit went to Baron Schroder, Sir T. Lawrence, Bart., Mr. J. Cypher, C. J. Lucas, Esq., and Messrs. F. Sander & Co. The same exhibitors as in the previous year for Begonias, again came forward, and were supported by G. G. Farini, Esq. Messrs. W. and J. Birkenhead and H. B. May received Cups for their Ferns. New exhibitors receiving similar distinction were the late Philip Crowley, Esq. (foliage plants); J. Warren, Esq., Crawley (foliage plants); and Messrs. Pitcher & Manda (Orchids and other plants). Hardy herbaceous plants were again splendidly shown by the well known exhibitors above named, supplemented by Messrs. Harkness & Son, Bedale. Messrs. Barr & Sons were awarded a cup for their extensive exhibit of herbaceous subjects. Messrs. Sutton & Sons, Reading, had a splendid exhibit of Gloxinias. Messrs. J. Veitch & Sons were as strong as ever with trees and shrubs, Gloxinias, and Streptocarpus. Lord Penzance made his appearance with the now celebrated hybrid Penzance Sweet Briers. Mr. F. Cant, Colchester, supplemented the exhibits of Roses. In the way of fruit the pot trees of Nectarines, shown by Messrs. T. Rivers & Sons, were again a feature; and the Apples shown by Messrs. J. Veitch & Sons were noteworthy.

1894.—The show on this occasion was extended to three days, namely, May 23rd, 24th and 25th, the weather brightening a little after a cold wet spring. It was opened by H.R.H. the Duke of York. The Orchids were again a highly effective feature, much the same exhibitors occupying their previous positions. The fine plant of Coelogyne dayana shown by Baron Schroder on this occasion carried 934 flowers. Orchid exhibitors were supplemented by Wellbore S. Ellis, Esq. (gardener, Mr. Masterton), Hazelbourne, Dorking; Walter C. Walker, Esq. (gardener, Mr. G. Cragg), Winchmore Hill; Fred Hardy, Esq., Ashton-on-Mersey; Messrs. Linden, Brussels; M. Vincke-Dujardin, of Bruges; M. Jules Hye-Leysen, of Ghent; and M. A. A. Peeters, of Brussels. Gold Medals went to Messrs. J. Veitch & Sons for flowering trees and shrubs; and to Messrs. F. Sander & Co., for new plants, especially Orchids. A piece of Oncidium ampliatum majus carried between 4,000 and 5,000 blooms. Particularly fine were the pot plants of Clematis shown by Messrs. R. Smith & Co.; and the Begonias shown by Messrs. J. Laing & Sons, H. Cannell & Sons, T. S. Ware, J. R. Box and G. Farini, Esq. Caladiums now became a most prominent feature of the show by their numbers and splendid foliage, the chief exhibitors being Messrs. J. Laing & Sons, J. Peed & Son and J. Veitch & Sons. Herbaceous plants continued to be highly meritorious, the previous exhibitors being supplemented by Messrs. W. Cutbush & Son, Laxton Bros. (Bedford), J. Carter & Co., J. Veitch & Sons and B. Ladhams, Southampton. Hard-wooded plants from Messrs. Hugh Low & Co. and Balchin & Sons, were interesting features, as well as the pictorial trees and shrubs shown by Messrs. J. Cheal & Sons, and the Calochorti by Messrs. R. Wallace & Co. The best features in the way of fruit were the Apples shown by Messrs. G. Bunyard & Co. and J. Veitch & Sons; and the collection of fifty Melons by Mr. S. Mortimer, Rowledge, Farnham.

1895.—The great annual show on this occasion was held on the 21st, 22nd, and 23rd May, the opening day being dull throughout, but all in favour of the comfort of the visitors in the tents. Market plants a feature of the first Temple Show, and characteristic of much of the stuff shown by exhibitors who were not market men had given place to material more strictly grown for this show. Orchids were undoubtedly the leading feature, and Baron Schroder and Sir Trevor Lawrence, Bart., held their accustomed places, both receiving Silver Cups, and the latter a Silver Medal for each of Cypripedium Stonei platytaenium and Epidendrum stamfordianum, as the most notable of the Orchids exhibited. Silver Cups for Orchids also went to Messrs. F. Sander & Co., Sir F. Wigan, and Messrs. Hugh Low & Co. Next in order for medals for Orchids came Mr. J. Cypher, Messrs. Charlesworth & Co., Messrs. W. L. Lewis & Co., J. Gurney Fowler, Esq., South Woodford; and Messrs. B. S. Williams & Sons. Not far behind were the Right Hon. Earl Percy (gardener, Mr. G. Wythes), Syon House; Wellbore S. Ellis, Esq., Dorking; and Malcolm S. Cooke, Esq., Kingston Hill.

Caladiums by this time were attracting attention, and were best shown by Messrs. J. Veitch & Sons, J. Peed & Son, and Pantia Ralli, Esq. Tuberous Begonias in fine form, were staged by Messrs. H. Cannell & Sons and T. S. Ware. The fibrous rooted section was well shown by Messrs. Sutton & Sons, who were also strong in Calceolarias, Gloxinias, and vegetables in a growing state. The latter was one of the most novel exhibits in the show. In the way of new plants the largest exhibit was that of Messrs. F. Sander & Co. The finest exhibit of flowering trees and shrubs was that of Messrs. J. Veitch & Sons. The large mixed group

of Carnations and greenhouse plants shown by Messrs. W. Cutbush & Son was greatly improved on previous years. The Malmaison Carnations shown by Leopold de Rothschild, Esq., again attracted great attention. Messrs. H. Low & Co. had stove plants. Palms were best from Mr. W. Iceton, Putney Park Lane; and Messrs. Wills & Segar, South Kensington. Messrs. R. Smith & Co., Worcester, had a splendid group of Clematis; and Messrs. G. Jackman & Son, Woking, set up quite a different type of hybrid Clematis. Messrs. Cannell & Sons had a well grown group of Gloxinias. Mr. H. J. Jones and Mr. C. Turner were the exponents of show, fancy and regal Felargoniums. From their numbers and extent the exhibits of herbaceous plants quite came up to previous years, very fine being the varions sections of Tulips shown by Messrs. Barr & Sons. Other leading exhibitors of border flowers were Messrs. T. S. Ware, J. Veitch & Sons, Kelway & Son, J. Carter & Co., Sutton & Sons, Paul & Son, B. Ladhams, J. Cheal & Sons, S. Pye (Catterall, Garstang), Messrs. Dobble & Co. with Violas, and J. Backhouse & Son, who had an interesting rockery as well as Filmy Ferns. Messrs. J. Veitch & Sons had a group of Phyllocacti, which have grown in importance ever since. Their Gloxinias and Streptocarpi were also noteworthy, as was the finely-flowered group of Streptosolen by J. T. Bennett Poë, Esq. Roses were well shown by Messrs. W. Paul & Son, C. Turner, G. Monnt, Paul & Son, and Frank Cant. In the way of fruit, Messrs. T. Rivers & Son received a Gold Medal for fruit trees in pots. The Right Hon. Earl Percy had forced fruits; as had Sir Joseph Pease, Bart. (gardener, Mr. McIndoe); while Messrs. Geo. Bunyard & Co. had a fine collection of Kentish grown Apples.

1896.—The dates on this occasion were May 19th, 20th, and 21st, the show being opened by the Prince and Princess of Wales. Orchids were as strong as ever, except in the absence of Baron Schroder, who was conspicuous by his absence at this show. Sir Trevor Lawrence, Bart., upheld his previous reputation. The exhibitors of the previous year were again present, to whom we may add Messrs. Linden, of Brussels, and other well known Belgian exhibitors with smaller lots; also H. S. Leon, Esq. (gardener, Mr. A. Hislop), Bletchley Park; Major Joicey (gardener, Mr. F. J. Thorne), Sunningdale Park; and several others with smaller lots. Caladiums had by this time taken a leading place, the champions being Messrs. J. Peed & Sons, J. Veitch & Sons, J. Laing & Sons, and Hugh Low & Co. Begonias were scarcely less important, the exhibitors of tuberous varieties being Messrs. J. Laing & Sons, T. S. Ware, H. J. Jones, and J. R. Box. Messrs. Sutton & Sons had a splendid exhibit of the fibrous rooted section. Gloxinias were plentiful, the principal exhibitors being Messrs. J. Veitch & Sons, Sutton & Sons, and H. Cannell & Sons. Messrs. F. Sander & Co. were well forward with new plants; J. Veitch & Sons, with Azaleas and other flowering shrubs, Japanese dwarf Conifers and Maples; H. B. May, with Crotons; Wm. Cutbush & Son, with Malmaison Carnations and greenhouse plants; R. Smith & Co., with Clematis; Dobbie & Co., with Dahlias in flower; and R. Wallace & Co., with Liliums and Calochorti. Roses were well shown by Messrs. G. Mount, Canterbury; G. Cooling & Sons, Bath; W. Rumsey, Waltham Cross; and C. Turner. Herbaceous plants were very abundant again, there being fine exhibits from Messrs. Barr & Sons, Wm. Cutbush & Son, Cheal & Sons, Geo. Jackman & Son, Kelway & Son, M. Prichard (Christchurch), Young & Dobinson, B. Ladhams (Southampton), J. Carter & Co., T. S. Ware, Paul & Son, and Backhouse & Son. Cannas were plentiful, coming from Messrs. H. Cannell & Sons, J. Veitch & Sons, H. Low & Co., &c. The centre of the No. III. tent was filled with a mixed collection of growing vegetables and flowers by Messrs. Sutton & Sons, who received a Gold Medal. Never before nor since has such an extensive exhibit of growing vegetables been seen at the Temple Show, and after the event the Queen accepted the exhibit. In the way of fruit the finest features were the Nectarine trees shown by Messrs. T. Rivers & Son; the Apples by Messrs. G. Bunyard & Co., and Apples and Pears by J. Veitch & Sons.

1897.—This show was opened on May 26th, and continued over the 27th and 28th. Royal visitors were the Princess of Wales, Duke of York, Princess Charles of Denmark, and Princess Victoria. Orchids were very choice and abundant. Sir Trevor Lawrence, Bart., and Baron Schroder again took the lead amongst amateurs, supplemented by W. Thompson, Esq. (gardener, Mr. Stevens), Walton Grange, Stone; Fred. Hardy, Esq. (gardener, Mr. T. Stafford), Ashton-on-Mersey, and others with smaller exhibits, besides the exhibitors, both amateurs and nurserymen, of the previous year. Caladiums were equally, if not more, effective, than in 1896, the premier places being taken by Messrs. J. Veitch & Sons, J. Laing & Sons, J. Peed & Son, and Pantia Ralli, Esq. (gardener, Mr. G. Hunt), Ashtead Park, Surrey. Tuberous and fibrous rooted Begonias came up again as strongly as ever from the exhibitors of the previous year, and the addition of Messrs. H. Cannell & Sons, who also had a fine lot of Cannas, and another of Gloxinias. The largest exhibit of the latter came from Messrs. Sutton & Sons; and smaller collections from Messrs. J. Veitch & Sons, J. Peed & Son, and J. Carter & Co. Messrs. J. Veitch & Sons were also strong in flowering trees and shrubs, Phyllocacti, and Streptocarpi; R. Smith & Co., in Clematis; Messrs. Wm. Cutbush & Son, in Malmaison and other Carnations; Fisher, Son and Sibray, Handsworth, near Sheffield, in Japanese Maples, and other shrubs; R. and G. Cuthbert, Southgate, in various hardy races of Azalea; Fromow & Sons, Chiswick, in Japanese Maples; Balchin & Sons, Brighton, in hard-wooded greenhouse plants; and Leopold de Rothschild, Esq. (gardener, Mr. J. Hudsoo), in scented-leaved Pelargoniums. The usual exhibitors of Roses were again strong in their speciality, Mr. G. Mount having the finest cut blooms. Mr. H. B. May and Messrs. W. and J. Birkenhead had splendid exhibits of Ferns. Herbaceous plants in the form of cut flowers were abundant, and shown by the exhibitors of the previous year. Mr. T. S. Ware had a collection of them in pots. Messrs. Dobbie & Co. had an uncommon exhibit in Dahlias. Fruit trees in pots were superbly shown by Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), and by Messrs. T. Rivers & Son. Collections of fruit were well shown by Sir Joseph Pease, M.P., Sir W. Pearce, Bart. (gardener, Mr. C. Beckett), Hungerford; Earl Percy, Mrs. Wingfield (gardener, Mr. W. J. Empson), Ampthill, Beds; and Apples and Pears by Messrs. Geo. Bunyard & Co. Messrs. J. Veitch & Sons, J. Carter & Co, Swanley College, Mrs. Wingfield, and the Marquis of Northampton (gardener, Mr. Yates), were strong in vegetables.

1898.—May 25th, 26th, and 27th were the dates of the show on this occasion, the tents being as well filled as ever, though there was a falling away in a few instances, and additions in others, so that the show still maintained its excellence. Baron Schroder was absent from his usual position in the big tent, but the exhibits of Sir Trevor Lawrence, Bart., Sir F. Wigan, Bart., the Right Hon. Earl Percy, H. S. Leon, Esq., Ludwig Mond, Esq. (gardener, Mr. Clarke), Regent's Park, and W. Thompson, Esq, largely made up for it amongst amateurs. The trade exhibits were much the same as in the previous year, and quite as good. The three leading exhibitors of Caladiums maintained their records; and the same may be said for tuberous Begonias, Gloxinias, Carnations, Phyllocacti, and Ferns. An additional collection to the latter was made by Messrs. J. Hill & Son, Lower Edmonton. Calceolarias were well shown by Messrs. J. James & Son, J. Carter & Co., and H. Cannell & Sons. Roses were well show by the usual champions of this popular flower; and herbaceous plants by those who make a speciality of the same. Mr. Amos Perry, Winchmore Hill, may be added to previous exhibitors. Groups of Clematis were again well shown by Messrs. R. Smith & Co., Geo. Jackman & Son; hardy trees and shrubs by Messrs. J. Veitch & Son, Ltd., John Russell (Richmond, Surrey), Little & Ballantyne (Carlisle), J. Cheal & Sons, Fisher, Son & Sibrary, R. & G. Cuthbert, Paul & Son, Fromow & Sons, and J. Waterer & Sons (Bagshot), many of these exhibits being staged on the grass out of doors. Messrs. F. Sander & Co. had new plants, including Acalypha sanderiana. Cannas were well shown by Messrs. H. Cannell & Sons. Messrs. T. Rivers & Son and Leopold de Rothschild, Esq., repeated their fine exhibits of fruit trees in pots; and Messrs. G. Bunyard & Co., and Sir Joseph Pease, Bart., their collections of fruit. In the way of vegetables the large baskets of gathered Peas, shown by Messrs. Sutton & Sons, at this early season were notable. Splendid exhibits of vegetables were also made by Lord Aldenham (gardener, Mr. E. Beckett), Aldenham House, Elstree; the Hon. Mrs. Wingfield, Messrs. J. Carter

KALANCHOE FLAMMEA (See p. 627).

& Co., Swanley College, and Mr. S. Mortimer, Rowledge, Farnham.

1899.—May 31st and June 1st and 2nd were the dates of this show, which was served by glorious weather, and visited in the afternoon by H. R. H. The Duke and Duchess of Connaught. The Orchids were as fine as ever, and the exhibitors made a more decided attempt at effective display than had hitherto been the case, except in individual instances. The exhibitors of 1898 all staged particularly fine lots, and their number was augmented by J. Rutherford, Esq., M.P., Blackburn; Walter C. Walker, Esq. (gardener, Mr. G. Cragg), Winchmore Hill; while there was a slight alteration in some of the trade names, including Messrs. Stanley-Mobbs and Ashton, Southgate; and L'Horticole Coloniale, (Messrs. Linden, Brussels). The well known champions of Caladium culture again exhibited well, and were supplemented by Pantia Ralli, Esq., and R. Hoffman, Esq., West Dulwich. Malmaison and other Carnations were grandly shown by Messrs. Wm. Cutbush & Son, and M. R. Smith. Esq. (gardener, Mr. C. Blick), The Warren, Hayes. Messrs. Sutton & Sons had a magnificent group of Calceolarias in the big tent, and Messrs. J. Carter & Co., and Ed. Webb & Sons, Wordsley, Stourbridge, staged fine lots in other tents, the latter firm being new comers, who also showed vegetables. Splendid exhibits of Ghent and mollis Azaleas, &c., were shown by Messrs. R. and G. Cuthbert, and Mr. John Russell. The usual exhibitors of tuberous Begonias were in fine form, though Mr. J. R. Box was absent. Phyllocacti and flowering trees and shrubs were well shown by Messrs. J. Veitch & Sons, Ltd.; Cannas in pots, by H. Cannell & Sons; Roses in great quantity and of excellent quality, by most of the usual exhibitors; Clematis, by R. Smith & Co.; hybrids of Clematis coccinea, by Geo. Jackman & Son; stove plants, by Wills and Segar. Japanese Maples and allied subjects were more than ever a feature of the outdoor exhibits, prominent amongst the exhibitors being Messrs. Fisher, Son, and Sibray, John Russell, Fromow & Sons, Cripps & Sons (Tunbridge Wells). Hardy Bamboos in the open were shown by Messrs. J. Veitch & Sons, Ltd., and Paul & Son, Cheshunt; while an excellent group of topiary work came from Messrs. J. Cheal & Sons. Ferns were again well shown by Messrs. May, Hill, and Birkenhead. Dwarf Nemesias, by Messrs. Sutton & Sons, were a new feature. The principal exhibitors of fruit were Sir J. Pease, M.P., Lord Wantage, Messrs. Rivers, and Bunyard. Vegetables were shown by the exhibitors of 1898.

1900.—The dates were May 23rd, 24th and 25th. The quality of the exhibits and their arrangement had steadily been improving from year to year, but on no previous occasion had the average attained to the high water mark of last year, for it was admitted to be the leading horticultural event of the year, anywhere. The show was visited by the Queen of Sweden on the first day, and by H.R.H. the Prince of Wales on the second. British and Continental exhibitors of Orchids again set out a feast of Orchids fit for a king. The most effectively arranged exhibit by an amateur was that of Sir F. Wigan, Bart. (grower, Mr. W. H. Young). The most novel exhibit of flowers was the tank of Water Lilies shown in the open air by Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson). Uncommon exhibits were the insectivorous plants repeated from previous years by R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), and supplemented by his Grace the Duke of Northumberland (gardener, Mr. G. Wythes); and the Cacti by Messrs. J. Veitch & Sons, H. Cannell & Sons and J. Cheal & Sons, Caladiums were shown by Messrs. Veitch and Peed; Begonias by Messrs. Laing, Ware and Cannell; Cannas by the last named; Gloxinias by Messrs. Peed and J. J. Upton (Manchester); Carnations by Leopold de Rothschild, Esq. (gardener, Mr. J. Jennings), and Messrs. Cutbush; Calceolarias by Messrs. Sutton & Sons, J. James & Son, J. Carter & Co., Webb & Sons and H. Cannell & Sons; and Clematis, Ferns and Azaleas by the exhibitors of previous years. Messrs. J. Veitch & Sons eclipsed their previous efforts, if that were possible in their group of flowering trees and shrubs, including Embothrium coccineum and magnificent spikes of the herbaceous Lilyworts, Eremurus. Messrs. Cutbush & Son very appropriately had the best lot of cut Yews, Box and other shrubs. Outdoor groups of trees and shrubs were again splendid, being well shown by Messrs. Fisher, Son & Sibray, Laing & Sons, John Russell, Cripps & Son and Fromow & Sons. Azaleas were grandly shown by Messrs. R. & G. Cuthbert and John Russell; Rhododendrons by J. Waterer & Sons. Herbaceous plants were particularly fine and abundant including exhibits from Messrs. Barr & Sons, T. S. Ware, Ltd., Cheal & Sons, R. Smith & Co., R. Wallace & Co., G. Jackman & Son, Kelway & Son, Amos Perry, Backhouse & Son, J. Carter & Co., Guildford Hardy Plant Co., M. Pritchard, T. Jannoch (giant Lily of the Valley), H. J. Jones, Panl & Son, Hogg & Robertson (Dublin) and Dobbie & Co. (Sweet Peas). The chief exhibitors of fruit were Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Lord Wantage, Messrs. T. Rivers & Son, Sir J. Pease and Messrs. G. Bunyard & Co. For vegetables the lead was taken by Messrs. Sutton & Sons, S. Mortimer, J. Carter & Co. and A. Henderson, Esq., M.P. (gardener, Mr. W. L. Bastin), Buscot Park, Berks.

1901.—May 22nd, 23rd and 24th were the dates this year. The long, sunless winter and spring has been unpropitious for various subjects, particularly flowering plants which delight in a fair amonnt of sunshine, and which are behind their usual time, particularly Begonias and Gloxinias and other subjects that require forcing. Orchids were shown in grand form by most of the usual exhibitors. There was one conspicuous falling away, however, as the president, Sir Trevor Lawrence, Bart., considering the pressure on space, resolved almost at the last moment to withhold his splendid contribution, thus weakening the amateurs' section considerably. The Duke of Northumberland was also absnte on this occasion. Sir Frederick Wigan, Bart., therefore took the lead, as might have been expected. The nurserymen who exhibited in previous years again came forward, and a little addition to this section was made by Mr. John Robson, Altrincham, and Mr. John Cowan, Gateacre. The Caladiums were again splendid, but the trade exhibits fewer than on previous occasions. Hardy herbaceous plants were as fine as ever, and the same may be said of hardy trees and shrubs. Greenhouse or soft-wooded plants, such as Gloxinias and Calceolarias, were in grand form and abundant. The tuberous Begonias were a little behind time, on account of the backward nature of the season. Insectivorous plants, Roses, Carnations, Cannas, Clematis, Cacti, Hippeastrums, Ferns, &c., all combined to make a fine show. Fruit was supported as usual by Messrs. T. Rivers & Son, Geo. Bunyard, John Watkins, Lord Wantage and Sir Joseph Pease. Vegetables were well shown by Messrs. Sutton & Sons, J. Carter & Co., Lord Aldenham, A. Henderson, Esq., M.P., and others.

PIGMY JAPANESE TREES (See p. 629)

Apple Cider, given in occasional doses, is said to act as a preventive of small pox.

TEMPLE SHOW.

MAY 22nd, 23rd and 24th.

THE fourteenth show held in the Inner Temple Gardens by the Royal Horticultural Society, opened in glorious weather; and soon after the gates were opened to the public the tents were simply crowded and overpacked from end to end. The embankment was lined with cabs, carriages and other vehicles which had brought their loads of passengers. Although a few of the exhibitors of Orchids had dropped out there were others and the space was as well filled as ever. This applies to the show as a whole. The general expression was that it was a a grand show.

ORCHIDS.

LEOPOLD DE ROTHSCHILD, Esq. (gardener, Mr. Geo. Reynolds), Gunnersbury Park, Acton, set up the finest lot of Vanda teres ever seen at the Temple Show, the exhibitor and gardener beating all their previous efforts. The group was arranged almost in the form of a large garden chair the Vandas backed up with Bamboos and Palms forming the back and ends of the chair. The flowers were in greater profusion than we have ever seen them, covering the whole mass with a rich draping of colour. Ferns (Adiantum) and small plants of Cocos weddeliana occupied the place of the seat of the chair and some dwarf plants of Vanda were dotted through them, including a new variety named V. t. Rothschild var., which had larger and more richly coloured flowers than the ordinary form. The group was the most unique in the show in the way of Orchids.

Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, exhibited a more extensive group of Orchids than we remember him ever doing before, so that practically he headed the list of amateurs for extent and effectiveness. Beneath some tall Palms on the top were some massive and well-flowered plants of Cymbidium lowianum with long spikes reaching more than half way down the slope of the exhibit. Prominent and very conspicuous were the mounds of Miltonia vexillaria in a great variety of colours. Handsome varieties were M. v. chelsoniensis, M.v. Empress Victoria Augusta, M. Roezli and M. R. alba. Other highly conspicuous Orchids were groups or plants of Laelia purpurata, Oncidium cryptocopis, O. c. superbum, Cattleya Skinneri, C. S. alba, Laeliocattleya G. S. Ball, Lc. Hyppolyta langleyensis, Cattleya Mossiae Dulce, Laeliocattleya Edgar Wigan (Lc. Aphrodite × L. digbyana), a magnificent flower which was accorded a First-class Certificate; also Cymbidium tigrinum, Phalaenopsis grandiflora, Odontoglossum Rolfeae, a a magnificent natural hybrid, and fine pieces of Cypripedium rothschildianum. A basket of small and choice things included Cypripedium bellatulum, C. b. album, C. niveum, C. concolor, C. Godefroyae leucochilum, and the pigmy Eria extinctoria which always wants to see the Temple Show and generally comes. The display was admitted to be far ahead of any other amateur exhibit in the show.

Next to this was a group of Orchids, chiefly Odontoglossums, from M. Florent Claes, Etterbeek. Brussels. Very fine were Odontoglossum crispum Captain Hocken, richly blotched; O. andersonianum etterbeekense, O. Adrianae Luminous, handsomely spotted; O. triumphans album claesianum (with white ground), O. Coradinei madouxianum, O. triumphans Lighthouse, O. ruckerianum aureomarginatum and various other choice and beautiful things.

Ludwig Mond, Esq. (gardener, Mr. J. O. Clarke), Avenue Road, Regent's Park, exhibited a group of Odontoglossums and other Orchids set up with Palms, Asparagus and Adiantums. He had well flowered pieces of Cattleya Mossiae, Laelia purpurata, Cymbidium lowianum, Odontoglossum citrosmum, Angraecum sesquipedale, Miltonia vexillaria, Oncidium Papilio, Cypripedium masterianum and various others.

Messrs. F. Sander & Co., St. Albans, had a very extensive bank of Orchids in the big tent, backed up with a few tall Palms, and edged and interspersed with Adiantums. In a prominent position were two plants of Bulbophyllum barbigerum, the lips of which were in constant vibration with every breath of wind. Interesting and showy were Odontoglossum vuylstekeanum, Cypripedium Maudiae superbum, Cattleya reineckeana Miss Kate Brazier, C. r. fascinator, Odontoglossum Adrianae nobilior, O. Alexandrae Regina, O. A. majestica and O. harryanocrispum Duchess of York, a beautiful natural hybrid. Very choice also were O. crispum R. H. Measures, a yellow ground variety; and O. Rolfeae Mrs. R. H. Measures, a very handsome natural hybrid. A very richly and dark blotched variety was named O. crispum Memoria Victoria Regina. Noteworthy also were Cymbidium lowianum concolor, Cattleya intermedia alba, Odontoglossum facetum nobilior, O. crispum Windsor, O. Adrianae Canary Bird, Miltonia vexillaria Empress Augusta, and the light coloured M. bleuana Queen Margherita, Odontoglossum triumphans pallens, O. crispum King Emperor, Oncidium concolor and various others, making a grand display.

Messrs. B. S. Williams & Son, Upper Holloway, London, exhibited a group of Cattleyas and Odontoglossums, backed up with Palms and some large plants of Cymbidium lowianum, Vanda tricolor, V. insignis, and V. suavis. Amongst the Cattleyas were C. Mendelii, C. Mossiae, Laelia purpurata, Oncidium concolor, Cypripedium gowerianum magnificum, Odontoglossum wilckeanum and O. crispum in considerable variety. The plants were interspersed with Maidenhair Ferns.

On entering the large tent and turning to the left we find the first group of Orchids on the centre stage put up by Messrs. Hugh Low & Co., Bush Hill Park, Enfield, which comprise a fine lot of plants and varieties. Cymbidium lowianum canariense. C. l. Little's variety, and several fine dark forms. Cattleyas were well represented in some fine forms of C. Mendelii, C. Mossiae, C. Skinneri, C. Schroderae, C. S. alba, C. Mossiae, "Sir Alfred Milner." Laelia purpurata in several fine forms. Odontoglossums were also very well shown, among them some fine forms of O. crispum, O. Adrianae, O. triumphans, O. andersonianum. Cypripedium were also in good numbers and variety. C. caudatum, C. lawrenceanum, C. insigne Sanderae, C.

A SMALL SECTION TAKEN FROM MESSRS. SUTTON'S GLOXINIAS (See p. 626).

Curtisii, C. Youngiae were well shown. Oncidiums in variety arching over from the back of the group gave a lightness of effect. Dend. Dearii and others made up a charming group well arranged in a ground work of Ferns.

Messrs. Charlesworth & Co., Heaton, Bradford, follow on with another fine group, in which the plants are not so closely packed.. Odontoglossum crispum and O. vexillarium are conspicuous; Cattleyas are also very fine; C. Mendelii and C. Mossiae are shown in good forms; Laellocattleyas are also well represented in Lc. Hippolyta, Lc. Mozart, Lc. Ivernia, Lc. Callistoglossa. Cypripediums are represented by C. caudatum, C. callosum Sanderae, C. Chapmani. Oncidium lends lightness to the effect; Masdevallia Veitchii grandiflora gives colour, and helps to enliven the group.

Mr. Cypher, Orchid Grower, Cheltenham, comes next with a magnificent bank, in which Odontoglossum crispum is conspicuous in many good varieties; O. vexillarium in many forms is also shown Laelia purpurata is also in great number and fine form. Cypripediums are represented by C. superbiens C. lawrenceanum, C. niveum, C. callosum, and others. Dendrobiums are shown in D. nobile, D. Nestor, D. thyrsiflorum, and others. The butterfly Orchid (Oncidium Papilo) was in good form; Oncidium marshallianum and O. concolor were conspicuous as a centre group in the collection; Masdevallias were also bright and effective. The whole group was arranged in a groundwork of Ferns.

Messrs. John Cowan & Co., Gateacre Nurseries, Liverpool, comes next, and completes that side of the centre stage. Odontoglossums are shown in number here in O. crispum, O. Pescatorei, O. andersonianum, O. hystrix, O. triumphans, O. wilckeanum, O. Adrianae. A fine spike of flower of Coelogyne pandurata was showy, and quaint looking Cattleya Skinneri, C. S. alba, C. Mendelii, C. Mossiae, and Laelia purpurata, and several Cypripediums and others made up the group.

Messrs. Linden, Brussels, sent a grand lot of Phalaenopsis grandiflora and Cypripedium lawrenceanum. These were arranged with different kinds of Haemanthus and gave a very charming effect.

John Leeman, Esq., West Bank House, Heaton Mersey (gardener, Mr. Edge), sent a grand collection of Odontoglossums, the typical O. crispum being fine in substance and form. The spotted varieties, most prominent among them being O. c. The Nizam, the sepals and petals suffused with red, reflected through from the exterior purple, the centre area blotched and spotted with purple, the lip white spotted with brown, shading to yellow on the disc; O. c. Mignon has a very broad lip, the sepals suffused with rose and spotted with purple, the petals white, spotted with purple; O. c. New Queen has large distinct blotches on the sepals. O. c. Miss Constance Leeman, white, except the yellowish-brown blotches on the lip, and yellow disc; O. c. Goliath has large flower, the petals white, the sepals rose tinted, spotted with brown. Several good varieties of the now numerous natural hybrid, O. Adrianae, and good varieties of O. Pescatorei were also included.

Messrs. Jensens & Pulzeys, Antwerp, sent some finely flowered Odontoglossums, and a pale Cattleya intermedia.

J. Rutherford, Esq., Bentwood, Blackburn (gardener, Mr. J. Lupton), sent a neat and choice group; these included many fine varieties of Laelia purpurata. Some exceptionally dark varieties of Cattleya Warscewiczii, C. Mossiae, C. M. reineckiana and Miltonia vexillaria, and among the numerous Odontoglossums was a fine spotted variety in O. c. deliciosum.

Messrs. Stanley, Ashton & Co., Southgate, had one of the most attractive groups in the show, the neatness of arrangement and quality of the exhibit leaving nothing to be desired. In the centre was a finely flowered Cymbidium lowianum. Masdevallia Veitchii arranged in groups formed striking contrasts to the lightly arranged Oncidiums and other Orchids surrounding them. The specialities included Cattleya Mossiae reineckiana, C. M. Marmuna, a delicate rose tinted form; Laelia purpurata Bella, Laeliocattleya massangeana (tenebrosa × schilleriana), Lc. highburyensis (cinnabarina × lawrenceana), Cypripedium Gertrude Hollington, Odontoglossum crispum Abner Hassall, a lovely variety, white with large brown blotches; O. c. guttatum, with exceptionally large blotches; and Miltonia bleuana.

H. Little, Esq., Baronsholt, Twickenham, sent an exceedingly large flowered variety of Cattleya Mendelii with a two flowered raceme.

H. J. Elwes, Esq., Cheltenham, sent hardy Cypripediums.

M. A. A. Pieters, Brussels, sent two varieties of Odontoglossum Rolfeae (Harryana × Pescatorei), showing the intermediate characters of the parents; O. crispum Queen Victoria, certificated in 1898; O. Adrianae, and Cattleya kerchoveana (schilleriana × schofieldiana) has an intense crimson lip streaked with white; the purple spotted petals are intermediate between the parent species.

The Hon. Walter Rothschild, Tring Park, sent Laeliocattleya Hippolyta and Lc. Dido (Skinnerii × cinnabarina), showing the intermediate characters of the parents.

Mr. W. Thompson, Stone (gardener, Mr. Stevens), sent the finest grown Odontoglossum in the show in O. crispum Golden Queen, the ground colour yellow, spotted with brown. The plant carried a twenty flowered raceme. Although labelled as O. crispum, it resembles O. wilckeanum. O. crispum Hebe is another fine form, sepals and petals white, with distinct brown blotches on the broad lip.

E. Ashworth, Esq., Harefield Hall, sent a distinct Odontoglossum andersonianum.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, sent Odontoglossum crispum Annie, a large flowered rose tinted variety, thickly blotched and spotted with rich purple brown spotting.

Captain Holford, Westonbirt, Tetbury, sent Odontoglossum Adrianae Mrs. Menzies, a fine spotted variety, and O. crispum Ian, a beautiful form with small brown spotting.

SAMPLE OF MESSRS. WEBBS' CALCEOLARIAS AT THE TEMPLE SHOW (See p. 626).

M. Jules Hye, Ghent, sent a good variety of O. Rolfeae, O.crispum Phrynee and O.c. Idole, a nicely spotted variety with a densely clustered raceme. Lt.-Col. Shipway, Chiswick, sent Odontoglossum wilckeanum.

Messrs. J. Veitch & Sons, Ltd., sent a small collection of hybrid Cattleyas and Laeliocattleyas and Cypripediums, the most prominent being Lc. Digbyano-Trianaei, derived from the species indicated in the name, the sepals and petals pale rose, the broad lip rose, shading to green at the base, heavily fringed on the margin; Lc. Aphrodite, Lc Canhamiana, Lc. Hyeana, and Lc. G. S. Ball.

CALADIUMS.

As on several previous occasions, Messrs. J. Veitch and Sons, Ltd., Chelsea, set up a magnificent group of Caladiums in the big tent. The plants were dwarfer than usual, though none the worse for that, as the foliage was brilliantly coloured notwithstanding the lack of sunshine till recently. The grand old Candidum has not yet been superseded for exhibition purposes. Other large and handsome plants were: Baron A. de Rothschild, red, suffused bronzy-green, blotched with white and having veins and a green edge. Other standard varieties of dwarf habit or in smaller plants than the above were: Lady Mosley, translucent rose with a narrow green edge; Comtesse de Brosse, rosy with carmine veins; B. S. Williams, red and often thickly netted with green; Golden Queen, soft golden yellow; Comte de Germiny, dwarf, uniform red, with white blotches; Le Nain Rouge, small red leaves; Princess of Teck, with soft red centre, carmine veins and a yellow-green border, making a lovely variety; La Lorraine, small, dwarf red with a green edge; Isis, a lovely pinkish-white with carmine viens and a green margin; Duchess de Mortmart, creamy white, blotched green; Lord Derby, translucent rose, with olive green veins; and Reine de Danemark, pink with rosy veins on a white ground. Several were new and others only sent out a year or two ago. A novelty for this year is Mrs. James H. Veitch, which has stout crimson stalks to the leaves which are rich crimson-scarlet with a bronzy shading. Edith Luther, soft rosy-pink with a suffused green border, was sent out last year. The same may be said of The Mikado, having a red centre and broad green border. Not much older is Pantia Ralli, bronzy metallic red, blotched with red and white. green margin; Triomphe de Comte, which had very large leaves with vivid red veins on a dark green ground; Comtesse de Maille, white ground veined with bright rosy-red and green; Marquis of Camden, a large-leafed variety with dark red veins on a glowing red ground, and towards the edges, beautifully netted with green; Rio de Janeiro is one of the best of the translucent varieties, having pink leaves with green margins dotted with pink; Silver Cloud is a very beautiful plant, the leaves, as the name denotes, being beautiful silvery-white, which is relieved by a few carmine coloured veins, and a few faint splashes of green; Tennyson, a dark red centre gradually shaded off to green, mottled with yellow on the margins; Oriflamme is one of the most conspicuous of the family, being a very brilliant red, with a light green margin; Sir Henry Irving has the centre of the leaf a very light cream, giving place to white as it approaches the margin, which is green, the veins being a beautiful rose pink; Sir William Broadbent, a large-leafed plant of mixed colonrs of red and green heavily splashed with white; Mrs. H. J. Veitch, leaves light red with bright crimson veins, in the older leaves finely pencilled with green; John Peed, a very dark red with a light green margin, is

Group of Brilliant Prize and stellata Cinerarias (See p. 628).

carmine veins; Louis Van Houtte, with large rich red leaves, like great shields; Madam John Box, rosy-pink with broad green edge and carmine veins; Silver Cloud, silvery white, marbled with green; Triomphe de Comte, tall, and rich green, with carmine-red centre; Marquis of Camden, red netted green, with a dark green edge; Oriflamme, brilliant red with green border; Patumaya, rosy-red and thickly netted with green; Roncador, translucent rosy-pink, beautifully netted with olive green; Rose Laing, large soft pink on a creamy-yellow ground, and netted towards the edges; Sir Julian Goldsmid, dark bronzy-green, with dark crimson viens, and altogether rich in colour; Gaspard Crayer, brilliant carmine-red, mixed with green towards the border—a fine exhibition variety; Henry Lovatt, rich metallic red, with broad green border; Donna Carmen Macedo, translucent rose, richly netted olive; Mrs. Harry Veitch, metallic red, suffused bronzy green; Noakesi, dark crimson centre and veins, marbled with white on a green ground towards the sides; Madame Schmidt, carmine and broad green border, blotched with red and white; Lily Burke, soft pink on a pale green ground; and Madame Groult, suffused red on white, with carmine Lady Stafford Northcote is of a rich uniform red, occasionally tinted olive. Guill Mar is soft pink, with pale green ribs. The plants were grown in tubs and large pans, the two back rows of the group consisting of the tallest Caladiums, while the others were tastefully mixed with stove plants such as Cyanophyllum magnificum, Phrynium variegatum, Leea amabilis (in grand form), Tillandsia fenestralis, T. hieroglyphica. Anthurium crystallinum, A. illustre, Aralia elegantissima, Gymnogrammes, &c. The whole group had a splendid appearance and was one of the features of the big tent. Mr. George Tivey, the cultivator, is to be congratulated on the fine effect of his handiwork.

Messrs. John Peed & Son, Roupell Park Nursery, Norwood Road, S.E., as usual, had a beautiful group of Caladiums, which are well known to be one of their specialities. They made a brilliant display, and the backward spring, and cold, sunless days do not seem to have affected them much. The colours of many were superb, and they were staged in such a manner that they were all blended in beautiful harmony. Some of the best varieties we noted were John R. Box, a magnificent variety with a greenish maroon ground with carmine veins, and a pretty a very handsome variety, and is almost transparent; Mons. S. Waller, a very brilliant variety with a deep red centre, and light green border spotted at intervals with red encircled in white; Verdi, crimson-lake, centre gradually shaded off to a green border; W. E. Gladstone, a very rich crimson slightly suffused with green, the veins being a deep rose colour, and marked out in a wonderfully picturesque manner, the habit very dwarf and sturdy, and for both beauty of colour and neatness of habit, it is hard to beat (see illustration, p. 619); Baron Adolphe de Rothschild, a brilliant carmine with very round leaves; Excellent, deep red centre, crimson veins on a green ground, plentifully splashed with white; Leonard Bause, a translucent variety, creamy-white, suffused with delicate pink towards the centre; Duchess of Fife, white, netted with green and bright rose veins; Mercedes d'Argent, a pure white translucent variety with rose-pink veins, and faintly pencilled with green towards the border, are other fine varieties we noted.

GLOXINIAS AND STREPTOCARPI.

Messrs. John Laing & Sons, Forest Hill, London, staged a group of Gloxinias notable for the size and

varied colours of the flowers, well supported by large and vigorous leaves, the plants being grown in 48 and 32-sized pots. Amongst named varieties we noted Princess May, white; Mrs. Laing, maroon-purple, with a white edge; Lady Edridge, widely bell-shaped, and maroon-purple; and Gresiledis, a curious name but a beautiful variety, marbled with dark blue on a white ground. Others were unnamed seedlings in many colours. A variety, spotted with pink on a white ground, was notable for its size. Edged sorts included a maroon-crimson with white edge; crimson with a rose edge; and maroon with a blue edge. Spotted varieties were also numerous, including those with rose, purple and crimson spots almost covering the white ground.

The Forest Hill firm also staged a group of Streptocarpus, notable for the size of their flowers. The gloxinioides strain was characterised by being netted and lined with blue or other shades on a white ground. As Streptocarpi are so easily raised from seeds no attempt is made at naming individuals. Some were dark purple-violet, soft lilac, maroon-purple, pure white, dark lilac-purple and blue. In other cases the flowers were white with three violet blotches, bands or lines in the throat. These bands were very often dark violet, occasionally almost black or again forming violet, purple, rose or pink lines on the lower lip, the rest of the flower being white. A very handsome one was dark blue, with three violet bands. A nearly regular flower, at least in the case of the crown bud, was notable for its maroon centre, alike on all sides of the flower, the rest being white and the bloom erect. The reverse of this was a violet flower with a white throat. Very handsome also was a red purple sort, with crimson bars on the lower lip. Seeing how easily these flowers are raised from seeds and the length of time they remain in bloom one would expect them to be more largely grown for conservatory decoration.

Messrs. Sutton & Sons, Reading, occupied the centre of No. 3 tent with a very extensive exhibit of Gloxinias, Calceolarias, Vegetables, &c., which will be found under their respective headings. The Gloxinias formed a striking feature of this exhibit. These flowers are certainly larger and of more perfect form than ever. The Matchless White Gloxinia, Her Majesty, is purity itself, and the specimens of this variety are indeed wonderful. The Giant Gloxinias are well named, and the marvellously spotted varieties are charming beyond description. An illustration of a small section of this exhibit will be found on p. 623. Notwithstanding the trying and backward season, the various subjects shown were of the highest perfection.

Messrs. Webb & Sons, Wordsley, Stourbridge, exhibited Gloxinias in good form. They were very sturdy plants, characterised by their rich colouring and freeness of blooming. The group contained several of a new variety raised by Messrs. Webb; they were very fine plants having wonderfully robust foliage and dark crimson flowers. It has been named Stanley. It says much for the facilities of modern transit that such fragile flowers can be brought from such a distance and in fine form. They, as well as the Calceolarias, mentioned under that heading, were grown in Messrs. Webbs' own houses at Wordsley, and were taken from the collections being grown for seed.

Mr. J. J. Upton, Irlam Nurseries, near Manchester, had a few large pots of Gloxinias staged with Coleus and other decorative stuff. King Edward is a beautiful variety, being pure white with cream throat and a band of rich crimson round the top.

Another noticeable plant was Queen Alexandra, a pure white, densely spotted with bright rose. There were many unnamed varieties, showing a beautiful diversity of colour and delicate markings.

BEGONIAS.

Messrs. John Laing & Sons set up a fine bank of tuberous Begonias in No. 4 tent, the plants being dwarf, bushy, healthy and in their first flush of vigour. They were grown in 48, 32 and 24-size pots according to their size. The single varieties were represented by shapely, circular flowers in all the leading shades of colour such as white, pink, rose, scarlet, orange, yellow and crimson. The single fringed varieties first made their appearance in Laing's fringed white, but they now range through pink, rose, crimson and other shades, some being gophered as well as fringed. The fringed pink variety is a lovely shade of colour. The new Duchess of Westminster represented a type we have not hitherto seen. Though allied to the crested race it differed in having round flowers with more numerous petals, on the centre of each of which was a cushion of nearly upright frills, plaits and pointed processes, the whole giving one the impression of a semi-double flower, though quite single. More of the double varieties had received special names though we need only mention some of the new varieties. Duchess of York was salmon-pink and beautifully gophered; Camellia, double white; Duke of Fife, salmon; and Duchess of Marlborough, salmon-pink. Countess Roberts was a large and shapely flower, notable for its pure white colour, and different form from that of Camellia. Laing's Picotee was another grand flower, being large, very full and white with a carmine edge. The orange-salmon and pink-centred flowers of Duke of Grafton were also handsome. The orange-scarlet of Earl Roberts gave quite another shade of colour, but was excelled in intensity by the crimson J. T. Bennett-Poë. Fringed flowers were not confined to the singles, for Lady Audrey Buller was deep salmon, fringed and double. The same character was exhibited by the Queen of Sweden, having carmine flowers, with a white centre. All of the above doubles were of good habit, and if they had had another week of sunshine they would have been in perfection. The dark green foliage and dwarf sturdy habit bespoke of good cultural treatment.

Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, made a large exhibition with his famous tuberous Begonias, but visitors looked in vain for the magnificent collection of doubles which is generally to be seen in this exhibit. The season has been so backward that it has been impossible to get but few open in time for the show. The colours of the singles were magnificent, and exhibited a remarkably wide range of colour. The foliage was of a noticeably lustrous green and showed off the flowers to the best possible advantage The following are a few of the best varieties:—May Manser, a very pretty rose and white fancy; Omega, light orange, double; Miss Budge, bright vermilion, with prettily serrated margins; Sylvia, an excellent white flower and neat dwarf plant with handsome foliage; Ethel Reynolds, a very fine form, deep rose; Mrs. T. Lunt, deep salmon; H. J. Jones, one of the finest doubles we have been, is a beautiful colour, being orange-scarlet; W. Smith, light vermilion; May Clarke, a very fine double, salmon; Dr. Shore is a magnificent double yellow; Ryecroft Gem is another very handsome double—it is a bright rosy-red; Mr. W. Logan is a single yellow, which would be difficult to beat, either in form or colour; Madeline, white suffused with rose, beautifully serrated on the two side petals; Diamond is one of the darkest of crimsons; Hero of Omdurman, a beautiful flower, after the style of W. Smith, on which it is a great improvement; Jealousy, a handsome yellow, but rather small—it makes itself conspicuous by its habit of producing its flowers well above the foliage on a perfectly erect stalk.

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, had a large and showy exhibit of tuberous Begonias. The double type predominated, and included some extremely handsome varieties, amongst which we noted Sir William Walrond, a beautifully crimped light red; Queen Alexandra, pink with deep rose edges, an extra fine variety; Jubilee Beauty, outer petals light red, giving place to pure white towards the centre of the flower; Lord Kitchener, a very rich crimson; Mrs. James Portbury, creamy white with rose-pink edges; Mr. Robert Lawford, a bright glowing red; Lady White, blush pink suffused with cream; Miss Jennie Cooper, cream shaded with pink, centre suffused with very pale green; Mrs. Robert Sadler, pink with deep rose-pink margins; Imbricata, deep blush with white margins, quite a unique form, very much resembling a Camellia; Prince of Wales, a light salmon, a loose, graceful flower; Duchess of Devonshire, blush with cream centre; Miss Elsie Lewer, a magnificent rose-pink; Sir Redvers Buller, a glowing red. There were very few singles in the collection; a noticeable one was Theseus, a rich dark crimson, a very velvety flower.

Mr. John Forbes, Hawick, Scotland, had a small group of a pure ivory-white variety of Gloire de Lorraine, named Caledonia. They were only in 60-size pots, but it was easy to see by the abundance of flowers that they have this habit in common with their pink sister.

CALCEOLARIAS.

Messrs. J. Carter & Co. made a bold display with Calceolarias in three distinct strains. In the way of specialities we may say the Calceolarias were the feature of their extensive table of plants. The ordinary large-flowered strain was grown in 24-size pots, and made bushy, dwarf plants with enormous flowers. In the way of self-coloured flowers we remarked a white variety, a very uncommon occurrence amongst greenhouse Calceolarias. Others were Golden Princess, a bright yellow; also copper, crimson, and other hues. Amongst spotted varieties very handsome were those flowers densely spotted with crimson, and having a yellow edge. The opposite of this were the sparkling crimson flowers netted with yellow. Showy flowers also were those spotted with crimson on sulphur, yellow and golden grounds. The foliage was healthy and good. Carter's Tom Thumb was a dwarf strain with moderately large flowers. Striking were the large crimson or red flowers with a broad yellow edge. In other cases the large blotch on the upper side of the pouch was copper, red, carmine, orange-red, pink, buff, or scarlet. There were also a few lemon or sulphur selfs. The spotted varieties of this strain ran through all the range of colours. A pigmy strain was notable for the dwarf, compact habit of the plants and the miniature size of the flowers. This was designated by the title of Carter's Little Gem. Amongst them were self yellow, crimson, carmine, scarlet, copper, rose, rose-pink, and orange-red flowers. The strain is very floriferous, often forming broad, compact tufts. Spotted varieties were also numerous. Their diminutive and very pretty strain of Calceolarias has been developed within the past few years.

In the blaze of floral beauty there was hardly anything to compare with the gorgeous bank of Calceolarias forming one end of Messrs. Sutton's great exhibit. Sutton's Calceolarias are always grand, this year they were perhaps finer and more varied than ever. The range of colour was unrestricted, and the plants could not have been more floriferous. The plants were very dwarf, and the healthy foliage completely hid the pots. A great amount of care must have been expended on their cultivation, and the exhibit was an object lesson of what can be done with Calceolarias for greenhouse and conservatory decoration.

Messrs. Webb & Sons, Stourbridge, exhibited a well grown collection of Calceolarias. The flowers were large, and produced in profusion, showing a great diversity of colours. The strain seems one of the best, both for sturdiness and profuse flowering. The illustration of one plant (p. 624) reproduced from a photograph shows the character of the fine group of them set up by the Messrs. Webb on this occasion. The huge flowers are, of course, shown on a very much reduced scale.

S. H. Lane, Esq., Worton Manor, Isleworth, exhibited a large specimen plant of Calceolaria measuring many feet round, it had a yellow ground beautifully marked with red-brown.

Mr. J. R. Box, Croydon, exhibited a group of well grown Calceolarias. It was a very fine strain, having a more graceful habit than what is generally seen in this class of plant.

A. Meyers, Esq., West Hill Lodge, Epsom (gardener, Mr. J. Buss), had an exhibit of Calceolarias in small pots.

CARNATIONS.

Messrs. Wm. Cutbush & Son, Highgate, London, N., made an effective display with Carnations, which, with the addition of other things exhibited by the same firm, filled a large corner in the big tent. Malmaison Carnations were a striking feature in the group. In the other type the blooms were also exceptionally fine. One of the new ones, Cecilia, is surely one of the best yellows yet introduced. It is a flower of fine form, possessing among many other good qualities a firm calyx. Other notable blooms were: Sir Hector MacDonald, a white ground beautifully striped with red and possessing a strong Clove scent; Henry James, a flower of very good form and substance, a very deep rose; Lady Mimi, a large deep blush-coloured flower; and Fanny Wilcox, a beautiful soft pink; Herbert J. Cutbush, a bright scarlet of very striking form, was one of the best varieties in the group both for symmetry and tone of colour.

Mr. Henry T. Dixon, Woodside Gardens, Hailsham, Sussex, had a small group of Carnations in

pots, one flower on a plant; the blooms were remarkable for size and substances. The new Cecilia was admired by everyone, some of the flowers were 8 in. across, certainly no yellow has ever been seen in better form; Major Gen. Baden-Powell was also a very fine variety seen in this collection, it is not a large bloom but the darkness of the bloom and the handsome velvety, shell-like petals are sure to recommend it to all lovers of the Carnation; Mrs. H. Dixon, a light pink; Lady Hindlip, a bright scarlet; Guinevere, a salmon and orange fancy shaded in places with red; Trumpeter, a glowing red; and The Czar, a deep crimson-yellow fancy we also noted as being of great merit.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, had a small group of very fine flowered Malmaisons with their pots tastefully concealed with Asparagus plumosus; among the best, if there could be any such choice with such a high-class lot of plants, were Princess of Wales, Gemma and Mrs. Martin R. Smith.

The Right Hon. Lord Hillingdon, Hillingdon Court, Uxbridge (gardener, A. R. Allan), exhibited a collection of Carnations in pots. The plants were of a remarkably robust habit and well flowered. A few of the best in the group were Old Blush, Lady Grimston, Lady Ulrica, Prime Minister, Jane Seymour, Princess May, Churchwarden, Mrs. Torrens, and Iolanthe.

CACTI.

In tent No. 2, Messrs. J. Veitch & Sons, Ltd., were again present in grand form with a collection of 400 to 500 plants of hybrids of Phyllocactus. Visitors to the Temple Show now look forward to this magnificent display of large and gorgeous-looking flowers, with their subtle and charming tints of colour, and great drooping brush of stamens. The plants were grown in 60, 48 and 32-size pots, yet the plants varied from 1 ft. to 3 ft. in height. The smallest flowered species was Phyllocactus phyllanthoides (also known as P. alatus), with its pretty shell-pink flowers, quite pigmies by comparison with the giants. Amongst novelties put into commerce this year were Isabel Watson, coral red externally and orange-red internally tipped with violet; Epirus, soft and charming pink colour; and Ena, orange-scarlet, tinted with apricot, and very pretty. Another charming variety was J. T. Peacock Improved, with lovely rosy-pink flowers and other reflections. Of the older varieties, some of the darkest were Thalia, crimson, tinted with violet; Eurasian, dark scarlet, toned at the edges with magenta; Plato, fiery scarlet; and Niobe, rich scarlet, tinted with purple in the centre. Some admirers may prefer the dark varieties, but certainly the lighter colours furnish many beautiful contrasts. These included Jessica, soft pink; Syrens, salmon-pink, deepening in the throat; Ovis, sparkling rosy-pink; Favourite, pale rose; Adonis, soft pink, overlying a lilac hue, and very attractive; Delicatus, satiny-pink, shading into a silvery white; Exquisite, lively rose-pink; and La Reine, pale, delicate pink. A red variety, shaded with purple in the throat, and named Agatha, was also noteworthy. The lively crimson-scarlet Hecla was also conspicuous. This year again many seedlings have flowered for the first time, and the more noteworthy will presently be honoured with names.

Messrs. H. Cannell & Sons, Swanley, Kent, exhibited a collection of the Cactus family in general, many of them ferocious looking and spiny chaps to handle, but grotesque, singular and interesting to look at. The species of Echinocactus were amongst the most forbidding in the matter of spines, particularly E. Wisliseni, E. Visnaga and E. cornigerus. Other species shown were E. Emoryi, E. sagitonis, E. cylindraceus, E. peninsulae, E. junori, E. pilosus, E. viridescens, E. Le Contei, E. ornatus, E. horizonthalonius, E. Lopothele and E. curvispinus, all very spiny indeed. Other genera were represented by Astrophytum myriostigma, Anhalonium sulcatum, A. Williamsii, Echinocereus rigidissimus, E. Berlandieri, Echinopsis multiplex and E. zuccariana. Amongst the dwarfer and easily accommodated members of the family, the numerous species of Mammillaria stood out prominently in their globular, ridged, tufted and other forms. Mammillaria elegans, M. Nicholsoni, M. sanguinea, M. decipiens, M. Pfeifferi, M. Donati, M. longispina, M. cirrhifera, M. longimamma, M. elephantidens, M. pulsilla, M. Potosoni, M. Waltoni and M. nivea were all represented. Pilocereus senilis (Old Man Cactus), P. Hoppenstedti and P. Houletti were more familiar types with some gardeners. Opuntias—those Cacti with oval branches—included O. lurida, O. senilis, O. papyracantha, O. microdasys, O. Emoryi, O. formidabilis, O. tunicata and O. cylindracea. The species of Cereus were also very numerous, and included C. peruvianus, C. acidus, C. gemmatus, C. candicans, C. flagelliformis cristatus, C. giganteus, C. peruvianus monstrosus (a warty looking chap), C. macrogonis, C. Olfersi, C. colubrinus and C. lamprochlorus. The above species of Cereus show great variety in habit. Other succulents included Gasterias, Haworthias, Yuccas, Dasylirions, Agaves and other fleshy-leaved or succulent stemmed subjects.

Mrs. Bodkin, West Hill Place, Highgate, exhibited a small collection of Cactaceous plants, chiefly small specimens.

Messrs. R. Veitch & Sons, Exeter, had several species of hardy Cacti in their group of miscellaneous hardy rockwork plants, etc.

Messrs. A. Young & Co., the Nurseries, Stevenage, had a few small Cacti in front of their show board of Pansies. Pilocereus senilis with its hairy growth received much attention from amateurs.

STOVE PLANTS.

A striking group of 300 plants of Kalanchoe flammea was set up by Messrs. J. Veitch & Sons, Ltd. Strictly speaking this species requires an intermediate house rather than the warm temperature of a stove. The plants here shown varied from 18 in. to 2 ft. in height, and were grown in bushy, branching form. It may also be grown with single stems, young plants being generally seen in this form. It is yet comparatively a new plant, having been introduced from Somaliland, East Africa, and flowered for the first time in July, 1897. Notwithstanding the heat of its native country, it succeeds admirably in the lower temperature above-mentioned if fully exposed at all times to sunlight. The orange-scarlet flowers are small individually, but are produced in great numbers in branching corymbs, so that the effect of a group of 300 plants may well be imagined. It is undoubtedly the best of all the

Deutzia Kalmiaeflora (See p. 629.)

Kalanchoes, both in the number of flowers it produces and their rich colour. Another point in favour of the plant is that it may be had in flower from May to July or August. A plant of this character could not fail to find admirers and must presently find its way into gardens all over the country. The accompanying illustration (lent us by Messrs. Veitch) of a small plant grown from a cutting, will give an idea of the habit and general appearance of the plant and its inflorescence. See p. 621.

Captain Holford, C.I.E., Westonbirt, Tetbury, Gloucestershire (gardener, Mr. A. Chapman), exhibited a large number of Hippeastrums. all of which showed a high standard of quality both in form and colour. Lavengro was conspicuous by its dark velvety colour.

Mons. Lucien Linden, Brussels, exhibited a number of Haemanthus micabilis and H. diadema.

CANNAS.

Messrs. H. Cannell & Sons again made a large and handsome exhibit of Cannas. Some of the best we noted were: Beauté Poitevine, with glowing red flowers; Comte de Bouchard, a handsome yellow flower, spotted with blood red; Aurore, bright chestnut red; Député Ravarin, very large flowers, beautifully shaded rich magenta; President McKinley, a brilliant crimson and very effective; Alliance, rich amaranth, shaded orange, reverse of petals chrome-yellow; Vice President Savoye, chestnut, tinged with gold; Souvenir du President Carnot, beautiful dark foliage with bright coloured flowers; Duchess of York, yellow, thickly spotted red; M. Souleyberand, very long petalled, rich magenta coloured flowers, a dwarf plant; Alphonse Bouvier, deep crimson; Secretaire Chabanne, deep orange; Paestum, chrome yellow, spotted vermilion; Toledo, rich red, yellow margin; Mme. Camille, sulphur yellow; Météore, very large orange-scarlet flowers; Réveil, rich amber; Professor Rossi, salmon red; Ménélik, crimson; Semaphore, bronze foliage, golden flowers; Brilliant, a combination of yellow and crimson; Mme. la Baronne P. Thenard, orange and salmon; Florence Vaughan, yellow, spotted crimson; Paul Bruant, orange-red, tinted scarlet; Sam. Trelease, almost a round flower, colour, pure scarlet with yellow margin.

GREENHOUSE PLANTS.

In addition to the subjects mentioned under other headings, Messrs. H. Cannell & Sons had a new bedding zonal Pelargonium named King Edward VII., a sport from the well known Henry Jacoby, of dwarf habit with crimson flowers. From the latter it differs by having white stems, in the way of West Brighton Gem, to which it forms a fine companion. Coleus Kaiser Wilhelm is a new variety. Though hardy, we may here mention three varieties of Myosotis alpestris, white, blue, and pink, all of columnar, upright habit, and suitable for bedding purposes or otherwise.

Another feature of Messrs. Sutton & Sons' great exhibit was the pretty and effective Cinerarla stellata, which was first introduced by Messrs. Sutton in 1898. Although when shown at the R.H.S. meeting at the Drill Hall in April, 1898, its great characteristics were not appreciated by many, yet it has of late become exceedingly popular both as a pot plant for the decoration of the conservatory, as well as for cutting. Nemesias, the wonderfully pretty flowers introduced from South Africa a few years ago by Messrs. Sutton, showed a delightful mixture of rich colours, and as the Nemesia is an easily cultivated annual, it is becoming a great favourite. Beautiful batches of fibrous Begonias, Pansies, Myosotis, and Aquilegias were included in this charming exhibit. There was a batch, too, of that singularly interesting flower, Streptocarpus Wendlandii. These plants produce an immense leaf, about 2 ft. wide, and proportionately long, reflexed over the pot, and the elegant violet-blue and white flowers rise up to about 18 in. The hybrid Streptocarpus shown were exceedingly pretty; in great profusion they produce large trumpet-shaped flowers, ranging in colour from white to rosy-purple. Groups of the fascinating Bermuda Lily and graceful Palms enhanced the attractiveness of the floral portion of Messrs. Sutton's exhibit.

Messrs. R. and G. Cuthbert, Southgate, exhibited a large collection of Azaleas. They made a blaze of colour, and were an object of admiration from everyone. Some of the best were:—Elizabeth, a claret; Isabel Van Houtte, buff-yellow; Charles Rogier, a beautiful mollis hybrid; Alphonse Lavall; Zeelandl, a unique variety with spreading petals, the flowers much resemble a Clematis; Charles Kekule; Hollandia, a beautiful improvement on the old pontica; Virgile, a double Rustica; Yodogoma, a Japanese variety; Glory of Boss Coup; Betsy de Bruin, a beautiful variety, orange with claret marking on the upper petals; Prince Baduin, a handsome rose-pink and white mollis hybrid; J. C. Van Thol, a light claret; Mdme. Thibaut, a double Ghent; N. Beets, a new yellow; Iltasso, one of the deepest colours in the Rustica section; Mdme. Anthony Koster, one of the best of the mollis × sinensis type; Pallas, a beautiful combination of salmon and yellow, giving place to deep orange towards the centre; Anna, a deep orange; Maarschalk, very prettily marked on the upper petals; General Vetter, a pretty variety with blood-red markings; and Ignea Navea, a bright rose with orange upper petals. Of the whole collection we chose Mdme. Anthony Koster as the best, especially when grown as a standard. It is a creamy-yellow with darker upper petals splashed with light green.

Messrs. James Carter & Co., of High Holborn, London, occupied the whole of the space in the centre of the first tent, probably the largest individual exhibit on the ground. The Victoria Prize Calceolarias, with flowers almost 4 in. across, are staged alongside a pigmy type, which Messrs. Carter have introduced, and the contrast is great. The miniature form is exceedingly pretty, and will no doubt be sought after. (See paragraph under the heading of Calceolarias on another page). The Invincible Prize Gloxinias looked wonderfully healthy and symmetrical in growth. A fine batch of the new annual Delphinium in pots was exceedingly pretty. What a valuable plant for conservatory decoration at a season when blue flowers are scarce. Some enormous Petunias, including the Emperor strain, were magnificent. A rock garden fully planted with all the most approved alpines attracted a good deal of attention, and some remarkable vegetable productions occupied a considerable space. Early Morn Peas with enormous pods, Duke of York Tomato, most attractive and tempting; Melons, luscious and fragrant, were noticed. The show is a thing of loveliness and a veritable feast to the eye, and the visitor marvels at the improvements that have been made in both the forms, markings, and colourings of the beautiful flowers, and the perfection to which the vegetable and fruit have reached as the result of Messrs. Carter's continuous work for the past forty years. Altogether it is a very fine display. The small groups of Cineraria stellata were very pretty. The accompanying illustration (p. 625) shows both the large-flowered and the stellata types grown by Messrs. Carter.

Mr. H. J. Jones, Ryecroft Nursery, had an attractive collection of the popular show and regal Pelargoniums. Baden Powell, a new semi-double Ivyleaf, is a very pretty and useful variety. The flowers are white suffused with pink, and beautifully marked towards the base of the petals with deep crimson. Lady Primrose is one of the best of the regals; it is a large pink slightly shaded with heliotrope, the top petals shaded darker, with distinct light margin. Mrs. Hemsley has flowers of perfect form, good substance, and of a soft salmon colour, with a dark blotch, shaded to light red on the upper petals; Lord Kitchener, an improvement on Martial, a very bright crimson, upper petals heavily blotched with deep maroon; White Fanny Eden is a lovely sport from Fanny Eden, and is pure white, except for a very faint marking on the upper petals; and Mrs. Jeffery, deep purple, a very uncommon colour. There were many other notable plants, but time and space will not allow a discription of all. Doubles were very scarce.

Messrs. W. Cutbush & Son, Highgate, N., exhibited a large number of deeply coloured Calla elliottiana, Crimson Rambler Roses, Ericas, &c., with their Carnations, and the whole made a magnificent group, covering a large space. The Ericas formed a very pretty collection, and were well flowered plants.

In a corner of the large tent Mr. Charles Turner, of the Royal Nurseries, Slough, made a decided hit with his exhibit of Pelargoniums. They were magnificent specimens, beautifully grown and trained, and literally covered with flower.

On the opposite side of the large marquee, Messrs. R. Smith & Co., of Worcester, staged a fine group of Clematis similar to those of Messrs. Jackman, as far as training and growth were concerned, but quite different so far as the varieties were concerned. This would probably account for the comparative smallness of the flowers, but what they lacked in size they more than made up for in purity and distinctness of colour. Interspersed among the Clematis were trained plants of Crimson Rambler Rose, which served to set off the Clematis in an attractive manner.

In Mr. H. B. May's group (from Dyson's Lane Nurseries, Upper Edmonton), in the large marquee, among Ferns, Crotons, and Palms, a vivid display was made with masses of gorgeous flowered zonal Pelargoniums. Among these may be mentioned Decorator, a brilliant double scarlet in the way of Raspail Improved, but much more scarlet in colour. King of Denmark is now a well known orange-salmon, while Hermine is undoubtedly one of the best double whites yet in cultivation. A very fine salmon-scarlet is that known as M. Alfred Erckenar, which will probably be heard more of in the future owing to its brilliant appearance. M. G. Merand is a deep crimson-purple form with double flowers, and Berthe de Presilly is somewhat similar, but with bright pink blossoms. Double Henry Jacoby is as one would expect, a double form of the well known crimson bedder. Other forms worthy of notice are Achievement, double pink; Resplendent, crimson Ivy-leaved; and Leopard, a deep rose in the same section.

Messrs. Geo. Jackman & Son, Woking Nursery, Surrey, exhibited about two dozen splendid specimens of Clematis trained balloon fashion, and on pillars. Among the large-flowered section were Lady C. Neville, with pale mauve flowers about 8 in. across, and Lord Neville, a deep heliotrope with substantial and well displayed blossoms, having somewhat undulated petals. The Countess of Onslow is a charming hybrid with deep rose-purple flowers, the outer surface of the petals being much paler, and affording a conspicuous contrast. A new hybrid called Admiration, although not so fine as the Countess of Onslow, is nevertheless remarkable for its distinct rose-purple shade. King Edward VII., with pale heliotrope flowers, and Fairy Queen, with white flowers washed with rose down the centre, were remarkable for the great size of the flowers and the magnificent foliage. There was only one species exhibited, namely, the tubular-flowered C. coccinea, covered with scarlet flowers.

INSECTIVOROUS PLANTS.

R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), sent a comprehensive collection of insectivorous plants. The Serracenias included some thirty distinct kinds. Prominent among the species were good plants of the attractive S. Drummondii and S. flava in its varied forms. Prominent among the host of hybrids were large specimens of S. Chelsonii with its rich purple marked pitchers, S. Flambeau suffused with deep purple, S. Swaniana showing its white markings on the apical halves of the trumpet-shaped pitchers, S. exoniensis, S. Atkinsonii, S. crispata, S. Tolliana, S. Sanderae, S. Godseffiana, S. melanorhoda, and S. Willisii with its dwarfer habit, and the attractive S. Wrigleyana were also included. Droseras were represented by D. spathulata, D. binata, D. capensis, D. dichotoma, and the hardy D. rotundifolia. Dionaea muscipula, the Venus fly trap, included two good specimens. Cephalotus has rarely been seen to much better advantage than in the numerous plants included. Nepenthes included N. Mastersiana and a fine spotted N. mixta.

Mr. A. J. A. Bruce, Edge Lane Nurseries, Chorlton-cum-Hardy, had a small but extremely interesting collection of these beautiful and fascinating plants. The Sarracenias were in fine condition, and highly coloured and mixed with the bright green of Darlingtonia californica, they made a conspicuous feature, and much attention was focused on them. Other interesting plants were Drosera dichotoma, Drosera capensis, Dionaea muscipula, and Cephalotus follicularis.

ROSES.

One of the most charming and attractive groups at the show was that of Moss Roses, exhibited in Tent No 4 by the Right Hon. Lord Rothschild. The plants were all grown in pots, and averaged about 2 ft. high, fine bushy stuff, well furnished with flowers and buds—the latter quite as attractive as

the former, owing to the pretty mossiness of the calyx. The range of colour was limited to white (Reine Blanche), purple-crimson (Henri Martin), the soft pink of the common Moss Rose, and crimson of the small flowered Little Gem.

Messrs. Wm. Paul & Son, of Waltham Cross, Herts, had a very fine and large exhibit of magnificent Roses, both in pots and cut. Among the new forms were Soleil d'Or, a lovely copper-yellow hybrid, which received an Award of Merit. A new Polyantha Rose, called Lenchstem, with clusters of single flowers, white, flushed with rose, also received an Award of Merit. It is a graceful climber worthy of attention.

Messrs. Ben. Cant & Sons, The Old Rose Gardens, Colchester, exhibited a fine group in the large tent. They included Teas, H.P.'s, and many lovely garden forms. A lovely primrose yellow rose, rather loose when open, but very pretty in bud, was one called the Bride. The other varieties were well known, and were intermingled with several nice examples of the bright yellow and copper coloured Austrian Briars.

In the corner of the large marquee Messrs Paul & Son, The Old Nurseries, Cheshunt, had a very large group in pots, all well grown, with clean healthy foliage and charming flowers. All shades of colour were represented—white, cream, crimson, pink, carmine, yellow, and various intermediate shades too numerous to mention—the whole making an attractive display of colour, evidently arranged by someone with a keen eye for contrast.

In the large marquee, Messrs. Frank Cant & Co., Braiswick Nursery, Colchester, staged on the grass a large and very interesting group of Roses, in which many sections were represented. There were bush Roses and climbing Roses, Teas, hybrid Teas, China Roses and hybrid perpetuals in many shades, including several new forms. The new Tea Rose, Lady Roberts, which will not be offered for sale until May, 1902, is a lovely variety with rich golden buff flowers of good substance and pretty form when not too fully expanded. As a coat flower, it will rival W. A. Richardson. The Wichuriana Roses, now becoming so well known for their climbing and trailing habit and large single flowers, varying in colour from white to rose, were in evidence, one form called Jersey Beauty, with yellow flower buds, being very noticeable and quite new. Thalia is the name of a new climbing Rose with clusters of white flowers, somewhat smaller and finer in colour than the dwarf Polyantha Rose called Little Dot.

Mr. Chas. Turner, of Slough, occupied the end of the large tent almost entirely with a gorgeous display of Roses, among which his well known Crimson Rambler was a conspicuous feature. The examples were well displayed and set off with Palms, Bamboos and ornamental Maples. Souvenir de Mdme. Eugene Verdier and Maman Cochet were remarkably fine, and the whole group was one of the finest efforts yet made by the firm.

HARDY TREES AND SHRUBS.

One of the brightest features of the big tent was the extensive group of flowering trees and shrubs put up by Messrs. J. Veitch & Sons, Ltd., from their Coombe Wood Nursery. Handsome and pretty was the new hybrid Deutzia kalmiaeflora (see illustration p.627) raised by Lemoine between D. gracilis purpurascens and D. parviflora, the latter giving it larger leaves than the former. The flowers are borne in trusses of five to twelve, and are about an inch in diameter or slightly under. They are wide open and white, tinted with pink, especially at the tips, these points being derived from D. gracilis purpurascens. When full grown it forms a neat bush, 2½ft. to 3ft. high, and suitable for select collections even in small gardens. Bush and standard Weigelas were very conspicuous. W. hortensis nivea is still the best pure white, and Eva Rathke the best dark crimson-red, which keeps on flowering till November. The double white Lilac, Madame Lemoine, was also shown in the form of standards, as were Wistaria sinensis, W. s. alba, and various other subjects. The numerous Hydrangeas had a most decided and telling effect in the arrangement. Amongst them we noted H. stellata flore pleno (rose), H. japonica mandschurica, with blue and pink trusses of large size; H. hortensis rosea, with rose flowers; H. Mariesii, with blue ray flowers, 3 in. to 4 in. across, and H. stellata fimbriata, with fringed white flowers; Robinia hispida (4 ft. high with rose flowers); a basket of the white Fabiana imbricata; Viburnum macrocephalus (like the well known Snowball tree, with sterile-white flowers); Cytisus elongata (white) and C. purpurea, all very floriferous, were noteworthy plants. Azalea ledifolia purpureum was a showy and uncommon Japanese plant with large, double mauve flowers. Besides the new hybrid Deutzia above mentioned were the uncommon and pretty D. gracilis carminea and D. g. rosea, the names indicating the colours. The Mock Oranges were represented by Philadelphus Manteau de Hermine, and the large, white P. Mont Blanc. The mauve Solanum crispum is perfectly hardy in the south, but all too uncommon in gardens. Other charming favourites were Rubus deliciosus, Zenobia cassinefolia, like a giant Lily of the Valley, Tree Paeonies in lovely salmon-pink shades, and Veronica prostrata. Large Rhododendrons lifted from the open air, and put into baskets, were highly effective. Some of the finest were R. Mrs. John Waterer, R. Marchioness of Lansdowne (rose with black blotch), and R. Doncaster, deep scarlet. The Azaleas were undoubtedly very telling from their numbers, floriferousness, and beauty. A. mollis × sinensis Sebastopol (orange and yellow) and other hybrids of the same parentage were grand, including Anthony Koster (rich yellow), M. Koster (orange-salmon), Agatha (yellow, shaded orange), J. J. de Vink (yellow, shaded orange), General Vetter (yellow and orange), Madame A. Koster (orange and yellow), Cornelia Van Tol (buff yellow), and a variety of the old A. mollis, namely, A. m. Hollandia, with lovely yellow flowers. The Ghent Azaleas included Unique (orange-yellow), Nancy Waterer, Mdme. Moser (pink and yellow on the upper segment), M. Desbois (huge salmon-red flowers), Betsy de Bruin (orange and yellow), Trisla (soft salmon-pink), and Peter Koster (orange and crimson). Still another strain was met with in A. rustica Phidias (silvery-pink), Murillo (salmon-pink), and Norma (soft salmon-red).

The Messrs. Veitch also exhibited a group of Bamboos and some richly-coloured Japanese Maples in the open ground. Amongst the broad-leaved species of Bamboo we noted Bambusa palmata, B. reticulata, and B. Veitchi, a very representative trio of the broad-leaved type. The best of the Arundinarias was A. nitida, a handsome dark and rich green-leaved species. A. Hindsii and A. H. graminea were quite of a different habit of growth, being upright; while A. anceps was dwarf and compact, being one of the choicer small ones. The golden A. auricoma was equally choice in its way, the spring leaves being richest in colour. The best of the species of Phyllostachys for a Bamboo garden was P. Henonis, on account of its graceful habit. P. Quilioi was scarcely inferior, being a handsome species. Very singular were the curiously jointed, and spirally twisted stems of the Tortoise-shell Bamboo (P. heterocycla). P. aurea, the golden-stemmed Bamboo, is always a popular subject.

Messrs. Carter also showed in the grounds a most interesting collection of curiously cut trees, dwarfed Japanese shrubs in china pots, and two grotesque elephants made of living Ferns, with many there fanciful designs in fernery.

Pigmy trees from Japan are greatly increasing in favour in this country. Messrs. Barr & Sons exhibited a large group of them in ornamental vases and pans. The accompanying illustration (p. 622), represents nine plants picked out as examples and photographed. On the right-hand corner of the back line is an antiquated specimen of Larix leptolepis, sixty years old, and 18 in. high. On the left of it is Cupressus obtusa, 100 years old, and 20 in. high. An Oak, forty-five years old, occupies the extreme left-hand corner. At the right-hand corner of the front line is a tree of Pinus pentaphylla, ten years old. Proceeding to the left, and back from the front is Acer polymorphum, thirty years old. Then comes a diminutive Pinus pentaphylla, eight years old, and to the left of that is a diminutive forest of Acer polymorphum, 20 in. high. Another pigmy growing on the top of a rock is Pinus pentaphylla, eight years old, and 3 in. high. On the extreme left is a much contorted tree of Pinus masoniana, eighteen years old, and showing a great contorted knob on the stem. In the same group were larger trees of Cupressus obtusa, old and hoary, as well as of Larix leptolepis, including one termed the king. A very old Lagerstroemia indica had suffered much abuse from its Japanese cultivator; but it is really astonishing what tortures vegetable tissues may go through, and yet survive. There was also a forest of Pine trees. The Umbrella Pine (Sciadopitys verticillata) was strongly in evidence in its natural form. Other pigmy trees were Crataegus cuneata, Zelkowa Keaki, Styrax japonica, many Japanese Maples, Pinus densiflora, Thuya pendula, Prunus Mume (an early flowering Japanese Plum), and various others. The Japanese vases, in which many of them were grown, were of an ornate character as one expects to see from that country.

Messrs. W. Cutbush & Son had, as usual, a large and unique collection of clipped trees and shrubs. These were very interesting specimens and well managed, and which must have entailed a deal of labour in their formation. There is no feature of gardening, however, but the British gardener can master provided his employer approves or desires it. These objects of topiary art at one time prevailed largely in this country, and seem to be on the increase at present. Amongst the designs we noticed the familiar peacocks, swans, ships, &c.

Messrs. Fisher, Son & Sibray, The Royal Nurseries, Handsworth, Sheffield, had a 100 ft. run on the grass of variegated and other Maples, Golden Oaks, Golden Cornus, tree Ivies, Diervillas, Piceas, Dracaenas, Phormiums, Aralia pulchra, Elaeagnus and the rare but well-known Rubus australis.

Messrs. Cheal & Sons, Lowfield Nurseries, Crawley, exhibited a large and varied group of flowering and ornamental trees and shrubs, including Acers, Lilacs, Golden Dogwood (Cornus Spathi), Diervillas, Kerrias, Choisya ternata, Laburnums, Deutzias, Daphnes, Wistarias, Ceanothus, &c. In addition to these was an interesting group of Box plants cut into the fantastic shapes of topiary gardening.

Messrs. R. Smith & Co., Worcester, exhibited a group of Conifers, Japanese Maples, Tree Ivies, Berberis, Bamboos, and the rare Griselinia macrophylla, an excellent shrub for southern localities. Among the Conifers may be mentioned Thuya Lobbi aurea, a golden form, and Cupressus macrocarpa lutea, which, as the varietal name suggests, is of a golden tint, and also a graceful habit.

Mr. John Russell, of Richmond, Surrey, staged an attractive group of miscellaneous trees and shrubs, in which Japanese Maples, Bamboos, Azalea mollis, Euonymus, Skimmias, Hydrangeas, Wistarias, &c., were well displayed.

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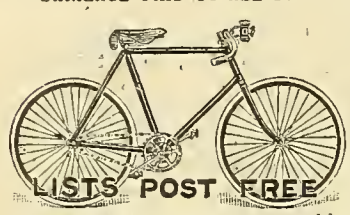

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The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, JUNE 1*st*, 1901.

The Editorial and Publishing Offices are now **removed to 4, Dorset Buildings, Salisbury Square, Fleet St., London.**

Editorial matters are to be addressed to **the Editor.**

All other communications and Remittances must be addressed direct to the Proprietors—

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NEXT WEEK'S ENGAGEMENTS.

SUNDAY, June 2nd.—Ghent Show.
TUESDAY, June 4th.—R.H.S. Committees; Devon County Agricultural at Torquay (3 days).
THURSDAY, June 6th.—Linnean Society Meeting.

"A GARDEN DIARY."*—Lovers of gardens, that is, amateur gardeners who take to writing books on their experiences, pleasures or otherwise, in their hobbies, their successes or failures, are evidently on the increase, and have been for some years past. There can be no objection to this so long as they have anything entertaining to tell us, for even the most orthodox gardener can while away his leisure time in reading an interesting book on the subject of his profession as a relaxation to his more matter of fact duties. We have testimony of this in the books written by such amateurs as the Very Rev. Dean Hole, the Rev. A. Foster-Melliar, Miss Jekyll, and others. The lady who writes the book under notice may have been spurred on to do so by reading the books of the latter or some other sister gardener, but she has evidently had an ambition to travel and write about her experiences and observations from an early period of her life; but at length finds her scope reduced to giving some account of her home experiences, though not strictly limited to her own territory for ideas. At the outset we wish she had given us a clue to the contents of her book, either as contents or an index, but she gives neither—an omission which the busy would-be reader will resent. Her nationality now and again bubbles over, though no objection need be taken to the fact that she originally hailed from the Sister Isle, where the skies are more frequently overcast and dripping than in England, and the grass is greener; for if writers under those conditions and surroundings would hold the "mirror up to Nature," we should certainly have bits of colour in a different setting or framework than in Britain. Do not the poets sing to us in the garb of their own native land, whether that be hilly or flat, breathing of the green wood, the grassy downs, the brown mountains, the oozy, weedy river meandering through the level meadows, or the rushing mountain torrent?

The writer under notice speaks of the downs with their tones of "vinous purple, shading into indigo," and states that her gardening experience has been gained somewhere to the west of Surrey. On another page she admits in as many words that she starts her theme for the day without a definite object in view, without an agenda paper, without an index. True, a diary or calendar is regulated by the round of the days and months and seasons, but the dates should be filled in with an epitome of the day's work. "A garden is a world in miniature," she says, and it takes "many varieties of gardeners to exhaust the subject of gardening." Her "indefatigable old Cuttle," like many another, has a particular passion for certain flowers to which he gives whole-hearted attention, the others he cultivates merely as a duty. He has grown with the garden, however, since he turned the first green sod, until he has become intimately identified with the whole, and ranges over all "followed by his obedient satellite and shadow." Though originally a Surrey labourer he is a prodigy in the matter of work, and what he is told to commence in the following week he accomplishes next day. And his "smile of pity" is his only apology that the projected work is already accomplished when upbraided for the high pressure at which he toils. The writer was much troubled with a certain weed the botanical name of which she could never discover, but describes it as having "narrow, fleshy leaves; a mass of roots, constructed of equal parts of pin wire and gutta-percha; the meanest of pinky-white flowers, and a smell like sour hay." Cuttle came to the rescue and called it "Snaking Tommy," with the instinct of Adam. The soil and the weeds of this garden were evidently determined to hold their own, for they were responsible for the deaths of a long list of garden plants sent by friends, and in a short time was no memorial left save a paper list of names. During the course of three years, however, a goodly array of alpine or rockery plants was reared from seed as the result of careful attention and perseverance.

While moralising on the subject of weeds the author makes some very apt observations on the unenduring character of the labour of humanity when pitted against the ceaseless energy of wild Nature. The owner and maker of a garden, particularly one that has recently been reclaimed from the woodland, learns that he or she is not the real owner at all but merely an intruder or trespasser, for a few weeks or years upon the grounds of the original and long-established proprietors, the Bracken, Briers, Honeysuckles, and birds, which may be checked for a time by the unremitting energy of man, but directly the latter rests upon his oars the weeds creep in upon him from all sides. The Bracken which originally possessed the soil could only with great labour be prevented from making inroads upon the flower borders. Only in towns can man pretend to have remodelled the existing state of things to his own liking. In every-day life the owner of a garden and his professional assistant go on preaching that they will follow Nature, and will have nothing but a natural garden, a flowery wilderness it may be, yet they go on planting in lines, squares, and parallelograms. The author had been struggling with couch grass for two days, ankle-deep in it, aided by her indefatigable Cuttle and his assistant. The fence put up to keep back the rabbits and every other trespasser, seemed only to harbour and encourage the intrusion of the enemy. She had on a former occasion intervened on behalf of the Rose Campion, rescuing it from the rubbish heap and planting it where it might enjoy possession of a half acre of copse. This they did unmistakably, and likewise sent myriads of seedlings ahead of them to possess and re-occupy the recently reclaimed garden. She came to the conclusion, like the colonist, that after all there was something like possession in having naked earth guarded by straight lines of split-wood fences. She had not at the time of writing got to that stage herself, but felt that a "sort of nurseryman's attitude"-was creeping over her towards everything tainted with wildness. All of the above happened in September, and much more. Turning to Christmas Day we find this garden lover relating the pleasure she experienced at the close of the day in a sudden but brief flicker of sunshine that lit up the landscape with unusual splendour for a moment before the gloom of a winter's night.

On January 8th, 1900, she is delighted rather than otherwise that Cuttle has set fire to the mountains of garden rubbish that have been accumulating, and created a most

*A GARDEN DIARY, September, 1899—September, 1900. By Emily Lawless. Methuen & Co., 36, Essex Street, Strand, W.C. London, 1901. Price 7/6.

glorious smoke that reminds her of the bonfires of her early life—a feeling, we may say, which clings to all those who have been brought up in those parts of the country where the fires of the Druids and sun-worshippers of centuries ago still lingered on in the bonfires of Halloween. On the 10th of the same month, two kindly days of a grim winter brought "thrillings after long grass and green shadows." Apparently she had already forgotten the couch grass, or was thinking of the same weed under different circumstances, that is, where grass was in its proper place. This latter is evidently the case, for a little further on she speaks of the "long heath, brown Furze, anything" as having "potentialities of beauty and interest." She reckons that gardeners just now, professionals and amateurs alike, are in a state of indecision, and that they may be marshalled in two ranks mutually destructive, one school, following Nature servilely, developing a good deal of picturesque disorder, the other regarding the garden as a battle-ground where they may test their own valour by shaping and manipulating species and hybrids to their own particular liking.

By March 3rd the author felt a choking in the throat at nothing less than that her faithful and indefatigable Cuttle had felt it necessary to resign his charge. He felt unable to keep charge of the kitchen and flower garden, and the lane leading to his home was four miles long. Improvements went on apace, however, as the spring advanced, for on March 26th the author was rejoicing over a brand-new view that had been opened in the copse looking towards the Dorking downs.

Of the 245 pages of text, 184 are taken up with the work, observations and reflections that were made in or about the garden, &c., from September till April. The remaining five months of the year, from May to September, constituting the live-long summer, only furnishes 61 pages, which might mean that the long hours of work in the open prevented a fuller record of the same by the pen. The flowers and various other things, animate and inanimate, coming under observation at their own proper time are taken into account, though not so fully as we should have liked. The actual work and the experiences gained are likewise lightly dealt with, though pleasantly entertaining in the author's own particular style. The book is printed on good paper with broad margin, and the type used is large and clear.

The Shipment of Fruit from Tasmania last year surpassed all previous records. It amounted to 218,546 bnshels.

The visitors to Kew Gardens on Whit Monday were estimated to number over 80,000. The number on Sunday was also very great; and on Tuesday the nnmber seemed greater than ever we witnessed before for the day after Bank Holiday. Only 30,000 passed the turnstiles at the "Zoo."

Peat Coke.—A French invention noted by the *Coal Merchant and Shipper* should do something to popnlarise the use of peat as fuel. M. Vilen, the inventor, takes ordinary peat turf, which he heats to 518° Fahrenheit, after which he lowers the temperature to 126°. The carbonisation is not in large retorts, as formerly, but in comparatively small cyclinders of ordinary Iron plates embedded in brickwork. By the Vilen method the turf possesses 6,000 units of heat, whereas peat tnrf proper has only 2,514 units. Analysis has proved that coke obtained by this method contains nearly fifty-nine per cent. of combustible matter, and the gases more than twenty-eight per cent., in all more than eighty seven per cent. This fuel will cost 13s. 6d. to 16s per ton.

Education.—America Is again to the fore with a very praiseworthy scheme, viz., a Summer School of Nature Study. It is to be conducted by the School of Practical Agriculture and Horticulture, New York.

Conserving Moisture.—The moisture of the land may be retained by (1) deep tillage, (2) mulches, (3) rotation of crops to increase humus, (4) under drainage, (5) lessening the influence of winds, and (6) by applications of salt, &c.

Marechal Niel Roses in America.—In California this beautiful Rose is budded on to stocks of Rosa laevigata. When thus treated it makes a vigorous climber, and In many parts of that wonderfully diversified state where the weather is congenial, it reaches the tops of the houses and blooms almost perpetually.

Journal of the Department of Agriculture of Western Australia.—The April number of the above journal is as usual full of interesting matter. There Is an article on the cultivation of Macadamia ternifolia, the Australian Nut. A beautifully illustrated paper on insectivorous birds is given by Mr. Robert Hall. The report of the Royal Commission which has been appointed to Inquire into the rabbit pest supplies some useful information and advice. A paper on Orange and Lemon packing and curing is written in a very attractive manner by Mr. A. Despeissis. The issue also contains the ninth annual report of the Conference of Producers.

National Rose Society's Show at Richmond.—This show is to be held in the Old Deer Park on Wednesday, June 26th. The schedule issued shows a large number of classes, and many good prizes to be competed for. The committee announce that after this year only Rose boxes of the following dimensions will be recognised at the society's exhibitions:—

24 blooms	.. 3 ft. 6 in. × 1 ft. 6 in.	Height in front 4 in.
18 ,,	.. 2 ft. 9 in. × 1 ft. 6 in	
12 ,,	.. 2 ft. — × 1 ft. 6 In.	
9 ,,	.. 1 ft. 6 in. × 1 ft. 6 in.	
6 ,,	.. 1 ft. — × 1 ft. 6 in.	
8 trebles	.. 3 ft. 6 in. × 1 ft. 6 in.	
6 ,,	.. 2 ft. 9 in. × 1 ft. 6 in.	
4 ,,	.. 2 ft. — × 1 ft. 6 in.	

Chestnut Sunday.—Londoners made their annual pilgrimage Sunday, May 19th, to the famous avenue in Bushey Park. The trees could not have looked better, and the whole surrounding country was in such a beautiful condition that the pilgrimage was fraught with more than usual delight. It Is a most beautiful drive from London. On either side of the road are flowerlng trees and shrubs of every description. The sweet Lilac was conspicuous all along the road, Its strong scent pervading the air for a considerable distance. Those who went on the wheel had their enjoyment somewhat marred, as they travelled from Hyde Park rner to Hammersmith, for It would be difficult to find a road In worse condition, even in the depths of an agricultural district.

Nature Study.—The County of Essex Technical Instruction Committee have again organised a holiday course for teachers for field studies in natural history. Nature study is now recognised by the Board of Education as a most desirable subject for the intellectual training of children In rural elementary schools, and the main objects of the present series of demonstrations is to encourage such teaching. The committee have arranged for a ten-days' course of Nature study to be held in the New Forest, Hampshire, during August. The following are observations to be made by the collector: Name of plant, both scientific and common; generic and specific characters; habit or form of plant as a whole, conditions of life, whether a wild plant proper, a weed of cultivation or a cultivated plant; habitat, nature of rooting, medium and relation of roots to moisture aspect or the plant's relation to light, shelter and humidity, if a weed of cultivation whether in cornfield, fallow, meadow, etc.; character and dnration of stem and leaves; period of flowering and general character of flowers; fertilisation, if by insects note their names; character of fruit whether dry or succulent; if the fruits or seeds are edible give names of birds, &c., that seek them; method of seed disposal; variations from normal type, cause, &c.

Mr. Alexander McPhail, for the past six years gardener to Sir Robert Dick Lauder, of Grange House, Edinburgh, has been appointed gardener to Mrs. Head, of Inverailort, Lochailort, Inverness-shire, on whose estate extensive alterations are being made. We wish Mr. McPhail every success in his new appointment.

Special Rose Show.—The Royal Horticultural Society has arranged to hold a Rose show in conjunction with the National Rose Society at the Drill Hall, Westminster, on Tuesday, July 2nd. The schedule of prizes issued shows some substantial awards to be offered, and the show ought to be a success. The tickets of the National Rose Society will admit to this exhibition at one o'clock.

Notes from Hamilton.—In your timely footnote to an exception taken to the terms "bloomer friends" by a hypercritical correspondent, I wish to convey to you my sincerest thanks. In that note you have entirely anticipated my position in relation to the use of the term "bloomer" which is a popular designation as everyone *almost* knows of the absurd dress sometimes adopted by the sisterhood. It is too absurd to attribute any other sense to the text, and I think the context is sufficiently clear from *any* thing which would justify *any* person to consider at all ambiguous.—*Gamma*.

Gardeners' Education. — We hear much of cramming young gardeners with too much theory, &c., and encouraging too high education to fit them for hard work, but how is this from a practical gardener in answer to an advertisement? "Dear Sir I saw In the —— paper" (both names without a capital) "a gardeners place a stong aktive lad, that what ime arter I want situation now hope you will oblige me for that place from ——." We have both the advertisement and the above letter. The situation vacant was an improver's, indoors, in a first class establishment. In addressing the envelope, bothy was used as a Christian name. Why send missionaries to China?

High Cultivation.—Kew has the credit of producing many strange plants and overcoming numerous cultural difficulties, but one of her newest objects came as a bit of a surprise to all. When unpacking a Wardian case received from the West Coast Territory, Africa, it was discovered that the pots in which the plants were growing were coming into leaf, several of them having produced shoots 4 in. or 5 in. long. When the pots were further examined it was easily understood. They were made from sections of Dendrocalamus stems, a large growing species of the Bamboo tribe. With the warmth and moisture, the eyes at the base of the pots had started into active growth, producing the remarkable sight of a growing flower pot.

The National Rose Society.—We have before us the annual report of the above society. It is quite a bulky publication of over 100 pages. It is full of useful Information and has been carefully compiled. The balance sheet shows a good financial condition, although the expenses incurred by extra printing, &c., have been heavy. The audited accounts show a balance of £1 14s. at the bankers, but £105 which was due from the Crystal Palace Company has been received since the balance sheet was made out. There is a steady increase in the roll of members; at the present time there are 584. The publication also contains the bye-laws of the society, regulations for exhibitions, rules authorised by the society for judging at Rose shows, method of judging, definitions of blooms, list of affiliated societies, list of members, hon. local secretaries, winners of medals in 1900, list of donations, contributions, &c, trophy winners, &c., also schedule of Richmond Rose Show, schedule of the exhibition to be held In the Temple Gardens, also of the show at Todbush Park, Ulverston. At the show to be held in the Inner Temple Gardens on July 4th, no trouble or expense is to be spared in order to make this the most attractive Rose show the society has yet held. Several novel features in the way of exhibits are to be introduced. Charges for admission will be as follows:—From 12 till 4 p.m, 5s.; from 4 p.m. till 5 30 p.m., 2s. 6d.; from 5.30 p m. till 7 p.m., 1s. The secretaries are Rev. H. Honywood D'Ombrain, V.M.H., Westwell Vicarage, Ashford, Kent; and Edward Mawley, Esq., Rosebank, Berkhamsted.

Sale of Japanese Dwarf Trees.—On Tuesday, June 4th, there is to be a unique sale of dwarf trees at the Conduit Street Auction Galleries, W. The collection to be disposed of is a large one, containing over 150 specimens. Many of the collection were shown recently at the Temple show, and were awarded a Silver Gilt Banksian Medal. The illustrated catalogue shows some quaint designs in trained Davallia Ferns, &c.

ORNAMENTAL GRASSES.

THESE are highly useful for imparting to winter bouquets a graceful appearance, and if the spikes are gathered on a fine day just before the seeds ripen and gradually dried in a somewhat cool place, they will retain their beauty for a long period. For mixed borders and shrubberies they form a pleasing contrast to annuals and bedding plants, their refreshing green colour greatly relieving the monotony of the whole. Nearly all these grasses flower the first year, and many of them will flower for several seasons. They are invaluable to those who have a lot of table decoration to do in the winter, and when arranged with the flowers, produce a charming effect. Seeds should now be sown outside. Appended are twelve of the most useful sorts:—Agrostis nebulosa, elegant for bouquets; Arundo conspicuus, perennial, useful in clumps; Briza gracilis, Quaking Grass; Bromus brizaeformis, beautiful grass with hanging ears; Coix Lachryma, Job's Tears; Eulalia japonica zebrina, Zebra Grass; Gynerium argenteum, perennial Pampas Grass; Hordeum jubatum, Squirrel Tail Grass; Lagurus ovatus, Hare's Tail Grass; Stipa pennata, Feather Grass; Pennisetum longistylum, useful for bouquets; Uniola latifolia, very effective in bouquets.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

REFRESHING HINTS.

THOSE hardy annuals, biennials and perennials that were sown in the open border during the young month of spring, will by now be sturdy young plants with a good appetite for a weak stimulant such as soot water, which can be distributed over the whole border once a fortnight, no matter what there is growing. It destroys the slugs, strengthens the plants, darkens the foliage and promotes a more rapid growth. Put a little soot in a bag and squeeze it under water until the latter has become thoroughly blackened. Avoid putting the soot in the water loose, as it will settle and clog up the rose of the can. If in hot summer evenings all the dust dried gravel paths were thoroughly watered it would throw up a most refreshing odour, as well as render assistance to the duration of the gravel. All climbers can be well syringed with clear water to get rid of the dust and nasty insects. Lawns can also be kept moist with the hose. It will be found that if all the little details as regards moisture are considered, a greater and cleaner stock of bloom and foliage will be rewarded to the grower than would otherwise have been the case.—*George William Dickson, 107, Belsize Road, S. Hampstead, London, N.W.*

PLANTS CERTIFICATED AT THE TEMPLE SHOW.

THE plants, flowers, and other subjects, described below, received awards according to merit from the Royal Horticultural Society at the Temple Show on May 22nd.

Orchid Committee.

ODONTOGLOSSUM CRISPUM ANNIE.—The flowers of this bold variety are of large size and heavily blotched with purple-brown on a rosy ground. The lip is white, spotted with brownish-purple all round the yellow crest. (First-class Certificate.) H. T. Pitt., Esq., (gardener, Mr. F. W. Thurgood), Rosslyn, Stamford Hill.

LAELIOCATTLEYA EDGAR WIGAN.—The parentage of this grand bigeneric hybrid was Lc. Aphrodite × Laelia dighyana. The sepals are soft pink and the elliptic petals somewhat darker. The lamina of the lip is of great size, deeply fringed, soft lilac purple, and fading to cream all over the disc. The centre is lined with light purple, deepening considerably in the throat. On the whole it is a large and very handsome light-coloured flower. (First-class Certificate.) Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

CATTLEYA MOSSIAE DULCIS.—The sepals and petals of this variety are of a rich, warm rose, with a purple blotch at the apex of the latter. The lamina of the lip is heavily netted with crimson, and the orange blotch in the throat and side lobes is large. (Award of Merit.) Sir Frederick Wigan, Bart.

ODONTOGLOSSUM CRISPUM CAPTAIN HOCKEN.—Here the flowers are moderate in size, but of good shape and richly blotched with purple on the white sepals and petals. There are numerous blotches over and in front of the crest. (Award of Merit.) M. Florent Claes, Etterbeek, Brussels.

ODONTOGLOSSUM WILCKEANUM GOLDEN QUEEN.—This magnificent variety had a spike about 3½ ft. long, and covered with large flowers for about two-thirds of its length. The sepals have a few large, rich chestnut-brown blotches on a pale yellow ground, the petals being similarly coloured, but having smaller and circular spots. The long lip is of a deeper yellow, with a large chestnut blotch in front of the crest. (First-class Certificate and a Cultural Commendation.) W. Thomson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Staffs.

LAELIOCATTLEYA INVERNIA.—The parentage of this bigeneric hybrid was Lc. callistoglossa × Laelia tenebrosa. The sepals are suffused with pale rosy-purple, while the petals are several shades darker. The large lip is of a dark maroon crimson at the base, fading to rosy purple towards the apex. (Award of Merit.) Messrs. Charlesworth & Co., Heaton, Bradford.

CATTLEYA MENDELII MRS. ROBERT TUNSTILL.—The flowers of this pretty and chaste variety are of moderate size, shapely and compact in form. The sepals, petals, and lip are white, with the exception of a faint purple blotch on the apex of the latter, and a pale yellow blotch in the throat. (Award of Merit.) Messrs. Hugh Low & Co., Bush Hill Park, Enfield.

ODONTOGLOSSUM CRISPUM ABNER HASSALL.—The sepals and petals of this handsome variety are elliptic and white with a cluster of large chestnut-red blotches on the centre of each. The lip is white with a pale yellow disc and numerous chestnut spots along each side. (Award of Merit.) It was exhibited by Messrs. Stanley, Ashton & Co., Southgate, but by the second day of the show was sold to H. T. Pitt, Esq., Rosslyn, Stamford Hill, for £150. The plant was one of the importation made by the firm last year.

CATTLEYA MENDELII GIGANTEA.—The sepals and large wavy petals of this variety are of a delicate silvery blush. The lamina of the lip is of large size, orbicular, much crisped and of a delicate rose, the side lobes being white. (Award of Merit.) H. Little, Esq. (gardener, Mr. A. Howard), E. Twickenham, Middlesex.

ODONTOGLOSSUM ADRIANAE LINDENIAE.—The sepals are of a rich crimson brown, with a few transverse white bars towards the base. The petals have more numerous and smaller crimson spots on a pure white ground. The lip is quadrate, and white, minutely spotted with crimson. (Award of Merit.) J. Leeman, Esq. (gardener, Mr. Edge), Heaton, Mersey.

ODONTOGLOSSUM CRISPUM THE NIZAM.—The sepals in this instance are rosy with a white edge and a few chestnut blotches on the middle. The petals are whiter with a purple halo round the chestnut blotches in the centre and a broad margin of white. The lip is white with three blotches (or all joined in one) in front of the crest. (Award of Merit.) J. Leeman, Esq.

Floral Committee.

ANDROSACE CHUMBIENSIS.—The leaves of this interesting alpine are spathulate, densely hairy on both surfaces like a Cerastium, and produced in close rosettes. The plant reproduces itself by runners. The rich rosy flowers have a yellow eye changing to red with age, and are produced in umbels on scapes 3 in. to 4 in. high. (Award of Merit.) Messrs. T. S. Ware, Hale Farm Nurseries, Feltham, London, and Messrs. R. Veitch & Son, Exeter. *Pax vobiscum* to the man who wrote it Androsace chumbiense, seeing that Androsace is feminine.

TULIPA MOORIANA.—The flowers in this instance are about the size of T. gesneriana, and brilliant scarlet with a well-defined golden base, the blotches being angular. The anthers are violet. (Award of Merit.) Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester.

TULIP ANNIE MCGREGOR.—The breeder form of this variety of the English Florists' Tulip was put up in grand form by Messrs. Barr & Sons, King Street, Covent Garden. It belongs to the rose section, and has brilliant scarlet flowers with a white base, the three inner segments having a double white line along the centre. (Award of Merit.)

TULIP DR. HARDY.—This was shown in the rectified stage, and as it belongs to the bizarre section, the base and groundwork are golden-yellow. The flower was in the flamed stage, the flame being bright crimson, and the feather maroon-crimson. (Award of Merit.) Messrs. Barr & Sons.

TULIP (DARWIN) VAN POORTVLEIT.—The flowers of this strong growing Darwin Tulip are of great size, the plant being vigorous, and bright scarlet with a violet base. (Award of Merit.) Messrs. Barr & Sons.

LITHOSPERMUM CANESCENS.—The plants of this species form bushy, erect-growing tufts, 6 in. to 8 in. high, and clothed with oblong, hairy leaves. The golden-yellow flowers are produced in cymes terminating the shoots. (Award of Merit.) Messrs. Perry & Sons, Hardy Plant Farm, Winchmore Hill.

LEUCOCRINUM MONTANUM.—The flowers of this dwarf bulbous plant are white with a long tube that passes down amongst the foliage. The leaves are linear, glaucous, and about 3 in. to 4 in. long. (Award of Merit.) Messrs. Perry & Sons.

SWAINSONIA MCCULLOCKII.—The leaves of this are pinnate, glaucous, and downy, with oval leaflets. The young stems are red, and commence flowering at an early stage. The flowers are produced in axillary racemes, and are mahogany-crimson with a with eye-like spot at the base, surrounded by a black line. (Award of Merit.) Messrs. Hugh Low & Co., Bush Hill Park, Enfield.

HIPPEASTRUM LOIS.—The large, bell-shaped flowers of this variety are beautifully and regularly netted with scarlet on a white ground. The six white rays run to the apex of the flower. (Award of Merit.) Captain Holford (gardener, Mr. A. Chapman), Westonbirt, Tetbury, Gloucester.

BEGONIA QUEEN ALEXANDRA.—The flowers of this tuberous variety are double and ultimately attain a large size, but they are certainly more handsome in their earlier stages, being flushed with salmon on a white ground, with bright scarlet edge. It is one of the most striking of the Picotee edged type. (Award of Merit.) Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham.

BEGONIA MR. HENRY CLARK.—The plants are of dwarf, free-flowering habit, and the brilliant scarlet flowers amongst the largest of the tuberous type of Begonia. The petals are beautifully undulated. (Award of Merit.) Messrs. T. S. Ware, Ltd.

BEGONIA MRS. W. G. VALENTINE.—Here again we have a tuberous Begonia with flowers of the first magnitude, and the broad, wavy, creamy-white petals arranged round a single centre. It is a choice and handsome form. (Award of Merit.) Messrs. T. S. Ware, Ltd.

TREE PAEONY CHRISTINE KELWAY.—Flowers of large size, with loosely disposed, long and pure white petals, between which clusters of stamens may be seen. (Award of Merit.) Messrs. Kelway & Son, Langport, Somerset.

CARNATION SIR HECTOR MACDONALD.—In this variety we have a tree Carnation of strong growth, with a large white flower, freely flaked with scarlet. The flower is fragrant and the calyx does not burst. (Award of Merit.) Messrs. Wm. Cuthush & Son, Highgate, London.

TULIPA IXIOIDES.—The flowers of this Tulip are about the size of those of T. gesneriana, but they are bright yellow with an obovate black blotch at the base of each segment. The filaments and anthers are also black. (Award of Merit.) Messrs. Hogg & Robertson, Dublin; also Mr. William Baylor Hartland, Ardcairn Bulb Grounds, Blackrock, Cork.

TULIP (DARWIN) LA TULIP NOIRE.—The flowers are large with short, broad, obovate segments, and for all practical purposes may be described as glossy black, so intense is the maroon colour. The black stamens also contrast with the green ovary. (Award of Merit.) Messrs. Hogg & Robertson, Dublin.

TULIPA BATALINI SUNRISE.—The flowers are moderate in size and deep salmon-apricot, with a

pale green base surrounded by a narrow blue zone. (Award of Merit.) Messrs. Hogg & Robertson, Dublin.

ROSE LEUCHTSTERN.—The flowers of this Polyantha Rose are pink when they open but soon change to white in the centre and tipped pink. They are profusely produced in large trusses, and make very effective bushes about 4 ft. high. (Award of Merit.) Messrs. Wm. Paul & Son, Waltham Cross.

ROSE SOLEIL D'OR.—The habit of this new hybrid Rose is dwarf, with rich dark green foliage and rather small leaflets. The flowers are orange-salmon in the bud and earlier stages, but fade paler with age. (Award of Merit.) Messrs. Wm. Paul & Son.

Fruit and Vegetable Committee.

CUCUMBER FAMOUS. — The fruits of this new cucumber as shown by Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, Surrey, were about 20 in. long, rich, dark green, slightly ridged, and furnished with small white spines. There is a bit of taper at the base about 2 in. to 3 in., but all the rest was in fine form and straight. (Award of Merit.)

PEACH DUCHESS OF YORK.—Several trees of this new Peach were shown by Messrs. T. Rivers & Son, Sawbridgeworth. The fruits were of medium size and soft yellow, with a light rosy cheek, generally along the suture. Its earliness is one of its special recommendations. (Award of Merit.)

ARRANGEMENT IN THE FLOWER GARDEN.

WITH the exception of the very tenderest subjects such as Coleus, Alternantheras, Celosias, subtropicals and a few others, bedding out should be pushed on rapidly, as our seasons are none too long for the amount of labour bestowed on the majority of plants we have to work up for the purpose, and should the warm weather continue which we have had during the past three weeks, the plants should soon take to their new quarters, providing, of course, that every attention is given them in the matter of watering, shading, &c., as the case may require.

In the matter of arrangement, a good deal depends upon the variety at command, but given all that is necessary in this respect, it sometimes happens that these are not used to the best advantage, and while not claiming infallibility as to taste, I think the following combinations will be found to work out well as the summer advances. Cannas, of which we have an endless variety now, never look better than in a good size bed to themselves, with just a carpet of Iresine or Mesembryanthemum cordifolium variegatum edged with Alternanthera magnifica spectabilis, or paronychloides major aurea. Heliotrope President Garfield (dark) with dot plants of Calceolaria amplexicaulis trained to stakes where they reach a height of 3 ft. to 4 ft., and nothing is more pleasing to the eye than a carpet of the latter with specimen plants of the sky-blue Plumbago capensis, edged with bronze Pelargonium Marechal McMahon, or silver leaf Crown of Silver, a most compact grower, and scarcely ever showing any flower and Celosias (red) peeping up between the white foliage of Centaurea candidissima make a charming bed, though it is not every one that admires the Celosia as a bedder. The silver leaf Pelargoniums, intermixed with Iresine Lindenii, or the brighter I. brilliantissima always come in for a good deal of attention.

Then again the Calceolaria mentioned above, trained up with an undergrowth of Pelargonium Captain Manglesii, makes a grand show, the lovely pink blossoms of the latter, so light, harmonising well with the lemon colour Calceolaria, and what is more lovely than Lobelia Cardinalis (Queen Victoria) with a foundation of silver leaf Pelargonium Flower of Spring, or Princess Alexandra, the Lobelia lasting well into the autumn? Standard Fuchsias (Ballet Girl) with a carpet of Ivy-leaf Pelargonium Madame Crousse, make a nice change. Henry Jacoby or the still older Vesuvius, edged with Alyssum variegatum or Centaurea candidissima show up well.

Where Violas are a success, and this is not in every place, the yellow Ardwell Gem or Bullion intermixed with dark Iresine or Captain Manglesii Pelargonium, or Cliveden Purple with Flower of Spring or Bijou Pelargonium, all of these are sure to please. For very large bold beds the white (small flowered) and yellow Marguerites with an undergrowth of Ivy-leaf Pelargonium Mr. Chas. Turner, or the single coloured scarlet are effective; and I must not omit mention of that charming little blue Marguerite, Agathea coelestis, not so often met with in the flower garden as its merits deserve. This intermingled with Calceolarias or silver leaf Pelargoniums form a telling bed. Of course a good many of the plants named require keeping in order so as not for them to encroach on their neighbours of lesser growth; but this will form another note as the season advances.

Before planting see that the beds are well moistened with frequent waterings if no rain falls; plant firm and do not allow the occupants to suffer for water afterwards; keep all flowers removed for the first fortnight after planting from Pelargoniums, and where they are used as trailing plants such as the Ivy-leaf, do not peg them down until growth has well advanced and the flat hoe has been worked between them a few times.—*J. Mayne, Bicton.*

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE sixty-second annual dinner of the above gardening charity was held in the Whitehall Rooms, Hotel Metropole, on May 22nd. Lord Llangattock presided, and was supported by the Very Rev. Dean of Rochester, N. N. Sherwood, Esq., V.M.H., Edward Sherwood, Esq., W. Sams, Esq., D. W. Thomson, Esq., H. Tillman, Esq., J. Hill White, Esq., Harry J. Veitch, Esq. (treasurer), John G. Veitch, Esq., P. C. Veitch, Esq., J.P., and A. Watkins, Esq. Among those present were:—J. Agg-Gardner, Esq., Mr. Herbert, J. Adams. Esq., V.P., G. J. Braikenridge, Esq., V.P., W. Y. Baker, Esq., F. W. Burbidge, Esq., M.A., Geo Bunyard, Esq., John Brydon, Esq., W. L. Corry, Esq., C. Czarnikow, Esq., Dr J. W. Campbell, H. J. and W. H. Cutbush, Esqrs., J. S. Dickson, Esq., The Earl Egerton of Tatton, Stanley Fisher, Esq., David Fleming, Esq., Alex. Hatchard, Esq., Ed. Hudson, Esq., Herbert Hicks, Esq., Henry Jones, Esq., Chas. E. Keyser, Esq., J.P., Peter Kay, Esq., D. P. Laird, Esq., John A. Laing, Esq., Alex. J. Monro, Esq., Arnold Moss, Esq., H. B. May, Esq., Geo. May, Esq., D. McKay, Esq., Geo. Monro, Esq., W. J. Nutting, Esq., C. E. Osmar, Esq., W. Poupart, Esq., Alderman Piper, Geo. Paul, Esq., R. Pincher, Esq., Jos. Rochford, Esq., E. Rochford, Esq., John Rochford, Esq., Sir James Rankin, Bart., M.P., H. Somers Rivers, Esq., Arthur W. Sutton, Esq., J.P., V.M.H., Leonard Sutton, Esq., James Sweet, Esq., V.M.H., E. J. Sewell, Esq., William Sherwood, Esq.

The table was attractively and gracefully decorated with flowers and fruit, which was kindly sent by friends of the Institution. Vocal and instrumental music was given at intervals during the evening, and was much appreciated. The president, when he proposed the loyal toasts, made a touching allusion to the death of Queen Victoria, who was patroness of the Institution. He coupled the name of Mr. H. J. Veitch (treasurer of the Institution) with the toast of the evening. In a few well chosen words he explained the objects of the Institution. The chief object, he said, was that of providing for gardeners and their widows in their old age, who had unavoidably fallen into poverty. Mr. Veitch, in returning thanks for the toast, said that he was pleased to see they were still progressing in spite of the state in which the country was, with so many new charities draining the public purses. He traced the progress of the charity from its early days, and in following its advances he called attention to the fact that that energetic worker for them, the Dean of Rochester, was its president as long ago as 1872. The president next proposed "Gardeners and Gardening," which was responded to by the Dean and Mr. N. N. Sherwood. Mr. Ingram, the secretary, made the following pleasing announcement at the conclusion:—

Amongst the subscriptions promised are the following:—Lord Llangattock, £100; Lord Llangattock, for two blind candidates, £20; Messrs. Rothschild & Son, £105; The Baron Schroder, £50; Arthur W. Sutton, Esq., J.P., £100; Harry J. Veitch, Esq., £26 5s.; N. N. Sherwood, Esq., £25 and £8 8s.; Leonard Sutton, Esq., £25; Worcester Auxiliary, per Messrs. J. Hill White and W. Crump, £82; John A. Laing, Esq., £28 7s.; R. Milligan Hogg, Esq., £21; W. Mackay, Esq., £20 14s.; Mr. Balley Wadds, £14; T. Alfred H. Rivers, Esq., £18 18; W. Sams, Esq., £13 2s.; Mr. J. Lockyer, £13 13s.; Mr. J. Jennings, £15 15s.; Mr. R. Jones, £15 15s.; Earl Egerton of Tatton, £10 10s.; Lord Glanusk, £10 10s; Sir Trevor Lawrence, £10 10s.; James H. Veitch, Esq., £10 10s.; John G. Veitch, Esq., £10 10s.; Charles Keyser, Esq., £11 11s.; Messrs. Dicksons, Ltd., £10 10s.; Messrs. H. & F. Sharpe, £10 10s.; Anthony Waterer, Esq., £10 10s.; Mr. W. Howe, £10 10s.; Messrs. Barr & Son, £10 10s.; Thames Bank Iron Co., £10 10s.; T. H. Richards, Esq., £10 10s.; Messrs. Fisher, Son & Sibray, Ltd., £10; Mr. C. R. Fielder, £10; Mr. W. Murray, £11 3s.; Mr. A. MacKellar, £10; Messrs. Dickson & Robinson, £10; Mr. P. O. Knowles, £10 14s.; Mr. A. Porteous, £9 17s.; Mr. Peter Blair, £10; Richard Dean, Esq., £8 8s.; Mr. T. O. Norman, £6 11s.; Mr. E. F. Hazelton, £6 6s.; H. E. Milner, Esq., £6 6s.; Mr. J. McIndoe, £6 6s.; Messrs. W. J. Jeffries & Son, £6 1s.; Mr. D. Inglis, £5 18s.; W. Sherwood, Esq., £5 5s.; Edward Sherwood, Esq., £5 5s.; Mrs. J. W. Campbell, £5 5s.; W. J. Nutting, Esq., £5 5s.; Proprietors of *Gardener's Chronicle*, £5 5s.; Alfred Watkins, Esq., £5 5s.; Ernest T. Cook, Esq., £5 5s.; Messrs. R. & G. Cuthbert, £5 5s.; H. J. Wimsett, Esq., £5 5s.; Mr. Geo. H. Maycock, £5 5s.; W. L. Corry, Esq., £5 5s.; R. Sydenham, Esq., £5 5s.; Messrs. Wills & Segar, £5 5s.; Messrs. Wood & Son, Ltd., £5 5s.; Proprietors of *The Garden*, £5 5s.; Messrs. Cutbush & Son, £5 5s.; Messrs. J. T. Anderson & Son, £5 5s.; The Dean of Rochester, £5; Viscount Powerscourt, £5; Sir James Rankin, £5; Wm. J. Jefferies, Esq., £5; David W. Thomson, Esq., £5; Sir Oswald Mosley, Bart., £5; F. W. Burbidge, Esq., M.A., £5; H. E. Tillman, Esq., £5; Mr. O. Roberts, £5; James Sweet, Esq. £5; James Sweet, Esq. (Good Samaritan Fund), £5; Thomas Rochford, Esq., £5; Joseph Rochford, Esq., £5; Joseph Rochford, Esq. (Good Samaritan Fund), £5; Peter Kay, Esq., £5; Geo. Monro, Esq., £5 5s.; W. Poupart, Esq., £5; Edwin G. Monro, Esq., £6 6s.; Mr. T. Comber, £4 12s 6d.; Mr. M. Gleeson, £4 4s.; Mr. G. Woodward, £4; Mr. T. Markham, £4; and other smaller sums, making a total of £1,761.

Gleanings from the World of Science.

THE following subjects came before the meeting of the Scientific Committee of the Royal Horticultural Society on May 7th:—

Beetroot tumour and Schinus Molle, with galls—Dr. M. C. Cooke reported as follows upon the specimens sent to the last meeting:—"Two objects were exhibited at the last meeting, concerning which no satisfactory explanation could be given at the time, for the simple reason that, as far as I am aware, they had never made their appearance in this country before. The first of these was a Beetroot with a large fleshy excrescence, which at the time I pronounced to be a tumour of a similar character to that which affects Turnips and Cabbages. At the moment I only remembered a figure I had seen of what appeared to be the same thing, and I was under the impression that the swelling was produced by a kind of slime fungus, or Plasmodiophora. Nevertheless, I spoke guardedly, and took home the specimen for examination, with the following results. The tumour is a somewhat globose nodule on the side of the root, about the size and form of a Tangierine Orange, attached to the root by a narrow neck, scarcely an inch in diameter. When the root was cut down the substance of the tumour did not seem to differ from that of the root; the pale zones on the side next the swelling passed into the tumour, traversed it concentrically, with something of the appearance which a transverse section of the root would exhibit. At the periphery darker spots appeared, just below the surface, which were nearly black, and mostly with a small central cavity. The walls of this cavity and the blackened part generally were traversed by a delicate network of mycelium, but I could find no trace of spores, or conidia, or fruit of any kind in the cavities. I may add that externally the tumour showed no discolouration or other evidence of the concealed blackened spots. The reference which was on my mind when I first saw the root was a short note in Massee's 'Plant Diseases' (page 225), in which he calls it "Beetroot tumour,' and says that it occurred in the grounds of

the School of Agriculture, near Algiers, and before that time was unknown. This must have been about seven years ago. It is thus described: 'Large nodulose or brain-like outgrowths develop near the apex of the root, and may consist of modified leaves or rootlets; the tumours are fleshy, attached to the root by a short narrow neck, and in the substance are numerous cavities filled with dark-coloured spores. The spores are subglobose, produced at the apex of a hypha, which bears a large vesicular swelling just below the spore.' It can only be added that the name given to the fungus causing the tumour is that of Oedomyces leproides. Its relations are to a certain degree with the Ustilagines, or smuts, but open to further investigation. It is impossible in the absence of fruit of any kind to affirm that the tumour under notice is the same as the Algerian specimens, although it seems probable. The production of spores may have been arrested by the climatic conditions, which are so different from what they would be in North Africa. The blackened spots and the plentiful mycelium would indicate the work of a fungus pest. An opportunity presenting itself, I submitted the affected Beetroot to Mr. Massee, and he was equally interested with myself in its examination, and together we consulted the authorities who had written on the subject, coming to the conclusion that it was very probable that our tumour was the same as the Algerian one, but only in its initial stage, assuming that it required a higher temperature for its full development. His microscopical examination confirmed my own, that there was a profuse mycelium present, and that doubtless the tumour was the result of fungal parasitism.

"The other object alluded to, as exhibited, was the young twigs and green leaves of Schinus Molle. The leaves proved to be perfectly sound and healthy, but attached to the twigs we found five or six small discoid fleshy bodies, about 2 millimetres in diameter, attached, like a button, by a small central shank. These excrescences were whitish at the circumference, roseate, and rather corrugated towards the centre. In substance they were soft and fleshy, easily cut with a penknife, and apparently solid. Under the microscope the cell structure was found to be that of the host plant, and there were no traces of mycelium. All the evidence seemed to indicate that these bodies were a kind of gall produced by the plant in consequence of some such irritation as that caused by the puncture of an insect. Unfortunately we could find no trace of egg, larva, or insect, but it is in that direction we believe further investigation should be directed, and the plant should be watched for further developments. In both instances, therefore, we were only partially successful, and shall at any time be glad to examine either in a more advanced stage, when, doubtless, we shall have to relegate the latter to the entomologist." A unanimous vote of thanks was accorded to Dr. Cooke for his interesting and valuable report.

Daffodils monstrous.—Rev. W. Wilks showed a specimen of what ought to have been a large trumpet Daffodil, but the peduncle bore two flowers, of nearly the ordinary size of the wild Daffodil, instead of a single and large blossom. There was no fasciation. It was interesting as a reversion to the form and size of the Daffodil, in consequence of there being two flowers in place of one. Mr. W. Logan, of Hither Green, Lewisham, sent specimens which had the corona split up into segments, and more or less crested. One half of the trumpet was elongated, the other half abbreviated, possibly indicating a double parentage of N. poeticus with the Daffodil. In another case the leaf was sheathed, as occurs in Grasses; the flower had five perianth leaves, five stamens, and two carpels, due to a partial arrest of growth on one side of the flower.

Ferns, crested.—Mr. Druery corrected an error in the last report, in that the Ferns he described were often crested to the third or fourth degree, but not fasciated. Mr. Henslow observed that Mr. Druery was perfectly correct. The term "fasciation" was only applied by Linnaeus to stems, but as it is correlated with a continual branching of the fibro-vascular cords, Mr. Henslow classed it with several other phenomena of foliar organs, which are associated with a similar repeated chorisis of the cords, as, *e.g.*, in crested sepals of the Rose, of the petals of Cyclamen, &c.; and Mr. Druery added the crested apices of Ferns, in none of which is there any necessary fasciation whatever. Dr. Masters criticised Mr. Henslow's statement, which laid stress on the development of the fibro-vascular cords, as the cellular tissue precedes their formation. But this was a necessary feature, as the fibro-vascular cords could not exist unless they were clothed with parenchyma. As, however, their several branches ultimately entered the foliar organs of a multifold flower, he did not think the criticism bad weight. In fact, the development of cellular tissue and cords goes on simultaneously, the former continually providing the material through which the cords may ramify, and often outstripping them, as in the margins of crested petals, into which the cords do not travel far enough to reach the actual margin itself.

Violets, self-fertilising.—Mr. W. J. James, Woodside, Farnham Royal, Slough, sent some white Violets (Viola odorata) which produced capsules. As a rule the purple Violet sets no seed in this country, though it does in S. Europe. On examination it was found that the flowers became self-fertilising, because the beak-like extremity of the style with its stigmatic orifice was not only strongly curved upwards (because the flower is inverted), instead of being at right angles with the style, but was completely included within the connivent connectives. The connectives were all wrapped round the style, preventing the escape of the pollen, which is then caught by the spoon-like, two lowermost connectives. The pollen falls directly on to the stigmatic orifice. The flower is thus perfectly adapted to secure self-fertilisation. The plants are also provided with the usual cleistogamous buds. In these there are five minute petals, five anthers all alike without tails, forming a star-like group upon the summit of the ovary. The stigma is short, truncated, and concealed beneath the anthers, the pollen of which enters the stigma without the anthers dehiscing by the tubes penetrating them along the lines of dehiscence in normal anthers. Mr. Henslow showed plants of the N. American species, V. cucullata, &c., with cleistogamous buds, apparently indicating the fact that these had become a specific character before a world-wide diffusion of the genus had taken place.

"Kent" Water unsuitable for plants.—Mr. E. Roberts, F.R.H.S., of Park Lodge, Eltham, writes as follows:—"Our water from the Kent Waterworks is not at all a fit food for our plants. I am in the habit of treating it thus. I first add 1 lb. caustic lime to 1000 gallons to neutralise the calcium carbonate, and then add 6 oz. amm. sulph., 6 oz. potassic nitrate, and 4 oz. amm. phosph. I shall be glad to know if this treatment can be improved upon, and if it is suitable for Orchids generally, including epiphytal." Prof. A. H. Church, who undertook to examine the water, reports as follows:—"In reference to Mr. Roberts' letter, I should like to make a few remarks. I have looked up the older analyses of this water, because the official results do not now include determinations of sulphates and of calcium in its several salts. After adding the caustic lime (preferably after slaking, and in the form of cream), the whole bulk of treated water is (I presume) allowed to rest, that it may deposit the separated carbonate of lime. Then to the clear liquid the salts named should be added. I think the quantities named reasonable. Anyhow, the prepared water is a mild stimulant and general plant food. Owing to the partial removal of the lime salts, it ought not to spot the foliage with a white deposit. I should not like to say anything as to its peculiar suitability to Orchids, terrestrial or epiphytic, but I think its use cannot be injurious."

Odontoglossum crispum peloric.—Mr. T. Rochford sent a specimen in which the lateral petals were more or less crested and spotted like the lip.

Gloxinias.—Specimens with internal latacorolla and external linear crests were exhibited by Mr. Houston.

Hymenocallis sulphurea.—Mr. Worsdell showed this plant, being Dean Herbert's hybrid.

Seedling Lilies growing underground.—Mr. Worsdell referred to this subject, and added remarks upon the germination of certain monocotyledons without a cotyledon. Mr. Elwes said that he had observed how seeds of Mezereon and Lily seeds remained a long while—even three years—and then germinated. Cephalanthera rubra, he observed, was said to have germinated after some seventy years. Rev. C. Wolley-Dod remarked, with reference to this subject:—"In my garden the seed of Lilies often germinated, and the bulbs grew for three or four years without any visible growth above ground. This statement has been very fairly questioned, and it was said that it could not be admitted as a fact of vegetable physiology without minute and particular details. I confess that I have never made careful and continuous observations in the matter, chiefly because I assumed that it was generally known and admitted. The particular Lily about which my impressions are very strong is L. monadelphum. This species thrives particularly well in the heavy, retentive soil of my garden. I have been in the habit at any time during the last twenty-five years of taking a handful of the seed of this when ripe and throwing it on the surface and raking it in where there were two or three square yards of untenanted soil. At first I used to suppose that the seed perished, as no growth appeared above ground; but on digging at the end of a year or two, bulbs were found from the size of a pea to that of a Hazel Nut, but it was not till the third or fourth year that above-ground growth, nearly ready to flower, or perhaps with one flower bud, appeared. The bulbs had not only increased in size, but had dived several inches beneath the surface. As it appears that this habit is doubted by competent botanists, it would be well to have it settled by some observer more likely to see the experiment through than I am, and I shall have much pleasure, next August, in distributing packets of seed to any amateurs who will make the trial, and at the end of four years announce the result of their observations." Some years ago the question came before the Scientific Committee as to the possibility of fully developed bulbs increasing in size below the soil without having any external stem or foliage. It was maintained by some growers that such was really the case.

Hybrid Carnations.—Mr. Douglas exhibited flowers of Lady Buxton Carnation × Sweet William (male); also the latter × Uriah Pike (crimson) Carnation; also Duchess of Fife (rose) × Sweet Williams. They were very intermediate in character, with no scent, but having more of the Sweet William foliage, and with flowers showing a tendency to cluster.

Cattleya lawrenceana, malformed.—Mr. O'Brien showed a flower devoid of a labellum, also C. Mendelii, which often comes deformed, and more or less constantly so, in certain areas. Mr. Douglas observed that he had a plant with fifteen flowers dimerous or lipless, &c.

Crinum sp.—Mr. Elwes exhibited plants of Crinum which flowered after fifteen years. They came from near Lake Nyassa, and it was doubtful as to their specific differences from C. capense, as there was great variability from the seeds. C. crassifolium (according to Dutch growers) appeared to be the same as C. petiolatum from the Niger, remarkable for its globular bulb, and by continuously flowering.

Plants from Cambridge Botanic Gardens.—Mr. Lynch exhibited the following interesting plants:—Dimorphotheca fruticosa, only lately introduced to Cambridge from S. Africa; Lathraea clandestina, with large purple flowers, which Mr. Lynch has succeeded in establishing on the roots of Willows, as well as our native L. squamaria on Poplars; Hippeastrum aulicum, one of the species of the original hybrids of the modern so-called "Amaryllis," remarkable for the great obliquity of the perianth leaves; Cheiranthus mutabilis, the true plant, and not the same as that usually grown under this name, it is not quite hardy. Prof. Church remarked that specimens grown at Kew show a larger range of colours than those of the Cambridge plants, and that the peculiar nature of the colouring matters is due to changes in the neutrality, alkalinity, or acidity of the sap. Acer carpinifolium.—This is one of the several Japanese species, having leaves without lobes, the blade closely resembling that of the Hornbeam. Helwingia japonica.—The foliage is remarkable for having the peduncles adherent to the petiole (as is that of the Lime to the bract), so that they are apparently borne by the leaf, and resemble superficially Ruscus aculeatus. Citrus trifoliata, a very spinescent species, requires only a very slight protection. Dr. Masters observed that it was used in Florida as the stock for Oranges, so that they could withstand frost. Hymenanthera crassifolia, a shrub both in flower and fruit, of the family Violarieae. It is a native of New Zealand. Hibbertia scandens, perhaps the largest flowering species, somewhat resembling Hypericum calycinum, while H. Readi bore the smallest flowers; probably natives of Australia. Stigmaphyllon ciliatum, a handsome, yellow flowered Malpighiad, Macleania insignis, of the order Vacciniaceae, a very uncommon plant, figured from the Cambridge plant in "Bot. Mag," t. 7694 (1900). A unanimous vote of thanks was accorded to Mr. Lynch for the above exhibition.

Hints for Amateurs.

ODD JOBS.

THERE are so many things that require attention now that if a person is not a professional gardener and has had many years' practical experience, he is apt to neglect or overlook many apparently minor details which have a disastrous effect before the season is far advanced. I intend this week to point out to readers a few details that must on no account be neglected, if they are ambitious of becoming successful plant cultivators. It is a difficult matter to give a definite time when to plant out the various subjects, for what would be the right time for a man in Kent or Cornwall would not be the right time for a man in North Britain to plant out his stock. The only safe guide is the common sense of the cultivator. If a neighbour in the next garden, or the next town, finds it safe to entrust his tender plants to the open ground it does not follow that your plants may also be put out. His may be a sheltered garden, protected from cold winds and late frosts, while yours may be exposed to all weathers. Or his plants may have been hardened off more than yours have, and thus enabled to fight against adverse conditions.

Seeds.—Many of the annuals are now above ground and require constant watching to see that they do not suffer from anything. One of the troubles most likely to be found is a common one in large and small establishments alike—overcrowding. On no account must this be allowed, for the constitution of the plants is so impaired that they do not recover their vigour throughout the whole season, and consequently produce miserably inferior flowers. Plants in the seed bed should each one have plenty of room, and not be covered and crushed by its neighbours. Nature should be copied, her method is different to ours, she does not as a rule sow her seeds in groups but has numerous interesting ways of seed dispersal. Notice the Dandelion and all the composite family, which have a parachute arrangement for the dispersal of their seed, which carries them in all directions, seldom depositing two in close proximity. Some have hooked appliances which attach them to passing objects; others have the seed case made of an indigestible substance and are thus distributed by animals and birds. The care bestowed by Nature on the dispersal of seeds to prevent crowding would take a whole book to describe it. When seeds are crowded in the seed bed there is a tremendous struggle going on between them, which eventually ends in the survival of the fittest. The weak ones are crowded out and the stronger ones take their place. But if this struggle had been prevented by removing the undesirables, the energy expended by the survivors would have been saved and used in building up a strong plant, with a constitution able to fight against unfavourable weather, diseases, etc. The plants that are thinned out need not necessarily be destroyed but may be transplanted. Seeds sown in boxes generally suffer more than those in the open ground.

Watering.—This is required now in most gardens, especially the ground where seedlings are growing, for they have not a great length of roots, and quickly begin to suffer, as the surface soil soon becomes dry when acted on by wind and sun combined, and they cannot reach the moisture which lies deeper. Rockery plants also are very apt to suffer from drought owing to the water quickly draining away from them. Larger plants should not require watering yet, unless they are situated in a very dry position. Fruit trees, etc., growing on walls should be watched to see that they do not suffer from drought, or disease will be the result, and the fruit will drop. By watering, I mean giving a sufficient supply to moisten the whole of the soil round the roots, not merely sprinkling the surface, which is a very common mistake with the amateur and one I have mentioned several times before. Do not flood them, that is the other extreme, but go over them several times, thus allowing it to soak down gradually. Wherever the surface soil is found to be caked it should be carefully broken up, either with a piece of stick or a small fork.

Lawns.—These must be attended to carefully and all weeds removed, including Daisies, as they spoil the turf, and if allowed to stay multiply to an alarming extent and become difficult to eradicate. A very common weed in lawns as in other parts of the garden is the grass, Poa annua. Worms are often very troublesome. They may be destroyed by occasional waterings with lime-water, which is made by thoroughly mixing lime with water, allowing it to settle, and using the clear water through a can rose. This will soon bring them to the surface, when they can be collected. Keep the edges frequently clipped or they soon get out of shape and do not look neat when they are done. If the grass is thin in any place it should be made up by sprinkling it with a few lawn seeds and sifting a little fine soil over them which must be kept moist.

Creepers.—With the advent of warm weather these are all ramping now, where supplied with suitable conditions. Keep the training and tying well in hand, for if allowed to go for a few weeks without attention they are soon in a hopeless tangle, and it is impossible to separate them without doing considerable damage. If any are found to be throwing up a sappy growth which is robbing the others, it should be either removed entirely or cut back to allow the others a chance to develop. Roses are more liable to this habit, I think, than all the other climbers. It is useless to expect these sappy growths to produce bloom for they do not ripen properly. Excess of manure is very often the cause. This should be taken into consideration in the winter when the ground is dug.

Dahlias.—In warm sheltered positions these may be safely planted out now into rich soil. Slugs, &c., are very partial to the young shoots of Dahlias, and earwigs evince a special liking for the young flower buds. The former may be kept at bay by a circle of soot and lime round the base of the stem, and the earwigs may be trapped in flower pots containing a wisp of hay. Care must be exercised when staking them, as the shoots are very brittle, and have a tendency to snap when only slightly bent. When the plant has made about 1 ft of growth it should have the point carefully taken out to induce it to branch and form a compact specimen. They require a sunny position with plenty of moisture at the root, and a free circulation of air round the plant. On no account should they be crowded or they will run up, straggling and unsightly plants, and produce a very scanty supply of bloom.

Fruit Trees.—Fruit trees of all descriptions are very liable at this season to suffer from the attacks of various insects, especially green fly. Wherever it is noticed the part should either be sprinkled with tobacco powder or thoroughly sprayed with a solution such as soft soap and quassia, or by a patent insecticide. They always attack the leaves at the extremity of young shoots, and if allowed to congregate to any extent they soon disfigure the shoot and prevent its further development. Mildew frequently makes its appearance also. This may often be caused through over-crowding the foliage. When this is the cause the remedy is obvious. It may be checked by flowers of sulphur, but it is useless employing this unless the cause is removed.

Bedding.—The amateur often shares with the careless professional the mortification of finding he has not sufficient plants to complete an effect he is trying to produce. To prevent this awkward occurrence the stock of plants at your disposal should be carefully enumerated, and then divided out in the imagination with the aid of a piece of paper into the various beds to be filled. If this is carefully calculated there will be none of the regrets of a deficiency or a large surplus, and nowhere to put them.

Walks.—If the garden walks are composed of gravel they soon get rough in dry weather if there is much traffic over them. They should receive occasional waterings, followed by a thorough rolling to keep them firm. Whenever rain falls so that they are well soaked it is advisable to give them a good rolling. It is a mistake to hurry when using the roller, for if done in that way it does not have so good an effect as when slowly pressed. An occasional dressing of weed-destroyer will prevent weeds from growing, which is much better than killing them. It requires careful handling, or a great deal of damage is soon done. It should not be allowed to run into the gutters, as it is liable to soak into the border or lawn.—*Hortus.*

Grape Fruit (Citrus decumana) is served in many hotels in the United States, as a substitute for oysters as the first course.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

The Tobacco Plant.—*Garden*: Yes, this may be planted out in the open now if the weather is favourable and the position sheltered. For making a striking feature on a warm border, or in a sunny bed on the lawn, there is nothing better for either amateur or professional work. The flowers are delightfully scented and produced freely throughout the summer. They must be allowed plenty of room, as they are very vigorous growers if provided with a rich soil and plenty of sunshine. Under good treatment they often reach the height of 5 ft. It is best to try young plants from a nurseryman, as they are troublesome to raise from seed unless plenty of heat is available. Its proper name is Nicotiana affinis.

Maize.—*Alpha*: The Indian Corn is easy to cultivate, and grows as easily as any other plants we know of that are used for bedding purposes. The beautifully variegated variety makes handsome plants even when quite small. They are best raised in pots in the spring and planted out now in a light position. They like a sandy soil, but not by any means a poor one.

Arabis lucida aurea variegata. — We have received the following reply from T. R. *re* Ulsta's article on this plant in a recent issue. "Please thank your correspondent for his generous offer. . . . . I have a stock of the plant, but find that, although beautiful, it is a very slow grower. . . . Although not accepting his kind offer, I do not fail to appreciate the motive which prompted it."

Dielytra spectabilis.—*F. C.*: This old-fashioned plant is best propagated by means of cuttings taken in June and struck in a warm house or frame. It does not like coddling when well established. If grown indoors nothing suits it better than a cool, airy greenhouse or conservatory. It may be had in bloom early in the season by gentle forcing.

Manures. — *Inquiry*: We cannot undertake to advise you as to what patent manures you should use, but a look down the advertisement columns of THE GARDENING WORLD will supply you with much information, as several firms issue pamphlets regarding their manures and how they should be used.

Dwarf Campanulas.—*Rockery*: They are generally propagated by division, either early in the spring or after they have finished flowering. After they are transplanted they require frequent attention as to water, &c, or they will go off.

China Asters.—*S.*: These are not so old to English cultivation as you think; they were introduced into England in 1830 under the name of Callistemma. Since then, by the work of the florists, over thirty classes have been evolved by crossing and selection.

Rhubarb.—*Cook*: You do not say where your bed is, but presumably you have constantly drawn from the bed until the soil has become exhausted. It is a common plan to have the Rhubarb in some out of the way corner and leave it to itself as regards cultivation. As it frees itself from weeds by its smothering habit, it is well able to take care of itself if left entirely alone, but when robbed of much of its growth year after year, instead of the leaves and stalks decaying and returning the ingredients to the soil from which they have drawn them, they are taken to the kitchen and no manure returned in their place. What we should advise you to do is, wait until the autumn, then lift the plants and well trench and manure the ground, or change their position altogether. Stable manure, if well decayed, is an admirable substance for enriching the ground for Rhubarb. If the position is a dry one the stalks will also be tough; when this is the case the remedy recommends itself.

Shirley Poppies.—*Border*: For making a brilliant and varied patch of colour they are unrivalled. They may be sown broadcast, and if the piece of ground is given up to them they will seed themselves and come up thickly every year.

Gladioli.—*R. S.*: It is time they were out now and started rooting in their flowering quarters. If you have a small greenhouse or frame you can hurry on your bulbs in small pots of light soil, but by no means force them. When they are well started harden them off and plant out in a rich loamy soil. Planting them in the Rose beds, as you ask for advice about, is one of the best plans, for they fill up the usually bare space round the stocks and do not rob the Roses to any great extent. They flower early in the autumn. As they produce lengthy flower stalks they require attention at that period to see that they are properly secured.

READING GARDENERS AT BUCKLEBURY PLACE.

LAST year the members of the Reading Gardeners' Mutual Improvement Association, by way of experiment, initiated a series of half-day outings, independently of the annual outing, to different places in order to inspect notable gardens, and the venture proved so successful that they resolved to continue the same this year. The May meeting was fixed for Bucklebury Place, Woolhampton, Berks, the private residence of A. W. Sutton, Esq.; and, accordingly, on the afternoon of May 14th, a large party journeyed by train from Reading to Midgham; while others journeyed by different routes till the party numbered over 100.

On the lawns of Bucklebury Place they were met by A. W. Sutton, Esq., and his gardener, Mr. A. Wright. After being hospitably entertained, they proceeded to inspect the various gardens. The mansion stands on a high plateau on a level with Bucklebury Common, towards which one face looks, while the other front looks away to the south and south-east over the wooded valley of the Kennet, in Berkshire, till the vision is arrested by the Hampshire hills on the horizon. The prospect is certainly magnificent; while in the nearer distance the many spring tints of the unfolding leaves in the woods, copses and spinneys, were simply charming, the effect being greatly heightened by the bright sunshine, notwithstanding the haze in the distance.

Taking a stand by the house and looking towards the entrance of the eastern carriage drive, the brightest feature was the many varieties of Wallflower with which the large beds of shrubbery were edged in double lines. The old notion that yellow and iron-brown Wallflowers summarised the whole question of this popular, old-fashioned favourite was instantly quashed by the sight of the numerous varieties here grown. On the left, towards the gate, Dwarf Yellow Bedder, a golden yellow variety, and Phoenix, crimson-brown, made a fine belt. On the right were two lines of Sutton's Faerie Queene, a very handsome and distinct light yellow or lemon variety, with large flowers and very true to colour.

In the nearer distance, on the right, was a line of Sutton's Purple Queen, another remarkably distinct type, with dark purple flowers. This being a dwarf sort, was backed by Cloth of Gold, with larger golden-yellow flowers than those of Dwarf Yellow Bedder, but the flowers of this variety are inclined to curl, possibly owing to the great breadth of the petals. The same arrangement was observable on the left of the same vista. Near the mansion was a bank of shrubbery, edged with the silvery gray Cineraria maritima, which succeeds admirably on the gravelly soil here; this was backed by Faerie Queene, making a beautiful contrast. On the right, Dwarf Yellow Bedder was backed by Blood Red, a maroon-crimson Wallflower. Elsewhere, Sutton's Eastern Queen, a very distinct apricot colour, changing to creamy white, was noted.

At one end of the mansion is a formal garden enclosed by Yew hedges, and representing the old English style, laid out in beds and filled with various spring flowers. One was occupied with Tulip Keizer Kroon on a groundwork of Myosotis Sutton's Perfection, very free flowering and blue. A white flowered seedling was notable for its purity. Another bed was edged with Dwarf Brown Bedder and Cloth of Gold Wallflowers. The centre was filled with yellow, orange, and lemon double German Wallflowers, which carried splendid spikes where the plants had stood the winter; but even on this gravelly soil many of the plants had succumbed, so that no dependence will be placed upon them again. Late double yellow Tulips in another bed were not expanded, though the Myosotis above mentioned was at its best. Red Tulips on a groundwork of Polyanthuses, edged with Primroses, were also fine; and the same may be said of double purple Tulips on a setting of seedling Primroses. Sutton's Giant Wallflower consisted of several colours mixed, and together with Blood Red, both interspersed with double crimson and white, striped pink Tulips, formed an outer bounding border to the design. Another section of the rectangular border was filled with Cloth of Gold Wallflower, edged on either side by the dwarfer Purple Queen Wallflower, and that again by Saxifraga hypnoides. Faerie Queene Wallflower occupied a third section of this border, and looked so decidedly distinct that the visitors were greatly interested in it.

A sunk area, towards the southern edge of the plateau, contained several beds filled with Wallflowers and interspersed with red and crimson Tulips, which gave the whole a peculiarly rich and sparkling appearance. Berberis stenophylla was remarkably floriferous in some of the beds on the lawns, the long, arching sprays being unusually laden with orange yellow blossom.

THE DELL GARDEN.

Though it is only the second season of this new feature of the place, it already looks as if it had long been established. Originally it consisted of a deep hollow on the edge of the tableland, covered with

READING AND DISTRICT GARDENERS IN THE DELL GARDEN, BUCKLEBURY PLACE.

trees and copsewood so common to this part of Berkshire. For all practical purposes it might have been described as a live corrie until the erosion of the slope by springs of water was stopped by the formation of a garden, the idea of which was first conceived by the proprietor, who suggested the matter to Mr. Wright, who was finally entrusted with the responsibility of carrying out the work and putting the place into garden shape. Since then the place has undergone a complete transformation.

Quite recently a new entrance has been constructed from the highest point by a flight of steps down the middle of artificially constructed rocks, the sides of which have been utilised as a rockery, planted with dwarf and interesting alpines, such as Iberis sempervirens Little Gem, Arabis albida fl. pl., Lithospermum prostratum, Cheiranthus alpinus, Achillea tomentosa, Genista tinctoria fl. pl., Gentiana verna, Campanula isophylla, Veronica repens, Phlox Edna, P. amoena, P. frondosa, P. setacea atropurpurea, and many other appropriate subjects

On the high ground at the right of this entrance a new summer house has been erected, from which a splendid view was obtained across Midgham Park to the River Kennet, the village of Brimpton, with its fine church spire, and the Hampshire hills in the distance, all the intermediate area being much occupied with woods and trees. In the nearer distance the trees consisted chiefly of Oaks in the glory of their golden and amber spring leafage, amongst which the birds were singing in rustic seclusion. This summer house also commanded a fine view of the upper pond in the Dell Garden, with its peninsula, summer house, and rustic bridge, with fine clumps of red and crimson Japanese Maples thriving handsomely. Though only recently constructed, a tom tit has already found time to build its nest in this summer house at the entrance to the garden, while the wren and blackbird have built close by.

The beds and borders are now getting better filled with the herbaceous and shrubby occupants. Prunus Pissardi had fine foliage; and P. triloba fl. pl. and P. sinensis fl. pl. were flowering handsomely. Some trees of the hybrid Magnolia Lennei, with their massive rose-purple flowers, attracted much attention. A large bed of mixed Azaleas were mixed with the lemon Faerie Queene Wallflower, and the mixture blended harmoniously and beautifully. This was edged with red Azaleas, and Sutton's Giant and other Wallflowers. Here also was a sprinkling of florists' Tulips, T. elegans, T. acuminata and others The banks of shrubs at the sides were intermixed with Tulipa gesneriana and varieties, rose, bizarre and bybloemen florists' Tulips, and Parrot Tulips. Various Lilies were making splendid growth for the second year.

The margin of the upper piece of water, in places, was ablaze with Marsh Marigolds, including the typical Caltha palustris and C. p. Guerangerii. Here also were three glorious beds of Japanese Maples, with finely cut foliage of various shades of bronze, purple, rich red and crimson, making fine growth. One had a groundwork of Myosotis alpestris of pyramidal habit with rose flowers, and at a short distance, strikingly distinct and pretty. Another bed had a groundwork of Myosotis sylvatica Sutton's Dwarf Blue and Daffodil Princeps. A third bed had an undergrowth of Tulips and Polyanthuses. The occupants of another were gold-laced Polyanthuses, and a fifth had Tulips and Alyssum saxatile all flowering freely.

The lower pond is hidden until the visitor comes upon it by surprise. It is tenanted by rainbow trout, an American species, we understand. One of the finest views is obtainable from the lower side of this piece of water, which commands a view almost to the highest point. A cascade built up of superimposed strata is the most striking feature, and gives the scene quite an alpine character, as the water rushes down from the upper to the lower basin by it. On either hand of this cascade are some glorious bushes of Berberis stenophylla, Double Gorse, Kalmia angustifolia, Genista praecox and Cytisus albus. A bed was bright with Sutton's Perfection Pansies, to be succeeded or supplemented by Cupid Sweet Peas and Lilies when they come into bloom.

Amongst the trees and copsewood the ground in many cases was a sheet of Bluebells, blue and white and Stellaria Holostea. The Primroses were nearly over, but hundreds of self-sown Foxgloves were covering the ground, having come up after the ground was dug last year. Earlier in the season this wild garden was brightened by Snowdrops, Winter Aconite, Muscari, Tulips and Campernelles. A newly prepared piece of ground amongst the trees has been planted with Rhododendrons. In a great bank of shrubs we noted a great quantity of the Calico Bush (Kalmia latifolia) laden with flower buds which will presently be fine. Lilium auratum, L. Brownii and L. tigrinum were making splendid growth.

The time at the disposal of the Reading gardeners was all too limited, but they listened attentively to an address on "Wallflowers" by Mr. A. Wright, who was specially requested to do so. They also visited the hothouses and kitchen garden till many of them were on the point of being late to catch the train. Pressure on space precludes us from completing the account of the day's outing, but we shall do so in our next issue. The accompanying portrait shows the large party as photographed by Mr. A. Wright in the Dell Garden.

Gardening Miscellany.

MERTENSIA PRIMULOIDES.

MERTENSIAS are very beautiful hardy perennials, named after Professor Francis Charles Mertens, a German botanist. The genus is known under several names, the commonest being Oreocharis, Steenhammera, Hippoglossum, and Casselia. They are very floriferous, and well adapted for rockwork cultivation. The above species is quite new to cultivation, and is now flowering, for the first time, under artificial treatment in the rockery at Kew. The flowers are a deep maroon colour, which gives place to an intense blue as they get older. It was found in the Hazara district of the Himalayas, at an altitude of 10,000 ft.

AUBRIETIAS.

FOR making a brilliant display of flowers on the rockwork or flower border, there is nothing to compare with these in the early part of the year. They are very easy to cultivate if provided with a rich loam. They strike easily from cuttings. The most common way of propagation is to divide, or layer them, when finished flowering. One of the prettiest forms is W. Ingram, a deep maroon, shaded with white. The genus takes its name from M. Aubriet, a famous botanical draughtsman.

THE APIARY.

SWARMING.

NATURAL swarms, if weather be mild and honey coming in, begin to leave their hives about the end of May. Where they are kept in a straw hive or small box we may expect them a few weeks earlier. When the bees begin to have a crowded appearance with drones flying freely, also queen cells with larvae in them, swarms may be expected at any time provided the weather is favourable. First swarms issue only in fine calm weather, generally between ten in the morning and three in the afternoon. After, swarms or casts may be expected in almost any weather and any hour of the day. If there are no dwarf bushes near the hives substitutes should be provided in the shape of a few Spruce branches 6 ft. high, stuck in the ground a few yards from the hives. Very often the swarms will settle on one of these from which they are easily hived.

No one can mistake a swarm when it issues, their joyful hum can be heard at a great distance. At the hive they come pouring forth, tumbling over one another in their haste to get into the open air like a horde of schoolboys on the eve of the vacation. It is wonderful how the excitement spreads from the tiny insects to human beings; even the old time bee man shows a sparkle in his eye, a slight raising of his voice and lightness of footstep, seldom now seen in him, as he goes for the straw skep to hive them with.

A first swarm rarely goes far rom the old hive before it settles. If there seems a danger of it flying away, water applied by a syringe is often effectual in making them settle and often directing them in any direction the bee-keeper may wish. If they settle in a hedge the straw hive should be placed on the top, and smoke given the bees underneath. If on a branch of a high tree, the branch will require to be cut and gently lowered to the ground with ropes, or, if possible, the straw hive could be held underneath the swarm and give the branch a sharp shake, when all will fall into it.

If a swarm is given a slight dewing with water before operations are commenced it will facilitate matters greatly. If the queen fails to accompany the swarm they will return to the hive again to issue another day. As soon as they are hived they should be taken to where they are to remain and kept shaded from the sun. In the evening they should be thrown down on a sheet in front of the hive prepared for them and allowed to run in; put very little quilts over them for a day or two in case the excessive heat causes the foundation to break down. Where no more swarms are wanted it pays to place swarms on the old stand, removing the latter a few yards away. Where this is done a surplus is generally obtained from the swarm.

Bee keepers in this money making go ahead period cannot afford to wait the outcome of a natural swarm. They may be away from home during the day and do not care about paying some one to watch for swarms. Where this is the case the whole thing may be done in a few minutes with little or no trouble. On a fine calm day select a hive that is ready for swarming and remove quilts, &c., examine frames for queen, which is generally to be found on the centre lot. Having found her remove frame, bees, queen, and place into an empty hive, filling it up with empty combs on foundation. Remove the old stock some distance away and place a new hive in its place. The one has all the flying bees with queen, while the other has all the hatching brood which soon fills up the hive in time for honey flow. If a fertile queen can be given, or failing that a ripe queen cell, it will be a great help towards building it up.—*Doonfoot.*

TEMPLE SHOW.

MAY 22nd, 23rd and 24th.

(*Concluded from* p. 631)

NEVER perhaps in the history of the Temple Shows has such glorious weather prevailed during the whole of the three days. There was a record crowd during the first day, making it rather uncomfortable in the tents while the sun was powerful. During the third day the weather was hotter than on the previous two days in spite of a good breeze, and cut flowers assumed a faded appearance early in the afternoon. Many gardeners were present on the third day, but that applied to all three. The secretary, Rev. W. Wilks, and Mr. S. T. Wright, the superintendent, with their assistants, Mr. Reader and Mr. T. Humphreys, are to be congratulated not only upon the success of the show, but upon their admirable arrangement of everything, and the facilities which they offered the Press in doing their duty.

FERNS.

Mr. LEONARD J. CHING, Crescent Nurseries, Enfield, London, exhibited a pretty little group of Ferns, which included some choice varieties.

Messrs. J. Hill & Son, Lower Edmonton, exhibited a large collection of Ferns. Conspicuous plants were Hyomenodium crinitum, Polypodium vacciniifolium, Lomaria L'Herminieri, Pteris ludens, Asplenum marginatum, Davallia tenuifolia stricta and Lygodium scandens. Interesting and uncommon Ferns also shown by this firm were Pteris Childsii, with finely divided fronds; P. longifolia Mariesii, with narrow pinnae; Osmunda javanica, Leucostegia immersa; Deparia Moorei, like a large Doryopteris; Davallia assamica, Anemia rotundifolia, Adiantum Capillus-Veneris imbricatum, Platycerium grande, and Hemionitis cordata, with leathery, dark green fronds, between cordate and arrow-shaped.

HERBACEOUS PLANTS.

MR. W. J. CAPARNE, Rohais, Guernsey, exhibited a new race of early flowering Iris. Some of the finest varieties in his collection were I. germanica Kochii and I. g. Fontarabia, violet; I. King Humbert, maroon falls and purple standards; I. Queen Flavia, soft yellow; and I. Dorothea, lavender.

Mr. R. Sydenham, Tenby Street, Birmingham, exhibited a very meritorious group of Sweet Peas The blooms were remarkably perfect and highly coloured for the earliness of the season. They were

tastefully arranged with Gypsophylla and a few small fronds of Fern. They were all superb varieties. Gorgeous was one of the greatest favourites; Salopian also called forth much admiration; Lovely, a light pink, with a white keel, well upheld its appellation. A beautiful light blue variety was much in evidence.

Messrs. G. Jackman & Son, Woking, Surrey, exhibited a beautiful assortment of hardy rockery and herbaceous plants, which made an effective display round the end and corner of one of the tents.

Messrs. Barr & Sons, King Street, Covent Garden, were as usual very strong in their various specialities, brought up from their nursery at Long Ditton, Surrey. A neat rockery on the long side table they occupied showed that collections of dwarf alpines and other select subjects may be grown upon rockeries that may be accommodated in the smallest gardens. Very pretty and select was Ramondia serbica, with smaller flowers and leaves than R. pyrenaica. Ranunculus gramineus, Aquilegia glandulosa, Gentiana verna, Lychnis alpina, Dodecatheon Meadia, Alyssum saxatile fl. pl., A. gemonense sulphureum, Viola pedata, Phlox subulata, P. s. grandiflora, P. divaricata, Cypripedium pubescens, Cheiranthus mutabilis, Orchis mascula, Sempervivum arachnoideum, Cytisus Ardoini, Androsace sarmentosa, and Auricula Celtic King were some of the hardy plant gems used. The Darwin Tulips were a show in themselves, both for size, vigour, and multiplicity of colour. For vigour they are superior to all other late Tulips with exception of some of the Cottage Tulips. Some of the most handsome we noted were Bride of Haarlem, cerise; The Bride, silvery-rose; May Queen, silvery-pink; Edward André, purple; Carminata, carmine, shaded silver on the back; Loveliness, rose, and of beautiful shape; White Queen, white, tinted flesh; Donders, crimson; Minister Poortvleit, bright scarlet; Mrs. Krelage, rose, with silvery-white edge; and Sultan, blackish-maroon, and known as the black Tulip. The utility of the Darwin Tulips for vase decoration is beyond all praise. The Cottage Tulips include all those late Tulips used for bedding purposes, and which have been collected from old gardens and other sources for many years. Splendid decorative varieties were Isabella, silvery-rose; Buenoventure, flamed scarlet on yellow; La Panachée, red and white; La Merveille, salmon-flesh, long, handsome, and fragrant; Striped Beauty, silvery-rose, with scarlet flakes: and the large yellow Mrs. Moon, a long and fine Tulip. Better known are vitellina, retroflexa, and macrospeila. Some Parrot Tulips were notable for the large striking mixture of colours for which they are notable. A few of the old double Tulips were also set up. The English Florists' Tulips were quaint in their self, feathered and flamed arrangement of colours and their fine forms. They were represented by such beautiful and well-known varieties as Dr. Hardy, Sir Joseph Paxton, George Haywood, Samuel Barlow, Mrs. Jackson, Annie McGrigor, Carbuncle, and Mabel, all very beautiful and distinct forms. A fine display was also made by Spanish Irises in great quantity and variety. The sparkling brightness and quaint beauty of the flowers make them favourities with many. Hardy herbaceous plants, as generally understood, were represented by a great variety of subjects now in season. There were well flowered pans of Aubrietia Leichtlini, A. Campbelli Improved, Phlox Nelsoni, Alyssum saxatile flore pleno, and A. gemonense sulphureum, Irises, Pyrethrums, Oriental Poppies, Trollius japonicus, T. Orange Globe, Fortin's Lily of the Valley, plants of Primula Sieboldi, and many other useful and showy subjects.

Messrs. Richard Smith & Co., Worcester, exhibited a large collection of hardy cut blooms; it included about 130 distinct varieties. We noticed, among many other new plants, a beautiful Stock Empress Elizabeth, one Anemone King of Scarlets. Lathyrus Sibthorpii was also exhibited; it was once a very popular flower but of late has been almost neglected.

Mr. William Baylor Hartland exhibited a large collection of cut Tulips, chiefly the Darwin type. Tulipa fulgens maxima lutea was a very handsome plant having quite 2 ft. of clear strong stem.

Messrs. Watkins & Simpson, 12, Tavistock Street, Covent Garden, exhibited Lantana hybrida showing its useful habit as a bedding plant. The colours were beautiful, showing many combinations of pink and orange, also a dwarf Tom Thumb Tropaeolum with variegated foliage and deep crimson flowers.

Messrs. B. S. Williams, Upper Holloway, exhibited a large collection of cut bloom, chiefly bulbous stuff. The Tulips were very fine, especially Bouton d'Or, an old gold colour; and Elegans alba, creamy-white with a pink margin; Gladiolus, Iris, Ixias, Anemones, &c., were also shown in good form.

Mrs. Farrer, Ingleborough, Lancaster (gardener, Mr. G. Redman), exhibited a small collection of Alpines. Lilium rubellum, a pretty Lilium, was admired by all. Ramondia, Primula, Phlox, Gentiana, Alpine Iris and Saxifraga in variety were also to be seen in the group.

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, had a large collection of miscellaneous hardy plants, including Cypripediums, Primulas in variety, many varieties of Saxifraga, Ixias, Tulips, dwarf Phlox, Iris, Gentiana Androsace, Trilliums, Eremurus, tree Paeonies, Dodecatheon Clevelandi album, a pretty little plant, quite a new and distinct variety; Ornithogalum thrysoideum, a beautiful flower but not quite hardy. The alpine plants were very effectively staged on an impromptu rockery; Ramondia pyrenaica, a pale lavender colour, was worthy of a place on every rockery; Rhododendron kamtschaticum was also shown in bloom, it is a plant that is rarely seen in cultivation.

Messrs. Dobbie & Co., Rothesay, N.B., had a superb assortment of Sweet Peas, showing some delightful shades and wonderful combinations of colour. Countess of Powis, a beautiful flower, had a salmon standard, pink and white alae and white keel. Gorgeous was much the same type of flower, being a little darker in all parts. Sunproof Salopian was also a good variety, with crimson standard, rose alae, and pink keel. Lady G. Hamilton was a beautiful study in Cambridge blue and white. A large assortment of Violas was also shown. The colours were handsome, but the flowers looked a bit uncomfortable in thin paper collars. There were several of the old show Pansies, a flower not very frequently met with on the show boards of late years.

Messrs. R. Wallace & Co., Colchester, had a large exhibit of bulbous plants, including some beautiful Tulips and Lilium thunbergianum; hardy Cypripediums were also shown in quantity. Ixias also made a fine display of colour, I. viridiflora, the beautiful green variety, received much attention.

Mr. Maurice Pritchard, Christchurch, Hants, staged a very pretty exhibit; it included plants of Anthericum Liliastrum, Pyrethrum Hamlet, many Phloxes, Epimedium niveum, Trollius, Aquilegia, Iris, Tulips, Primulas, Poppies, Lily of the Valley, Eremurus, Dodecatheon, Geum, Olearia, Saxifraga, Euphorbia, Paeonia tenuifolia, Ferns, &c.

Mr. W. Sydenham, Tamworth, staged a grand collection of Pansies and Violas; there were over 180 distinct varieties on the stands, which included all the best sorts of the day.

Mr. Amos Perry, Winchmore Hill, staged a tremendous exhibit of miscellaneous hardy plants and shrubs; some of the chief features were Paeonies, Aquilegias, Lupinus, Anemone, Cytisus Myasia, Geum, Lithospermum, Trillium, Thalictrum, Verbena, Verbascum, Arenaria, Euryhia, Polemonium, Alyssum, Ramondia, Heuchera, Lewisia, Centaureas, and numerous other plants, which time would not allow us to notice.

Messrs. W. Paul & Son exhibited a large variety of Lilacs, both double and single.

Messrs. Hugh Low & Co. staged a group of the beautiful dwarf Schizanthus wisetonensis, which made a very effective display relieved with Geonomas Cocos, and Ferns; also Swainsonia McCullockii, a beautiful plant not yet in commerce.

Mr. J. Jannoch, Dersingham, Norfolk, as usual, had a large exhibit of well grown Lily of the Valley. The bells were of extraordinary size and substance.

Messrs. Paul & Son, The Old Nurseries, had a collection of cut flowers, chiefly Rhododendrons, Lilacs and Tulips, and several varieties of Phlox.

Messrs. Kelway & Son, Langport, had a large collection of their famous tree Paeonies, some of the most conspicuous being Henry Irving, a very deep crimson; Lord Roberts, a loose transparent white variety with prettily serrated margins; Lord Selborne, rose pink, with maroon marking towards the base of the petals; Mr. Bancroft, a beautiful blush pink variety; General French, a rich crimson; Countess Crewe, a deep rose with maroon marking at the base of the petals; Miss Beatrix Jones, an ivory white with a dash of rose-purple in the centre; Marie Corelli, a rose-pink, shading off to pure white towards the margins which are beautifully serrated; Ladysmith, one of the darkest and richest colours we have seen; Leonard Kelway, a double pink and white with tessellated margins; Lady Algernon Lennox, an ivory white, very faintly marked pink.

Messrs. A. W. Young & Co., Stevenage, had a large miscellaneous exhibit of hardy plants. Lobelia Distinction came in for a large amount of attention, the flowers were an intense blue and very large; Tulipa gesneriana, a beautiful deep rose colour with a black centre, was a handsome variety. Pansies were well shown, being arranged in spray form on a velvet board. T. W. Saunders, Mabel Young, Curiosity, Maid of Honour, and Kitty Simons were very good varieties, the collection also included a good strain of Anemone St. Bridgid, and several Phloxes.

Messrs. Hogg & Robertson, 22, Mary Street, Dublin, had a large collection of cut Tulips. La Tulip Noire was a very unique bloom, being so dark as to appear pure black from a short distance; other beautiful blooms were Apricot, Lutea, Mrs. Moon, Gesner Rosalind, The Fawn, Nigrette, Dainty Maid, Parisian, Biscuit. The Parrot type were much in evidence, and many handsome varieties were shown.

The Misses Hopkins, Mere Cottage Gardens, Knutsford, Cheshire, had an effective group of rockery plants. A new Daisy, Alice, a blush pink, was much admired; other noteworthy plants were Saxifragas, Primulas, Auriculas, Aubrietia, Ramondia, Mimulus, Phlox, &c.

Mr. Arthur Knowles exhibited several plants of a beautiful Daphne named Cneorum major, a very fine improved variety.

Mr. R. Newport, Uxbridge, exhibited a very striking batch of new Lobelia.

Mr. R. C. Notcutt, Woodbridge, exhibited a small but choice collection of Tulips.

Purnell Purnell, Esq., Streatham Hill, staged a unique collection of Sempervivums, and a few alpines.

Messrs. Storrie & Storrie, Dundee, put up a large collection of Auriculas, Primroses and Polyanthuses.

The Guildford Hardy Plant Nursery staged a fascinating collection of alpines, &c., beautifully arranged on a rockwork. The Gentianas were a conspicuous feature.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, had a varied exhibit of hardy plants, including several alpines arranged effectively on a small rockery.

STOVE PLANTS.

Haemanthus mirabilis.—This handsome species and H. diademus were shown to perfection by M. Lucien Linden, Brussels, who had a striking group of it mixed with grandly-flowered plants of Phalaenopsis grandiflora. The Haemanthi are not seen in cultivation nearly so much as they deserve; perhaps it is because the plant when not in bloom is not useful for decorating purposes, a utilisation largely counted on in many establishments. Certainly it is not because the flower is not handsome and showy. It belongs to a large genus, as upwards of forty distinct species are known. Botanists divide them into four divisions—Nerissa, Gyaxis, Mechis and Diacles—but generally amongst cultivators they are only divided into two sections—those with fleshy spreading leaves and compressed bulbs, and those with round bulbs and almost upright and ornamental foliage. H. mirabilis was discovered in the Belgian Congo growing in the depth of the forests, thus shade is necessary for their perfect cultivation. They generally indicate what treatment they require. Plenty of water must be supplied when growing; when they show signs of rest, this should be encouraged by gradually withholding the supply. Some species die down completely, others are partially evergreen and must not be forced to die down.

GREENHOUSE PLANTS.

Mr. W. Godfrey, Exmouth, exhibited several large baskets of fancy Pelargoniums, also a new bedding Zonal, Duchess of York.

HARDY TREES AND SHRUBS.

Messrs. Thos. Cripps & Son, The Tunbridge Wells Nurseries, Kent, made a large and very effective display of Japanese Maples, near the Thames Embankment entrance. The foliage exhibited tints of the liveliest green to the deepest bronzy purple, besides the great variety in shape and incision of the blades.

A species of Acer rarely seen was in this group, namely, A. carpinifolium, which is remarkable for having entire instead of divided leaves. Besides the Maples were a couple of specimens of the golden tinted Retinospora obtusa Crippsi which looked handsome in the sunshine.

Messrs. J. Waterer and Sons, Ltd., Bagshot, exhibited a large assortment of well-flowered Rhododendrons in pots and numerous varieties of Japanese Maples and other hardy ornamental trees.

Yamato, Newbury Road, Acton, W., had a unique exhibit of dwarf Japanese trees and shrubs. The plants were treated by the celebrated Japanese gardener, S. Takagi. A miniature garden and stream with minute gold fish in it was a feature of the exhibit, also the gnarled specimen of Tamarix Juniperina. There was also a pretty little tree of Ginkgo triloba so interesting to botanists.

Messrs. W. H. Rogers & Son, Ltd., Southampton, had an extensive collection of cut bloom, chief hardy trees and shrubs. They were very effectively grouped in white vases on green pedestals.

Messrs. V. N. Gauntlet & Co., Redruth, exhibited cut Himalayan Rhododendrons in good form, but they suffered severely from dust, &c., towards the end of the show.

Mrs. E. Hart, Totteridge, showed a group of pigmy trees; a tiny Sago Palm, and trained Larches were the chief features.

Messrs. Fromow & Sons, of Chiswick, exhibited a similar group of Maples fringed in front with sturdy little plants of the pretty Euryalatifolia variegata.

ROSES.

Mr. W. Piper, Uckfield, Sussex, exhibited Roses which included the handsome variety Sunrise. For cutting purposes, bouquet and buttonhole work it is unequalled and the colour is so uncommon that it makes a striking feature wherever used. Other noteworthy blooms were those of Liberty, Bridesmaid and W. J. Grant.

Mr. W. Rumsey, Waltham Cross, made an effective picture with cut blooms of his famous Roses. They were in fine condition on Tuesday, but began to suffer from the excessive heat and dust towards the end of the show.

Mr. G. Mount, Canterbury, had several stands of very good Rose blooms with a background of Crimson Rambler in pots.

C. Aubrey Watts, Esq., 30, Mark Lane, E.C., staged a small group of Roses. Considering the locality where they were grown it was a very meritorious exhibit.

FRUIT.

Lord Wantage (gardener, Mr. G. W. Fife), staged a very fine representative collection for so early in the season. Grapes were shown in fine condition, Buckland Sweetwater, Madresfield Court, Foster's Seedling, Black Hamburgh, and a dish of Lady Downes kept from last year, were arranged as a background, and on raised stands in front the tubes at the base of which were filled with Asparagus Sprengerii, and bunches of the Currant Tomato. Apples were represented by Fearn's Pippin, Wellington, Winter Queening, Scarlet Nonpareil, and Gooseberry, Royal Sovereign Strawberry, British Queen and Hero of Lockinge Melon, Brown Turkey and White Marseilles Figs. One dish of Oranges. One of Citrus Medica, and several varieties of Tomatos, which were chiefly used in decorating under the dishes.

Sir J. W. Pease, Bart., Hutton Hall, Guisborough (gardener, Mr. J. McIndoe), also staged a very fine lot in Early Summer, Frontignan and Black Hamburgh Grapes; Brown Turkey Figs; Royal George, Dr. Hogg and Grosse Mignonne Peaches; Early Rivers Nectarine; very fine Citrons; Hutton Hall, Magnum Bonum, Champion, Yorkshire Beauty and Monarch Melons; King of Tomkins County and McIndoe's Russet Apple; Bigarreau, Napoleon, Black Tartarian (very fine) and Mammoth Cherries; The Czar, Purple Imperial and Early Transparent Gage Plums; and Royal Sovereign Strawberry.

Another remarkable collection of Apples came from Mr. John Watkins, Pomona Farm Nurseries, Withington, Hereford, amongst the best of which were Morfitt's Seedling, Woodhams Seedling, Hambledon Deux Aus, Mother Graham, Wellington, Sturmer Pippin, King of Pippins, Beauty of Kent, Blue Pearmain, King of Tomkins County, Belle de Pontoise, Gooseberry, Annie Elizabeth, Striped Beefing, Jonathan, The Queen, Gascoyne's Scarlet, Cox's Orange Pippin, May Queen, Court Pendu Plat, Bramley's Seedling, Claville Malingre, Hollandbury, Scarlet Nonpareil, Kentish Fillbasket and Ashmead's Kernal.

VEGETABLES.

Mr. A. J. Harwood, Colchester, staged six bundles of Asparagus in fine condition.

Mr. G. Godfrey, Colchester, had another lot of eight bundles.

Mr. James Udale, Littleton House, Droitwich, also showed a fine dish, the stems 1 ft. long and of immense size.

Alex. Henderson, Esq., M.P., Buscot Park, Farringdon, Berks, exhibits a mixed collection of fruit and vegetables. The back of the table was filled with Little Marvel and Green Gem Peas in pots, Late Queen Broccoli and Snowball Cauliflower, Asparagus, Potatos, Seakale, Turnips, Beans and Peas, Early Giant, as labelled, being very fine Vegetable Marrows, Carrots, Cabbages, and Tomatos. Fruit was represented with Bismarck, Baxter's Pearmain, Sturmer Pippin, Lane's Prince Albert, Newton Wonder, Striped Beefing, Mannington Pearmain, and Norfolk Beefing, Royal Sovereign, and Fillbasket Strawberries, Early Rivers' Nectarines and Hale's Early Peach, Brown Turkey Figs, and a variety of Tomatos.

Following this was a collection of vegetables exhibited by the Horticultural College, Swanley, which contained a variety of Peas, Beans, Cucumbers, Asparagus, Carrots, Radishes, Potatos, and Broccoli.

The Right Hon. Lord Aldenham (gardener, Mr. E. Beckett), staged a most remarkable exhibit of seventy-four varieties of vegetables, and most of them in that magnificent style in which he usually shows. To specify one dish would be invidious, as the whole lot were in good fresh condition and well staged, including his Model Broccoli, Perfection, Dwarf Gem, Winter Beauty, Peachblow, Improved Polegate Tomatos, Seakale, Vegetable Marrows, Cauliflowers, and Potatos.

Mr. S. Mortimer, Rowledge, Farnham, showed three boxes of a new Cucumber, "Famous," a cross between Telegraph and Daniel's Duke of Edinburgh, for which he was recommended an Award of Merit.

Mr. J. J. Upton, Irlam, Manchester, showed a basket of "Freedom" Cucumber and another of Up-to-Date, for which he received a vote of thanks.

J. Roy Allen, Esq., St. Aubius, Bittern Park, Southampton, exhibited four dishes of an excellent show variety of Pea, Duke of Albany.

Mr. T. Chapman showed four large bundles of fine Asparagus, also a basket of Tomatos.

CUPS AND MEDALS.

Gold Medals.

Lord Aldenham (gardener, Mr. E. Beckett), Aldenham House, for Vegetables.

Messrs. F. Sander & Co., St. Albans, for Orchids.

Messrs. James Veitch & Sons, Ltd., for general exhibit.

Messrs. T. S. Ware, Ltd., Feltham, for general exhibit.

Messrs. Fisher, Son & Sibray, Handsworth, for general exhibit.

Messrs. W. Paul & Son, Waltham Cross, for Roses.

Guildford Hardy Plant Co., Guildford, for Alpines.

Hogg Medals.

Messrs. Thos. Rivers & Son, Sawbridgeworth, for fruit trees.

Sherwood Cup.

Sir F. Wigan, Bart (grower, Mr. W. H. Young), Clare Lawn, for Orchids.

Silver Cups.

Mr. Jas. Cypher, Cheltenham, for Orchids.

Messrs. H. Low & Co., Bush Hill Park, for Orchids.

Leopold de Rothschild, Esq. (gardener, Mr. G. Reynolds), Gunnersbury Park, for Vanda teres.

Messrs. Barr & Sons, Covent Garden, for general exhibit.

Mr. G. Mount, Canterbury, for Roses.

Mr. J. Watkins, Hereford, for Apples.

Messrs. Geo. Bunyard & Co, Maidstone, for Apples.

Sir Jos. W. Pease, Bart. (gardener, Mr. J. MacIndoe), Guisborough, for fruit.

Lord Wantage, V.C. (gardener, Mr. Fyfe), for fruit.

Messrs. J. Carter & Co., High Holborn, for general exhibit.

Messrs. H. Cannell & Sons, Swanley, for general exhibit.

Messrs. W. Cutbush & Son, Highgate, for general exhibit.

Lord Rothschild (gardener, Mr. E. Hill), for Moss Roses.

Messrs. Sutton & Sons, Reading, for general exhibit.

Capt. Holford, C.I.E. (gardener, Mr. A. Chapman), Westonbirt, for Hippeastrums.

Messrs. R. & G. Cuthbert, Southgate, for Azaleas.

R. I. Measures, Esq. (gardener, Mr. H. J. Chapman), for insectivorous plants.

Messrs. Paul & Son, Cheshunt, for Roses, &c.

Messrs. R. Smith & Co., Worcester, for Clematis, &c.

Mr. C. Turner, Slough, for Roses, &c.

Silver Gilt Flora Medals.

Messrs. Stanley, Ashton & Co., Southgate, for Orchids.

Messrs. J. Cheal & Sons, Crawley, for hardy shrubs and herbaceous flowers.

Messrs. J. Laing & Sons, Forest Hill, for Begonias, Gloxinias and Streptocarpus.

Messrs. Jackman & Son, Woking, for Clematis and hardy flowers.

Messrs. Cripps & Son, Tunbridge Wells, for Japanese Maples.

Messrs. J. Hill & Son, Lower Edmonton, for Ferns.

Messrs. J. Peed & Son, West Norwood, for Caladiums, Begonias, &c.

Mrs. R. Wallace & Co., Colchester, for hardy flowers.

Messrs. John Waterer & Son, Bagshot, for Rhododendrons, &c.

Silver Gilt Knightian Medal.

Alex. Henderson, Esq., M.P. (gardener, Mr. Bastin), Buscot Park, for fruit and vegetables.

Silver Gilt Banksian Medals.

Mr. Rumsey, Waltham Cross, for Roses.

Messrs. B. R. Cant & Sons, Colchester, for Roses.

Messrs. Fromow & Sons, Chiswick, for Maples.

Mrs. Hart, for Japanese trees.

Messrs. Hogg & Robertson, Dublin, for Tulips.

Mr. Amos Perry, Winchmore Hill, for hardy plants.

Messrs. Storrie & Storrie, Dundee, for Auriculas, &c.

Messrs. B. S. Williams, Upper Holloway, for Orchids, &c.

Messrs. Kelway & Son, Langport, for cut flowers.

Silver Flora Medals.

Messrs. Charlesworth & Co., Bradford, for Orchids.

Mons. L. Linden, Brussels, for stove plants and Orchids.

J. Leemann, Esq. (gardener, Mr. Edge), for Orchids.

Mr. W. B. Hartland, Cork, for Tulips.

Mr. Pritchard, Christchurch, for cut flowers.

Mr. J. R. Box, Croydon, for Calceolarias.

Mr. A. J. Bruce, Manchester, for Sarracenias.

Messrs. F. Cant & Co., Colchester, for Roses.

Messrs. Dobbie & Co., Rothesay, for Violas and Sweet Peas.

Mr. Eida, for Japanese trees.

Mr. Jannoch, Dersingham, for Lilies.

Mr. H. J. Jones, Lewisham, for general exhibit.

Mr. H. B. May, Upper Edmonton, for general exhibit.

Mr. J. Russell, Richmond, Surrey, for general exhibit.

Mr. J. J. Upton, Manchester, for Gloxinias, &c.

Messrs. Webb & Sons, Wordsley, Stourbridge, for Gloxinias.

Silver Knightian Medals.

Mr. W. Godfrey, Colchester, for Asparagus.

Messrs. Laxton Bros., Bedford, for Strawberries.

Horticultural College, Swanley, for vegetables.

Silver Banksian Medals.

Messrs. Cowan & Co., Liverpool, for Orchids.

J. Rutherford, Esq., for Orchids.

Mr. F. Chapman, for Asparagus.

Mr. H. A. Harwood, Colchester, for Asparagus.

Mrs. Bodkin, for Cacti.

Mr. L. Ching, for Ferns.

Mr. Fl. Claes, Brussels, for Orchids.

Mr. H. T. Dixon, Sussex, for Carnations.

Mr. K. Drost, Richmond, Surrey, for Lilies.

Mrs. Farrer, for Alpines.

Lord Hillingdon, Uxbridge, for Carnations.
The Misses Hopkins, for Alpines.
Mr. W. Iceton, Putney Park Lane, for Lilies, &c.
Messrs. Jones & Sons, Shrewsbury, for Sweet Peas and Irises.
Mr. A. Knowles, for Daphnes.
A. Meyers, Esq., for Calceolarias.
Mr. Newport, for Lobelia.
Mr. R. C. Notcutt, Ipswich, for Cut Flowers.
Mr. W. G. Piper, Uckfield, for Roses.
Purnell Purnell, Esq., Streatham Hill, for Rhododendrons.
Mr. R. Sydenham, Birmingham, for Sweet Peas.
Mr. W. Sydenham, Tamworth, for Pansies.
Messrs. Watkins & Simpson, London, for Lantanas, &c.
Messrs. Young & Co., Stevenage, for general exhibit.

CULTURAL COMMENDATIONS.

Mr. J. Udale, for Asparagus.
Messrs. Wm. Cutbush & Son, for Peas.
Mr. J. Allen, for Peas.

SOCIETIES.

BATH AND WEST AND SOUTHERN COUNTIES SHOW.—*May 22nd to 27th.*

THIS great agricultural show was held this year at Croydon, and was favoured by most glorious weather. The sun shone brilliantly throughout the whole show, but it was not too hot, for a pleasant breeze was blowing across the highly situated show ground during the whole week. A lofty position was allotted to the horticultural section and was well filled with exhibits. Although not a large floral show it was one of great excellence, and the taste displayed in the arrangement produced the most pleasing results.

Messrs. W. Cutbush & Son, Highgate, put up one of the prettiest groups that we have seen. It filled the whole end of the large marquee and contained a large collection of plants. In the centre was a mound of Crimson Rambler Roses, interspersed with Lilium longiflorum; at intervals on either side of this were small groups of Carnations. The groundwork was made up of Lily of the Valley, Azalea mollis, Malmaisons, Ericas, Hydrangeas and other highly decorative plants. The edging was a wavy row of Adiantums, and the background a bank of Palms. Saxifraga pyramidalis and Boronia heterophylla also figured conspicuously in the arrangement. If all groups at flower shows were arranged in this free and graceful manner it would be a delightful change from the closely packed mound or pyramid which is too often seen when plants are staged for effect.

Messrs. W. Paul & Son, Waltham Cross, occupied the end of the marquee opposite to Messrs. Cutbush & Son with a beautiful collection of Roses in pots, including the following attractive varieties:—Crimson Queen, Perle d'Or, Baroness Rothschild, Spenser, Ulrich Brunner fils, Leuchtstern and Mrs. John Laing.

Messrs. Paul & Son, Old Nurseries, Cheshunt, also made a grand show with Roses and herbaceous cut bloom. Amongst the Roses we noticed that charming variety J. B. M. Camm, also Madame de Watteville, Wallflower, Mavourneen, Madame Charles, Haileybury and Belle Siebrecht.

Mr. W. J. Godfrey, Exmouth, Devon, brought a large number of Pelargoniums. A plant that was much admired was Nuit Persaine, a deep maroon, shading off through rose to a pink border; Glory of the West was also a good variety, light red was the predominating colour, and the upper petals were handsomely marked with a dark velvety blotch. Ferns, Cannas, and herbaceous plants were also exhibited with this collection. All were shown in good condition, and great credit is due both to growers and packers.

Mr. John R. Box, West Wickham, Kent, made a striking exhibit with a large collection of hardy herbaceous and rockery plants, amongst which Heuchera sanguinea stood in with a bold effect and received much attention. Calceolarias were also staged of good quality in this exhibit, and showed a beautiful strain.

Mr. F. Hooper, Bath, brought up a large and showy collection of Pansies and Violas. The Earl of Ashburnham exhibited four bundles of Giant Asparagus. Messrs. G. Cooling & Sons, Bath, exhibited Clematis and Lilacs in pots, also a various collection of alpines, Tulips, Irises, Gladioli, Lilies, Roses, &c. The Brier Roses were extremely pretty little chaps and well worth a place in every collection. Mr. Thomas Butcher, florist, Croydon, put up a tastefully arranged group of greenhouse plants and Adiantums.

Messrs. J. Laing & Sons, Forest Hill, had a choice exhibit of stove and greenhouse plants, which included some highly-coloured Codiaeums. This firm also undertook the decorations of the official offices, &c. Their efforts were much appreciated by the public, especially one of the portions immediately inside the main entrance, which was tastefully decorated with virgin cork and flowers. In the front were some very effective beds of Roses, Azaleas, Lilacs, &c., intermixed with ornamental shrubs, Japanese Acers being largely used. The ends of the pavilion were carried out into shrubberies, the whole making a pretty piece of landscape work.

Messrs. Kelway & Son, Langport, Somerset, staged a large assortment of tree Paeonies, including the following favourites:—General French, Lord Roberts, Grand Duke, Queen of Denmark, Cardinal Vaughan, Diamond Jubilee and Lord Selborne. The Croydon County Polytechnic Schools exhibited a table of refreshments and flowers.

Lady Warwick's Hostel had a stand of photographs illustrating their establishment at Reading, also a collection of flowers and plants.

The Pottery Company, Weston-super-Mare, had a large exhibit of their productions, chiefly large vase-work for lawns. They were tastefully filled with plants by Messrs. J. Laing & Sons.

The Somerset Trading Company also exhibited garden pottery, including some pretty basket designs, tile work and vases.

Messrs. E. Webb & Sons, Wordsley, Stourbridge, had a large exhibit of agricultural seeds and produce. Some tremendous Mangolds were to be seen on this stand. In the centre were two glass cases of Gloxinias.

Mr. J. Williams, Ealing, illustrated the uses of his rural table decorative stands by having them attractively set up with light, graceful flowers and foliage.

The South-Eastern Agricultural College, Wye, had a very interesting entomological exhibit of insects, &c., injurious to crops and trees.

ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER.—*May 25th-30th.*

THIS annual Whitsuntide fixture was held in the society's gardens, Old Trafford, and forms one of the most prominent features of the holiday week festivities. The show was held in the permanent buildings, the show-house being devoted to the Orchids and more tender specimens, whilst the ample annexe was devoted to groups and many other interesting collections. The weather on the opening day was perfect—warm, but not over bright, so that the visitors could enjoy the exhibitions, the gardens and the various interesting inmates of the glass structures.

ORCHIDS.

As usual, these formed perhaps the most favoured portion of the show, and undoubtedly it would be difficult to endeavour to prove otherwise, for not only were they increased in quantity, but the quality would compare favourably with those of the past.

For the best miscellaneous collection in bloom, E. G. Ashworth, Esq. (gardener, Mr. H. Holbrook), Wilmslow, was first with a large and varied lot, the Odontoglossums proving a leading factor. An Award of Merit was given to Odontoglossum crispum Sir John Goldsmid and O. excellens H. Holbrook. Arthur A. Lees, Esq., Stretford, was second.

For the best collection for nurserymen, Mr. J. Cypher, Cheltenham, occupied the post of honour with a superb display, rich in Odontoglossums, Laelias, Dendrobiums and Oncidiums, staged on an irregular outline of moss with greenery and Caladiums. Mr. John Robson, Altrincham, was second with a highly creditable lot. For a collection of Cattleyas and Laelias, Mr. Cypher was again to the fore, in which Laelia purpurata, Cattleya Forbesii and C Warnerii were utilised with telling effect. Mr. Robson followed. For a collection of Odontoglossums open, A. Warburton, Esq. (gardener, Mr. T. Lofthouse), Haslingdon, won with a grand lot, in which crispums proved highly effective. Mr. J. Robson was second.

For ten specimens Mr. Cypher again proved the victor with Dendrobium thyrsiflorum, D. nobile majus, Laelia purpurata alba, Lycaste Skinnerii, Odontoglossum citrosmum pendulum and others. Mr. J. Robson and Messrs. Heath and Sons were placed as named.

In addition to the competitive exhibits many groups were staged that added greatly to the success of the show. W. Duckworth, Esq., Flixton, was awarded the society's Gold Medal for a capital display in which Cattleyas, Laelias and Odontoglossums were prominent.

Messrs. John Cowan & Co., Gateacre, contributed a very fine lot, both in quantity and quality, which secured a Gold Medal. This collection included fine forms of Odontoglossum crispum, Cattleya Mendelii and a fine spike of Coelogyne pandurata. A First-class Certificate was granted for Cattleya Mendelii excelsior, and an Award of Merit for Odontoglossum Adrianae.

Messrs. F. Sander & Co., St. Albans, staged a small but interesting collection which gained a small Gold Medal and First-class Certificates for Miltonia bleuana giganteum, Odontoglossum vuylstekeanum, and O. Adrianae nobilior. Messrs. Charlesworth & Co., Bradford, were the recipients of a Gold Medal in which the usual kinds already named were effectively arranged. Messrs. Hugh Low & Co., Bush Hill Park, Enfield, were awarded a Silver Medal for their contribution and a First-class Certificate for Cattleya Mendelii His Majesty.

GROUPS.

These as usual made a telling display, and throughout the competition great taste was shown in the arrangements for the amateur section not to exceed 200 square ft. The Earl of Ellesmere (gardener, Mr. Upjohn) gained the premier award for a pleasing combination.

For a group of 100 square ft. confined to amateurs within twenty miles, Jas. Brown, Esq. (gardener, Mr. J. Smith), Heaton, Mersey, and G. B. Blair, Esq., were placed as named.

In the nurserymen's class not exceeding 250 feet, Messrs. R. P. Ker & Sons secured the premier award with a charming display containing a vast variety of well-grown stuff, including Palms, Crotons, Caladiums, &c., arranged on moss. Dracaena Victoria and Rhododendron Doncaster were noticeable, the former for its habit and colour and the latter for its good form and free blooming qualities.

Messrs. John Waterer & Sons, Bagshot, received the usual form of thanks in the shape of a Gold Medal for a brilliant display of Rhododendrons remarkably well flowered and of charming clear tints.

Messrs. G. Jackman & Son's (Woking) exhibit of Clematis was greatly admired, the enormous size of the flowers, Fairy Queen especially, and the delicate shades of colour formed a most pleasing feature of the show, which was worthily accorded a Gold Medal.

Messrs. W. Clibran & Sons, Altrincham, secured a like award for a very fine lot of Calceolarias, in which size, colour, and form of flowers were added to cultural skill.

For the best collection of Amaryllis, a Gold Medal was offered, which was secured by those well known growers, Messrs. R. P. Ker & Son, with a very fine lot of large blooms of good substance, chief amongst them being Monarch, red with white veins; Majestic, white ground, red veins; Alba Magna, white with pale red veins, large blooms, a variety not named, noted for its breadth of petal of suffused salmon-green.

PLANTS.

For ten stove and greenhouse plants, Mr. J. Cypher was found in his usual position, winning with Erica magnifica (two), E. Cavendishii, Pimelia Hendersonii (two), Anthurium scherzerianum (two), Azalea Louis Pynaert, and a La Victoria.

For a collection of Roses in pots, J. Brown, Esq., led with well flowered and clean plants. Thomas Hunter (gardener, Mr. J. Mulloy), Whalley Range, second. For eight dinner table plants, Major H. Cardwell and G. B. Blair, Esq., were the prize-takers. For twelve Calceolarias, Major Heap (gardener, Mr. J. Holt), and H. Storey, Esq. (gardener, Mr. W. Good), were placed as named.

For not less than thirty hardy herbaceous and

alpine plants, E. Donner, Esq. (gardener, Mr. J. Minwood), was first, J. Lamb, Esq., second.

For not less than twelve varieties, W. J. Thorley, Esq., was first; and for nurserymen not less than fifty varieties, Mr. J. Derbyshire, Altrincham, scored. Six hardy Ferns, Thos. Harker, Esq., and J. Lamb, Esq., were first and second. For six Adiantums, G. B. Blair, Esq., was the first and only exhibitor. Twelve pots of Pansies, the prize-takers were Thos. Harker, Esq., Major H. Cardwell, and Major Heap.

One foliage plant, Major Heap scored with Latania borbonica. One stove plant, flowering, H. Storey, Esq., won with a fine Dendrobium nobile, to which was added a Cultural Certificate. For a greenhouse plant foliage and flowering, Major Heap won in each class. For the single Fern, G. B. Blair, Esq., secured the leading position. For three bouquets and bridal bouquet, Mr. J. Kirk, Stockport, was first in each class, J. Lamb, Esq., winning for the single bouquet.

Mr. Henry Brownhill, Sale, was awarded a Cultural Certificate for Cactus Dahlias; the Misses Hopkins, Knutsford, for a collection of hardy plants, amongst which was Daisy Alice.

Messrs. Hugh Low & Co. gained a First-class Certificate for Schizanthus wisetonensis, and a like award for Phlebodium aureum Lowii.

Mr. W. L. Pattison, Shrewsbury, gained a Silver Medal for a pleasing display of cut Violas and Pansies.

The arrangements, as usual, were carried out in a most satisfactory manner by the curator, Mr. P. Weathers, and his capable staff.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. J. Harewood, Sussex, for his article on "Ivy-leaf Pelargoniums," p. 616.

The prize the previous week was awarded to "G. W. D.," for his article on "Forcing French Beans," p. 602. Three of the competitors were over the limit of words, two of them considerably, but possibly they knew it.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

PHOTOGRAPHS OF PLANTS.—The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in THE GARDNING WORLD. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Lifting Crocuses.—*Constant Reader*: There will be no difficulty in getting Crocuses that have to be lifted to flower next year, as the foliage should by this time be well advanced towards maturity. Lift the corms with all their roots carefully, and dig a shallow trench in some part of the garden, and lay in the Crocuses to the same depth as they were before. Cover with soil, tread the latter firmly and give one watering. The foliage will presently die down gradually, after which you can dig up the corms (bulbs) and store them in a cool, dry place till planting time.

Tomatos Diseased.—*W. G.*: Your Tomatos have got the black spot, a disease caused by a fungus named Cladosporium Lycopersici. It does not spread very fast if proper precautions are taken. Keep the atmosphere of the house as dry and well ventilated at all times as you can. At the same time pick off every fruit you find with a black spot, as well as those which have an unnatural depression at the apex of the same. In this latter case, though the depression at the apex of the fruit is only green, you may be sure that the fungus is at work inside, and the spot will presently turn black. If you carefully follow out these recommendations, the fungus will not give you much trouble during the season. The affected fruits are quite useless, so that you should destroy them at once by burning.

Grass Dying Out in Patches.—*Walter Severn*: No doubt the Ash trees you mention did give encouragement to the green felt of matter to grow in the first instance by affording shade as well as drip. The green felt consists of a filamentous alga, probably a Vaucheria. The principal causes that encourage the growth of it are shelter, shade, and moisture. You should have commenced to deal with it in March, so that the grass could have had time to get established before the dry, hot weather set in. You can do something yet, however, by digging out the patches to the depth of 6 in., and filling in the same with good loam. Tread it down, then level the surface and sow lawn grass seeds rather thickly. Cover it lightly with fine soil, and water it frequently in dry weather with a watering pot fitted with a rose. You may also get some "lawn sand" from the dealers in horticultural sundries, and scatter this all over the lawns according to directions. It is a fertiliser, and encourages the growth of the grass. In winter you should give the lawns a dressing with some rich soil containing decayed leaves and cow manure. Scatter it about with a broom and allow the rains to break it down finely, after which roll the grass. Some lime mixed with the dressing will also kill the green matter, moss, &c., and cause the grass to grow.

Bed of Ivy-leaved Pelargoniums.—*Bedding*: If the plants of the Ivy-leaved Pelargonium Annie Pfitzer are small the arrangement you propose should answer very well. You will have to keep an eye upon the dot plants of Abutilon Thompsoni to see that they do not throw up straggling shoots that would spoil their shape, which should be kept neat and tidy. Pinching off any such irregular shoots would keep them in the desired form. In the case of old plants of the Pelargonium you name you could make a good bed by planting them as specimens instead of the Abutilon. Keep the Pelargoniums neatly staked. The groundwork could be filled in with some free flowering Pansy or Viola, with the tricolor Pelargonium Lass of Gowrie as an edging.

Shoots of Red Currants dying.—*G. Beckwith*: The damage must have been done by the Currant-shoot Moth, but you are almost too late now to apply any effective remedy. By cutting the dead shoots across you will find that the centre of each has been tunnelled by the pest, and the pith and other soft parts eaten away. The injury is sufficient to prevent a sufficient flow of sap from the roots to support the young leaves, so that the latter are the first to give indications of the presence of an enemy. The shoots themselves ultimately die, and are therefore useless. The grubs that do the damage leave them about the end of May, so that you may at once cut off and burn all shoots that are showing signs of distress in the hope of destroying any moths which may still be present in the pupa stage. Next year you should go carefully over all the bushes several times during April and the first half of May, cutting off all those and burning them which have drooping leaves. By this means you will be able to reduce the pest and prevent it from doing much damage in succeeding years.

Tomatos.—*A. M'D.*: It is customary to remove all side growths when grown as a special crop in houses or outside. The plants are planted in rows and trained up by means of strings to the roof. Not only is it beneficial to remove the lateral growths, but also some of the remaining leaves if they are too large and shade the fruit. If they are trained on a roof on trellis work, over other plants, it is a very common practice to allow some of the laterals to remain, and run them up as separate stems, but the result is not so good as when they are grown on the single stem system.

Helichrysums.—*A. M'D.*: They should be raised and treated as ordinary half-hardy annuals, and grown on a sunny border.

Rhodanthes.—*A. M'D.*: They are closely allied to the Helichrysums, and require the same treatment. They delight in a rich soil and warm position. For pot culture they should be sown in 6-in. pots in which they should be flowered, and thinned out to five or six plants. March is the best time for sowing.

Bulbs of Scilla removed after Flowering.—*Sigma*: Your best plan will be to lift them carefully with a spade or fork, being careful not to injure the bulbs, and the more intact the roots are the better. Then take out a trench sufficiently deep to allow the bulbs to be placed in the ground at the same depth as they were when growing. Lay them in the trench close together but not so much as to have the leaves in too deep a layer. Cover them up with soil as if planting them, give one good watering to settle the soil about the roots and leave them till the foliage has completely died down, after which you may lift, clean and store them in a cool, dry place till required again for planting. You should never expose the bulbs to sunshine either before or after ripening them off. There is no need to lift them at all till you are about to replant the beds, as this will be all in favour of the Scillas. You cannot expect them to flower so well next year if lifted while still quite green, but you can save them and either plant them in a piece of reserve ground to recuperate or plant them out permanently in the borders.

Caterpillars on Gooseberries.—*G. R.*: The caterpillars sent are those of the Gooseberry and Currant Sawfly (Nematus Ribesii), and are the result of eggs laid upon the leaves of the bushes by the flies which hatch out from pupae in the soil. If only a few of the choicer varieties are attacked it might be worth your while to set some boys to pick the leaves on which the young caterpillars are thickly clustered. They will presently spread all over the bushes if their depredations are not arrested. If the attack is spread over a considerable number of bushes a good plan would be to syringe them with water and then dust the foliage all over with sulphur or wherever caterpillars are in evidence. A more effective remedy would be to use white hellebore powder instead of sulphur, but as this is poisonous it must not be used where you intend gathering green Gooseberries for kitchen use. Where you do not intend to gather the fruit till ripe, the hellebore powder would have time to get washed off by rain, or get blown away by the wind. You could, however, wash the bushes with the syringe, hose or garden engine after it is evident that the caterpillars have been exterminated.

Treatment for Clianthus Dampieri.—*J. B.*: You should sow the seeds early in spring in a warm or intermediate house, in small pots in sandy loam with a little peat. When the plants have germinated and commenced to produce leaves, they should be placed in a well lighted and ventilated house, not very warm, but genial enough to enable them to come along slowly. About the time when bedding plants are put out, you should prepare some soil of the above description and dig a hole for its reception in some open and sunny position in the garden. Plant about three seedlings in this in a triangle about 9 in. apart from one another. Cover them with a hand-light, but ventilate on warm days, and the plants should grow and flower well in July.

To increase the Holding Power of a Gravelly Soil.—*P. H.*: In order to supplement the stable manure at your command, you should make arrangements for adding green manure to it. After the Potatos have been dug you should level the ground with a rake, and sow seeds of various things broadcast over it. The seeds that may be employed are various. For instance you may sow White Mustard, Rape seed, Cabbages, Turnips, or any others of the Brassica tribe that you can get at a cheap rate. The seedlings may be allowed to grow upon the ground till autumn, when the soil should be bastard trenched. After taking out the first trench work the green stuff from the top of the second trench into and cover it with a spit of soil. Then shovel the loose crumb on the top of all; and proceed in this way until all the green stuff has been buried. This will decay and gradually yield plant food, while at the same time making the ground more retentive of moisture in summer. By sowing some member of the Pea family you would add greatly to the nitrogenous matter in the soil. Any of the annual species may be used, and Tares would probably be the easiest to procure. Seaweed in a fresh state, if you can get it, would also make a useful green manure.

Names of Plants.—*T. D.*: 1, Scilla campanulata alba; 2, Scilla campanulata rosea; 3, Phlox subulata; 4, Phlox divaricata; 6, Paeonia anomala.—*E. L. M.*: 1, Pyrus baccata var.; 2, Cardamine pratensis flore pleno; 3, Saxifraga rotundifolia; 4, Euphorbia pilosa; 5, Alyssum saxatile; 6, Phlox amoena.—*Sigma*: Prunus Padus (the Bird Cherry).—*T. B.*: 1, Oncidium sarcodes; 2, Oncidium maculatum; 3, Oncidium ampliatum; 4, Cattleya Schroderae; 5, Cochlioda noetzliana.—*A. M.*: 1, Berberis vulgaris foliis purpureis; 2, Berberis stenophylla; 3, Genista hispanica; 4, Ulex europaeus flore pleno; 5, Cytisus albus; 6, Genista praecox.—*A. R. D.*: 1, Platyloma rotundifolia; 2, Lastrea aristata variegata; 3, Pteris longifolia; 4, Selaginella emiliana; 5, Calathea zebrina; 6, Maranta bicolor.—*W. D.*: 1, Alyssum saxatile; 2, Iberis sempervirens garexiana; 3, Camassia esculenta; 4, Thymus Serpyllum lanuginosus; 5, Anemone nemorsa flore pleno.—*A. L.*: 1, Kerria japonica; 2, Choisya ternata.

Communications Received.—Antiquus.—Doonfoot.—E. Mawley.—W. J. Caparne.—D. D.—A. R.—G. W. C.—H. W. J.—A. K.—E. S.—Douglas.—A. Gilchrist.—A. Wright.—T. W. Dollery.—Gamma.—W. B. H.—Wm. Riden (next week).—D. C.—J. B.—R. M.—A. C.—H. D.—E. S.

TRADE CATALOGUE RECEIVED.

W. J. CAPARNE, Rohais, Guernsey.—New Race of Irises, Hardy and Early Flowering.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, JUNE *8th*, 1901.

The Editorial and Publishing Offices are now **removed to 4, Dorset Buildings, Salisbury Square, Fleet St., London.**

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HICKS, WILKINSON & SEARS.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, June 10th.—United Horticultural Benevolent and Provident Society Committee's Meeting.

WEDNESDAY, June 12th.—Royal Cornwall Agricultural Association at Bodmin (2 days); Yorkshire Gala and Horticultural Exhibition at York (3 days); Colchester Rose and Horticultural Society's Show.

SANDER'S ORCHID GUIDE*.—Taking a general view of this work it seems to be a guide for the cultivator, a catalogue and a dictionary or book of reference combined in one. It runs to 330 pages, and has no index, but as the names are all arranged alphabetically no index is needed, being like a dictionary and index in itself. General cultural directions and the respective temperatures of the three different houses to which Orchids are generally relegated are given at the beginning of the book, but very briefly, and to compensate for this some details are given under each genus where the names crop up in alphabetical sequence. In the case of species and varieties the information is tabulated in six columns across the page. The first column states whether the species or variety should be grown in the stove, intermediate or cool house; the second gives the name; the third the country; the fourth the description (this being the widest column); the fifth the season of flowering; and the sixth the price. Directly following the list of species and varieties of each genus comes a list of hybrids, the information being given in three columns. In works of reference we think it would save time to have both lists amalgamated in one, hybridity being indicated by a X in front of hybrids or the parents given in brackets beneath the name as is actually the case here, and sufficiently suggestive to every Orchid grower of any intelligence. Seeing that the list of hybrids immediately follows the list of species and varieties the case is not so wasteful of time as we have found it in some other books.

On p.257 we find another triple set of lists, the first headed Table I. giving the name of the hybrid, followed by the seed parent and pollen parent in three columns respectively. The preface gives as a reason for it that the list has "been compiled with a view to obtaining, as far as possible, a complete list of all known hybrid Orchids," including those which are believed to be natural hybrids distinguished by an asterisk in front of them. Table II. gives the seed parent first, followed by the pollen parent and the product (hybrid) respectively. Table III. presents the pollen parent first, followed by the seed parent and the product in this order. These three tables ought to be valuable to the hybridist as they show at a glance, comparatively speaking, what hybrids exist, and which male and which female parent has been used in their production. Lists on all these lines have probably been made before, imperfectly or incomplete, it is true, but many of them have been compiled for private use by the raisers themselves and have never been placed at the service of the public. Hybrids are now so numerous that probably not a tithe of the growers could remember the same; hence the service that these lists should afford them when intending to break fresh ground in the raising of hybrids. Presuming that every species of a genus will cross with every other, it follows that the number of hybrids, which may yet be raised, must be very great.

This latter statement brings us face to face with the limits of genera as hitherto recognised. Most growers will remember the relative facility with which some at least of the Miltonias hybridised with one another, while the would-be raisers of hybrid Odontoglossums failed time after time; and even now the artificial hybrids in the latter genus are by no means numerous. A greater difficulty was experienced with the various types of Cypripedium. Seedlings raised by crossing the Old World species (Cypripedium) with the New World types often classed under Selenipedium have been announced but we have not seen any of them actually flowered to the best of our recollection. Apropos to this we may mention the fact that the old time genus Cypripedium has been broken up into four sections in the Orchid Review for 1896 p. 331, new names being given to each. Selenipedium has been divided into two groups or sections, namely, Selenipedilum and Phragmipedilum; while Cypripedium has given place to Cypripedilum and Paphiopedilum, which may be correct enough botanically, but we could have wished that names with fewer syllables might have been used; and no doubt many gardeners would re-echo this sentiment even if inclined to adopt the new classification. In the work under notice, however, these alterations have only been included in a note under the cultural directions, with lists of specific names belonging to the respective sections. The distinctions are fairly well marked and no doubt indicate degrees of affinity, thus explaining the difficulty of successfully intercrossing them. The diligence of the hybridist is here well indicated by the length of the list. While species and varieties of Cypripedium occupy eight pages of text, their hybrids fill nineteen pages. The list of hybrids seems very comprehensive, while on the other hand only a few of the recorded or named varieties of species have been listed. This may have been due to considerations of space and to the fact that many of the so-called varieties have been inadequately described, and no doubt many of them have been named twice by different growers or name givers unknown to one another. It seems to us, however, that C. Stonei platytaenium must have been omitted by an oversight. No variety of C. Stonei is here recorded, though in the after part of the book it is given as the pollen parent of the hybrid platycolor.

Turning to Odontoglossum we find a somewhat different arrangement of the species and supposed hybrids. In a state of nature Cypripediums do not seem to intercross with one another notwithstanding the facility with which the operation can be effected artificially. The reverse holds good for Odontoglossum, the supposed natural hybrids being extremely numerous as the artificial ones are equally rare, only six being recorded here as far as we observe. The custom hitherto has been to describe the introduced forms as species or varieties, occasionally throwing out a suspicion of their hybridity. In the work under notice such forms are recorded in the list of species and varieties, while their supposed parentage is given in the descriptions. In the list of hybrids the names of all are given but the supposed natural hybrids are not again described, the reader being instructed to see under species. This certainly brings the artificial hybrids into great prominence. O. leroyanum (crispum × luteo-purpureum) was the first hybrid Odontoglossum raised in cultivation. It is on record that one form of O. excellens was raised artificially, but that is not here confirmed. While speaking of natural hybrids it is interesting to note that two well known types often described as species, and at other times as varieties of O. crispum, are here regarded as natural hybrids between the same two parents, namely, O. andersonianum and O. ruckerianum, these supposed parents being O. crispum and O. gloriosum. According to the botanists the law promulgated with reference to plants of hybrid parentage is that all hybrids from the same parents should bear the same name whichever of the parents was the seed bearer. There is certainly no clear line of demarkation between andersonianum and ruckerianum, as they merge into one another amongst some of the finest forms of them we have seen, and horticulturists are more or less at sea in the matter.

It may be noted here that O. odoratum and O. gloriosum are regarded as distinct species, though some other authorities think differently. O. nobile is here recorded as the correct name for O. Pescatorei, the reason not being stated. The authors have a reason for it no doubt, but we wish it had been recorded. The method of recording synonyms is somewhat different from the usual custom in this country. For instance in the alphabetical list we have *Alexandrae*, syn. crispum, and *Bluntii*, syn. crispum. It would have been more in accordance with usage if they had been written *Alexandrae*, see crispum, or *Alexandrae*, a syn. of crispum. Some Continental authors do write, however, on the above plan, even regarding the same name as a synonym if given by a different author.

The authors state that they have spent a great deal of time and thought on the book and have endeavoured to make it comprehensive, reliable, useful and concise; everything being arranged alphabetically and handy. With all that we agree, for the work must have been laborious, and gardeners and Orchid growers particularly ought to be grateful.

*SANDER'S ORCHID GUIDE, containing all the best known species, varieties and hybrids of Orchids in cultivation. Their native Countries, Descriptions, Seasons of Flowering, best methods of cultivation, temperatures, &c. Together with the Names and Parentages of all the known Hybrid Orchids up to Date, January 1st, 1901. F. Sander & Co., St. Albans. Price 10s. 6d.

Royal Horticultural Society.—The Rev. Prof. G. Henslow, M.A., V.M.H., has arranged to deliver the following lectures at Chiswick, on Wednesday evenings, at 8 o'clock:—June 12th, Propagation of Plants without Seeds; June 19th, The Awakening of Buds and the Sleeping of Leaves; June 26th, How Plants Climb; July 3rd, Injuries to Plants by Smoke.—*W. Wilks, Sec.*

Grand Yorkshire Gala.—It is forty-three years ago since this floral fete and musical exhibition was first instituted. It is now recognised as one of the principle fetes in the north. It is under the distinguished patronage of his Majesty King Edward VII. and the principal nobility and gentry of the country. It lasts three days, and terminates each evening with a firework display. The music is to be supplied by the bands of the Coldstream Guards, the 1st Newcastle Royal Field Artillery, and the 1st West Yorkshire Rifle Volunteers. Prizes for flowers, &c., amount to over £750. Several professional artistes have been engaged to add to the other attractions. The exhibition opens on Wednesday, June 12th.

Cottage Gardening is taught to all the children at Lea School, the birthplace of Florence Nightingale, after they reach standard four.

At a Meeting of the Linnean Society of London, on May 2nd, Mr. George Massee, F.L.S., communicated a second instalment of his "Redescriptions of Berkeley's types of Fungi," and explained the circumstances in which such redescriptions under higher powers of the microscope had become desirable. A discussion followed, in which the president, Prof. Farmer, Mr. Daydon Jackson, and others took part.

Change of Business Premises.—Messrs. John Menzies & Co. have effected the complete transference of their business from the old premises in Hanover Street, to the new premises, Hanover Buildings, Rose Street, Edinburgh. Our readers may note this as Messrs. Menzies & Co. are the agents for THE GARDENING WORLD in Edinburgh and Glasgow. The address in the latter city is 90, West Nile Street, Glasgow. Other addresses for the firm are 33, Blackfriars Street, Carlisle; 76, High Street, Dundee; and 3, Castle Terrace, Aberdeen.

The Durham, Northumberland, and Newcastle-upon-Tyne Incorporated Botanical and Horticultural Society's Flower Show.—The above show is to be held in Leazes Park, Newcastle-upon-Tyne, on July 23rd and 24th. If the show is as big as the title, it will be worth seeing. According to the schedule of prizes offered, if money is any inducement to exhibitors there ought to be plenty, as the awards are very substantial. In class 1, for a miscellaneous group of plants, £22 is offered. Many of the other classes have prizes over £10. This show is one of the oldest in the country, being established in 1824.

Croydon and District Horticultural Mutual Improvement Society.—The usual meeting was held in the society's room at the "Sunflower" Temperance Hotel on Tuesday evening, May 28th. Mr. W. J. Simpson occupied the chair. There was a very good attendance of members. The secretary, Mr. J. Gregory, gave an interesting discourse on "Aquatic Plants," dealing principally with the newer varieties of Nympheas and their cultivation in tanks, tubs, &c. The lecturer at the commencement treated upon the preparation and formation of the lakes, tanks, tubs, &c., the planting and after-management of the plants. A list of the best and most useful sorts for various purposes was given. Attention was called to the enemies of aquatic plants, such as the rat and vole, coarse, rank weeds, and conferva. The lecturer was illustrated with a series of photographs. A brief discussion followed the lecture, and on the proposition of the chairman, a unanimous vote of thanks was accorded Mr. Gregory. Messrs. J. Peed & Son exhibited a collection of named Pyrethrums, also a beautiful collection of alpine plants in rockery. The next meeting will be held on June 18th; subject, "Vegetables for Exhibition, &c."

A Unique Advertisement.—The following recently appeared in a horticultural contemporary as an advertisement. Needless to say, it was an American paper:—

"Spring hez kum agin bi gnm,
An i'me as glad ez i kin B,
Fur everi thing iz ful uv spring
From rattle snake to wiked fle.

Yis i luve the spring time when the robbins iz robbin and the swollers iz a swollering, the beez iz beezwaxin, the butterflize iz a makin hutter, and the flourist is makin flour. This iz the time when the arth puts on its green kloaze an hez a ranebo fur a nekti, frogs laff, and al nater luks glad. Yis i luv the spring for that iz the time when the flourist begins to fix up his houses an put in ventalatin kontrapshons, and put on nu hinges what got broke, and then he wishes he had got the everlastin hinj wot i mek. A little later he begins tew think about a nu biler. Now u just write to me an ile send a kat-a-log what tells u orle about my greenhouse fixins whitch iz the best on arth and cheapest tew. Mi name iz J. D. Carmody, i live in Evansville, Indiana, klose to Posey County," "We guess" this is the same man who recently put the following philosophical announcement in an ad.:—"By using one of my bilers you will save half of your fuel and by using two of my bilers you will therefor save the whole of it."

Costly Orchid.—A finely marked variety of Odontoglossum crispum has just been sold by Messrs. Protheroe and Morris for £157 10s. 0d.

Apple Allington Pippin.—Two years ago I had a number of cordon trees sent me. Amongst them were three of Allington Pippin, which have not yet shown a single blossom. On the same wall, Stirling Castle, Lord Grosvenor, Lord Suffield and Golden Spire were all a mass of flower and fruit buds. Before grubbing them up, will any of your numerous readers kindly give me their experiences of this variety, so that I might give it another year's trial? —*William Carmichael, 14, Pitt Street, Edinburgh.*

At the Anniversary Meeting of the Linnean Society, on May 24th, the president announced that since the last meeting of the society his Most Gracious Majesty the King, in a letter received from General Sir Dighton Probyn, which was read, had signified his consent to become the patron of the society, and in testimony thereof would be graciously pleased to inscribe his royal signature in the society's album, an announcement which was received with acclamation.

The Great Swedish Agricultural Show.—This show is held usually every fifth year. This year the choice has been made of the town of Gefle, which is reached by a five hours' journey from Stockholm. Prizes to the amount of 90,000 francs are to be awarded. There is to be a gardening section which will include preserves and wines distilled from fruits. A forest section has also been arranged for, to include the products of the forests and the machinery and other appliances used in obtaining them. A committee will procure lodgings if application for such is made four days before the arrival of the applicant. The show is to last from July 8th to July 14th, both days inclusive, for further information apply to the Secretary's Office, Staketgaten, No. 15, Gefle, Sweden.

The Orchid and the Bee.—Mr. R. Lloyd Praeger writes in *Knowledge* of the manner in which flowers are fertilised and of the many devices which are employed, so to speak, by the flowers in obtaining the agency of the wind or of insects to produce the desired result. Mr. Praeger remarks that "The most highly developed flowers lay themselves out exclusively for the attentions of the aristocracy of the insect world—the bees, butterflies, and moths. . . . Examine one of our common British Orchids, such as *Orchis maculata* or *Habenaria bifolia* —they are just coming into bloom now." Following a description of the structure of the flower, Mr. Praeger thus proceeds: "In the stamens and pistil we find an extraordinary structure. The pollen-grains are fastened together into two oblong bundles by means of slender threads, and each bundle is prolonged into a delicate stalk, the tip of which is enlarged and coated with viscous fluid. The whole is embedded in the wall of the flower, over the honey-well, and facing the entrance, and the sticky termination of the stalk alone is exposed. The stigma is likewise embedded, and shows a sticky surface below the position of the stamen. How does this structure work? A bee alights on the platform and pushes its head into the entrance to the tube. Its forehead comes in contact with the sticky extremities of the embedded pollen-masses, and on withdrawing, it pulls one or both of these out of the grooves in which they rest: the bee flies off with the pollen-masses sticking on its forehead like two horns. And now a remarkable thing happens. Owing to unequal shrinkage caused by drying, the stem of each pollen-mass curves, so that instead of standing upright they now project forwards. In consequence, when the bee visits another flower, and inserts its head, the pollen-masses come in contact, not with that part of the flower which encloses the pollen, but with the sticky stigmatic surface below, and thus fertilisation is effected. The absolute accuracy of the method, the economy of pollen, the way in which the plant is entirely dependent on the visits of the right kind of insect for its fertilisation, show that here we have reached the very acme of specialisation in this direction. It is to be noted that along with the modification of the plants to suit insect-visitors, considerable modification in the structure of the insects has taken place to suit their honey-sipping habits, so that now many are as dependent on the flowers for their food, as the flowers are dependent on insects for their fertilisation."

A Lily Conference will be held by the Royal Horticultural Society at Chiswick in July.

Mr. John Machar.—The many friends of Mr. John Machar, head gardener for nineteen years to Robert Mudie, Esq., of Corona, Broughty Ferry, Forfarshire, will be very pleased to learn that he has been appointed as head gardener, &c., to the Right Hon. the Earl of Donaghmore, Kilmanhaim Castle, near Clonmel, Ireland. Mr. Machar is an able gardener, and a well-known Chrysanthemum grower of many years' standing. We all wish him much success.—*J. M.*

A Quiet Holiday Resort.—One of the most delightful places of retreat from the maddening crowds and worries of a busy life is Northernhay, a picturesque little place in Exeter. The dreary winter has been loth to go, and budding spring has been delayed, but at last nature has again burst into activity, and with the glittering sunshine and gentle refreshing breezes, the trees have donned their emerald coat, the verdant sward is rich and full, the flowering shrubs are in the zenith of their beauty, and there is on every hand the refreshing breath of early summer. One of the daintiest pictures is presented to the eyes of the visitor to Northernhay by the Wallflowers, which are arranged in groups. Some of the most attractive are Primrose Dame, a very pale primrose colour; Eastern Queen, nankeen colour; Ruby Gem, a ruby violet; Belvoir Castle, golden; and Bloody Warrior, one of the best velvety dark reds in cultivation. The contrast between the Northernhay of to-day and of five years ago is great, and the ratepayers have good value for their money in the improvement effected. The superintendent foreman, Mr. W. Andrews, is to be congratulated on the neat and trim appearance of the parks under his care.

Bristol and District Gardeners' Mutual Improvement Association.—The summer session was opened at St. John's Parish Rooms on Thursday, May 30th, Mr. A. J. Hancock presiding over a moderate attendance. Minutes of the last meeting being read and confirmed, the chairman introduced the lecturer, Mr. H. R. Richards, of Horfield, whose paper was on the subject of "Indoor Fruit Culture"—and those members who were absent have much cause for regret—the paper being most ably dealt with in a very practical way, claiming that the culture of indoor fruits was one of the most important of a gardeners' training, insuring as it does a full crop every year, notwithstanding the changeable climate of England. The lecturer took a few of the most popular fruits, giving useful hints which are so often overlooked. The choice of soils for the various trees was a very important detail, the proper proportions of composts being carefully prepared according to the variety of tree, such as Vines, Peaches, Nectarines, Apricots, and Figs, recommending wood ashes as one of the most useful materials to the fruit grower. He claimed for the Grape as being the most important fruit crop, the gardener producing Grapes for the table every day in the year, giving cultural details in a masterly way. Peaches and Nectarines being practically the same species their cultural requirements were identical, and like all stone fruits delighted in an abundance of lime, which, if not already present in the soil, should be added in the form of lime rubbish or slacked lime, and maintaining that large specimen trees can be safely planted if done just as their leaves are turning colour. Mr. Richards also went into details as to the culture of Figs, and much valuable information was given concerning this delicious fruit. A good discussion followed, and a hearty vote of thanks was accorded Mr. Richards for his most able and enjoyable paper. Prizes for a brace of Cucumbers were awarded to:—first, the Lord Mayor, Mr. J. Colthurst Godwin (gardener, Mr. McCulloch); second, Mr. Spry; third, Mr. Edwards. For a dish of Strawberries, first, Mr. A. Weedes (gardener, Mr. Ayliffe); second, Mr N. C. Dobson (gardener, Mr. Thoday); third, Mr. H. Nash (gardener, Mr. Barrow). Certificates of Merit were awarded to Mr. W. Howell Davis (gardener, Mr. Curtis), for Odontoglossum Pescatorei; Lady Cave (gardener, Mr. Poole, F.R.H.S.), for Nepenthes; Mr. Edwards, for a dish of Garaway's Chemin Rouge Tomatos; and Capt. Jenkins (gardener, Mr. Poston), for Cucumber "Lord Roberts."

The Educational Flower Show. — Early next month the rules and regulations will be settled by the executive committee and general arrangements made. The interest in the movement is increasing rapidly and everything points to a successful show *The Woman's Agricultural Times* for this month contains an illustration of the magnificent Challenge Trophy offered by Lady Warwick to be competed for at the above show.

A Queer Church.—We have churches in windmills, barns, and in barges drawn by horses, on the sluggish fen streams in this country, but Australia can boast of a still more curious house of worship. It consists of an enormous Eucalyptus tree which has been cut off about 20 feet from the ground, the body hollowed out and a roof put on top. The room thus made by the shell of this giant is 25 feet wide and capable of holding fifty persons. Surely this has eclipsed America for the present at least.

Root Killing of Fruit Trees.—A year ago it may be remembered even here we read and heard of the hard winter which the Americans had to suffer. Great destruction was done to vineyards, nurseries and orchards, causing distress in the homes of many of the growers. The subject has been investigated by the Horticultural Department of the Iowa Experiment Station at Ames, and the conclusions and summary on what has been discovered are now set forth in Bulletin 44 of the above station. We refer to it for the benefit of those who may care to send for a bulletin.

Dutch Horticultural and Botanical Society.—At a meeting of this society on May 8th the Floral Committee awarded First-class Certificates to Mr. B. Ruys, of Dedemsvaart for Aubrietia Moerheimi; and to the Zoological Garden of Rotterdam for Cineraria hybrida Vieux Rose. A Certificate of Merit was accorded to Mr. H. C. Hacke, of Baarn, for Selenipedium caudatum var. Wallisi. A Botanical Certificate was awarded to Mr. W. C. Baron van Boetzelaer, of Maartensdijk, for Vanda Parishii var. mariottiana. A Gilt Silver Medal was accorded to Messrs. Gratama Brothers, of Hoogeveen, for a collection of cut flowers of Roses.

Fruits in Queensland.—Queensland has great capacity for fruit-production, and the yearly export to our own and other countries is beginning to deserve the title of "enormous." Here are some of the figures which denote the quantities of the different fruits exported:—36,301,735 dozens of Bananas; 401,692 dozens of Pine-Apples; 1,420,893 dozens of Oranges, and 191,074 dozen Mangoes. In addition there were 80,000 bushels of Cape-Gooseberries; 4,786 dozens of Cocoa-nuts; 27,650 dozens of Lemons; and 17,156 bushels of Pea-nuts. In various parts of the colony Strawberries, Pears, Apricots, Peaches, Guavas, Limes (a species of Citrus), Persimmons, and Passion-fruit (Passiflora edulis) are successfully grown. Queensland is a fine country for bees, and nearly all the forest-trees flower and provide large supplies of honey and pollen, whilst the winters are so mild that the bees are not compelled to remain in the hives, as in colder climates.

Bees.—If bees are fed at the proper season there will be no need for feeding in the winter. The spring and summer is the proper time to feed. Keep your bees in a condition to store honey and when the harvest comes they will store it. Commence in spring to stimulate and equalise, replace all old queens that do not come up to the standard of fertility with prolific young queens, and if surplus honey is the object, allow but little increase, but with young prolific queens and abundance of room there is but little danger of increase. Treated thus, when the harvest commences in June, every stock is completely filled with comb brood in all stages, there are nursing bees in abundance, less than sixteen days old, honey gatherers over sixteen days old, and they are n the best possible condition to commence storing surplus honey immediately. During the scarce time in the end of July and first part of August stimulate and keep up the fertility of the queens until the harvest again commences in the middle of August, the bees are then ready to commence storing surplus honey as soon as the harvest commences. The above is the summary of an article on bee keeping in *The Woman's Agricultural Times.*

Gold Medal of the Linnean Society.—At the anniversary meeting on May 24th, the Gold Medal of the society was formally awarded to Sir George King, K.C.I.E., F.R.S., F.L.S., in recognition of his important services to botanical science. In his unavoidable absence on the Continent it was presented on his behalf to Mr. C. B. Clarke, F.R.S., F.L.S., who suitably acknowledged the honour conferred.

Baking or Steaming Soil.—The baking or steaming of potting soil prior to its use for the purpose of destroying the seeds of weeds and to kill the insects or insects' eggs that the soil may contain has been lately practiced with expedition and success by an American florist firm. This firm has contrived a box for this purpose, the bottom of which is fitted with steam pipes. Though such a box is convenient it is not a necessity, for by placing any ordinary wooden boxes over hot-water pipes the same ends will be attained.

Fruit as a Remedy for Gout.—There are those who think that to eat fruit plentifully guarantees a never-ending vigour of health, and that all troubles and diseases could be cured if we were rigid fruitarians. Linnaeus cured himself of gout, as history has it, simply by confining himself for a whole month to Strawberries. And a number of papers are at present busy advocating a fruit diet as a gout remedy. Certainly eat fruit, and plenty of it, but don't expect it to cure everything—like some of the patent pills. Good advice for a gout patient is "To live on sixpence a day and work for it."

Funeral Designs.—An indignant writer in the *American Florists' Review* does not spare his criticisms on formal wreathmaking. He cites an instance, of which the above paper gave an illustration, of a wreath in the form of a book. The book in question was three feet by four feet, making 1728 square inches; they put into it 1,800 roses, 200 Lily of the Valley, besides three-fifths of a 24-inch wreath which hung at the corner. Just contemplate for a moment while we dig up the ghost of Michael Angelo and have him hunt for the artistic among those dove-tailed roses. Besides this quantity of bloom, 2,500 violets were used to say nothing of the quantities of Fern, etc., which were jabbed in.

To Make Weed Killers.—As weed killers the following mixtures are recommended for use on walks, etc.:—(a). Crude carbolic acid, one pint in four gallons of water. This is very powerful and quick acting, but not quite so lasting in effect as the next. It may be objected to on account of the odour; this disappears after the first day. (b). Arsenate of soda, one pound in eight gallons of water. (c). White arsenic one pound, washing soda two pounds, water nine gallons. Practically the same as (b), less convenient but a little cheaper. Apply at the rate of eight gallons per square rod. Two applications in the season should suffice.—*American Gardening.*

Seed Mixtures for Hay and Pasture.—During the spring of 1899 some experiments with the above were inaugurated by the authorities of Reading College, Reading, under the superintendence of the director of the Agricultural Department, Douglas A. Gilchrist, Esq., B.Sc., F.R.S.E. Seven plots of grasses and other pasture plants were sown at different places, and the report of results now before us has been drawn up by the director above named. At Strathfield Saye, on the Duke of Wellington's estate in Berks, the greatest weight of hay, calculated per acre, has been reaped from Plot 1, which was sown down, at the rate of 32 lbs. per acre, with 5 lbs. Italian Ryegrass, 12 lbs. perennial Ryegrass, 1 lb. Foxtail, 2 lbs. Meadow Fescue, 2 lbs. Timothy, 2 lbs. Cocksfoot, 2 lbs. Alsike Clover, 2 lbs. White Clover, 1 lb. Red Clover, 2 lbs. Cowgrass, and 1 lb. Trefoil, at a total cost of 17s. per acre. The weight of hay reaped was 1 ton 17 cwt. Plot 7 gave the lowest weight, namely, 1 ton 3 cwt. Burnet, Chicory, Yarrow, and Kidney Veitch was added to the above seeds in the case of Plot 2, but had the result of making the herbage coarse without supplying greater weight. The land at Strathfield Saye is heavy, and Timothy and Perennial Ryegrass gave the most satisfactory results, besides being cheaper than several of the other mixtures of more costly seeds.

School Farms Aboard.—While the educational authorities of our country, says *The Farmers' Gazette*, are engaged in doing away with the teaching of agriculture in rural schools, several continental countries are steadily developing their educational systems in the direction for making more provision for the agricultural instruction of their pupils. In Sweden, for instance, there are over 2,000 school farms in which the school work is part of their education, and in which agriculture of a practical kind is regularly given at certain hours.

Sneeze Wood.—Among its many peculiarities, South Africa includes the "Sneeze Wood" tree, which takes its name from the fact that one cannot cut it with a saw without sneezing, as the fine dust has exactly the same effect as snuff. Even when planting the wood it will sometimes cause sneezing. No insect, worm, or barnacle will touch it. It is very bitter to taste, and its specific gravity is heavier than water. The colour is light brown, the grain very close and hard. It is a nice looking wood, and takes a good polish. It is much esteemed for dock work, piers, or jetties, as it possesses the useful quality of lasting a long while under water.—*Farmers' Gazette.*

Begonia Caledonia. — This makes a beautiful companion to the well-known B. Gloire de Lorraine, and when once it becomes well known it bids fair to become quite as popular. It is quite as floriferous as Gloire de Lorraine, and has the same good quality of lasting in bloom for a considerable time. The plants that are usually seen at present do not give a fair conception of the plant's possibilities, as being only a recent introduction the stock has been greatly exhausted by the deleterious habit of over-propagation. When this variety, which is pure white, is grouped with its pink sister, a superb effect is produced. *The Revue de L'Horticulture Belge* in its issue for June reproduces an excellent coloured illustration from the brush of their excellent artist, M. de Pannemaker.

Anthurium andreanum var. Souvenir D'Edouard Pynaert.—Since the time when a Ghent hydridist obtained the famous Anthurium Czar Nicholas II. by crossing A. andreanum with A. lindenianum there has been much progress made in the work of hybridising Anthuriums, but of all the beautiful varieties obtained there have been none to surpass the variety obtained by M. Edgard Wartel, Director of the Ghent Horticultural Society, which bears the name at the head of this paragraph. It is beautifully figured in the *Revue de L'Horticulture Belge* in the May number. It is distinguished not only by its purity of colour, but by its exceptional dimensions. The spathes measure 8 in. long and 6 in. wide and are of a pure white. The spadices when young are light yellow, but become quite white when fully developed. The plant is a remarkably vigorous grower and possesses strikingly thick shiny leaves which are borne on robust cylindrical petioles.

Irish Grown Tulips at the Temple Show.—Tulips now figure largely at each succeeding Temple show, and it is must be admitted that they are handsome and effective flowers. More than one collection appeared from Ireland, namely, the exhibit from Messrs. Hogg & Robertson, Dublin, and the very varied collection from Mr. William B. Hartland, Ardcairn, Cork. The latter had Aximensis, glossy crimson; Buenoventura, orange and red striped; biebersteiniana, yellow, with orange tips; three forms of the yellow billietiana; Didieri, brilliant red; four varieties of elegans; flava, late Dutch yellow; six varieties of gesneriana; also Bouton d'Or, John Ruskin, The Lizard, Nigrette, Gipsy Queen, La Perle, Bouquet Rigaut, The Fawn, Neglecta Picta, Parisian Yellow, and five varieties of spathulata. The yellow Ixioides received an Award of Merit, and mauriana might have had the same honour if put up. On another stand where the award was given the name was altered to mooriana, but the reason why was not disclosed. Other varieties shown by Mr. Hartland were Shandon Bells, York and Lancaster, Silver Queen, Othello, Summer Beauty, Snowdon, Marjoleta, seven varieties of maculata, Bridesmaid, Gala Beauty, Gold Flake, Didieri alba, Emerald Gem, fulgens maxima, macrospeila and vitellina, many of them being objects of great beauty and popular for late spring bedding to flower in May.

New American Society.—The American florists have formulated a society whose objects are to advance the love of floriculture and horticulture in America; to promote and encourage the development of its industries; to classify its products; to hold meetings and exhibitions; to co-operate with the national and state governments and regularly organised horticultural bodies in disseminating horticultural knowledge.

Archangel Mats.—As many as fourteen million of these mats are imported into this country every year. They are manufactured from the tough, flexible, inner bark of the common Lime, Tilia vulgaris, which is grown in large quantities in the north of Europe. It is supposed to have been introduced to this country by the Romans. It is of interest to botanists as Linnaeus, the father of botany, derived his name from it.

Opposition to Technical Instruction in Tyrone.—The County Council of Tyrone have made use of the Government grant recently made to Ireland for technical education purposes, by appointing theoretical instructors to lecture throughout the county. A Miss Fraser, F.H.A.S., delivered the first of a series of lectures on poultry treatment at Dromore. Several of the farmers rose before she had spoken and objected to the system adopted by the County Council in sending out lecturers and making the "poor tenant farmers" pay for them in the rates. However, matters were smoothed over, and the lecture was given, but a meeting was held afterwards, when speeches were made against the system by Rev. J. A. Davis and others. It is believed that the lectures will not do 2s. 6d. worth of good to the farmers in the district. A scheme of competition or for promoting rivalry and of offering prizes for the best corn, the best horses, or the best cattle, was advanced as being most likely to lead to good results.

NOTES FROM HAMILTON.

The protracted spell of subtropical weather we have been encountering of late has collapsed, and we now have a recurrence of the bleak cold east wind with rain that so fully characterised our spring season among the exceptionables. The rain, nevertheless, is a welcome change and withal one for the better. Not only garden crops, but agricultural ones also, were beginning to feel the scorching effects of the sun of the past few weeks. The Strawberry crop will probably be materially modified, on account of the absence of moisture, at a time when it is much needed for the expansion of foliage. The energy of the plant will now be required to sustain what fruit is already set. Bedding operations are now going on, and in some cases completed. In both circumstances, the advent of the rain, cold though it be, is a most desirable matter.

We have seldom seen such a delightful foliage as does adorn our woodlands and hedgerows this season. It has escaped so far the not unfrequent gales of wind which visit our shores at this time of the year. The foliage is therefore entire and massive, a feature that adds double grandeur to the beauty of the whole scene of vegetation. Along the hedgerows, and in all the other shady nooks are already many of our homely wild flowers in full summer garb, while heaths, meadows, and glades, are teeming respectively with sheets of Gorse, snowy Cardamine, azure wood Hyacinths.

In point of fact, the abnormal heat has impelled the ordinary course of things so far that many of our June flowers were crowded into May. This is also the case with our Hawthorn blossom this season; we had indeed May blossom in *May*, a state of things that we cannot always boast.

We have recently, when visiting the well regulated gardens of R. Brown, Esq., Craighead, had the pleasure of seeing an exceptionally fine lot of greenhouse Calceolarias. For foliage and wealth of flowers we hardly think they could be excelled, and they testify to the all round excellence of Mr. MacInnes' abilities as a gardener. He has also a good collection of Orchids under his charge. His employer, Mr. Brown, is quite an ardent lover of the Orchid.

We, ourselves, are delighted with our experiments in crossing Calceolarias. The crosses sent last year for your inspection were recrossed with best strains in cultivation, and their progeny, now flowers; result, eminently satisfactory, and besides shows how amenable these species are to the laws of cross-breeding. We also have a new cream coloured Carnation, very large, and will send a subject for your inspection soon.—*Gamma.*

HURST & SON C.C. *v.* FEERING C.C.

On Whit Monday this match was played on the ground of the latter club at Kelvedon, Essex, being most prettily situated on the estate of N. N. Sherwood, Esq., and the Feering C.C. is to be congratulated on the possession of a ground of such promise for the future. It is an ideal spot for a London cricketer to revel in, and with the bright summer weather prevailing, a most enjoyable day was spent, both by the players and a considerable number of spectators present.

Both the teams and visitors were very hospitably entertained to luncheon and tea by N. N. Sherwood, Esq., who expressed the hope that it might be the first of many such friendly meetings, a hope heartily reciprocated by all the members of both clubs.

J. W. Moss, Esq., on behalf of the Feering C.C., and Mr. S. N. Sampson, captain of the Hurst & Son C.C., returned thanks to Mr. Sherwood for the very pleasant day he had afforded all present.

The scores appended show that the Hurst & Son team won the match:—

Hurst & Son.

Squire, J. B., c and b Cranmer	65
Portch, W. J., c Turner, b Richer	14
Main, R., b Frost	13
Jerry, W., c Belchem, b Frost	0
Sampson, S. N., c Finch, b Frost	9
Thake, J. J., c Frost, b Richer	4
Duggleby, J. W., b Frost	0
Shelton, A. H., b Richer	2
Locke, F. W., c and b Frost	0
Newby, A., not out	0
Locke, F., run out	1
Extras	3
Total	111

Feering C.C.

1st innings.		2nd innings.	
Finch, c Squire, b Portch	5	b F. Locke	12
Frost, b Portch	1	c Newby, b Sampson	2
Cranmer, c Jerry, b Main	3	c Main, b Sampson	8
Turner, run out	0	b Sampson	0
Fuller, b Portch	3	c Shelton, b F. Locke	6
Richer, c Portch, b Main	7	c and b F. Locke	5
Belchem, c Main, b Portch	10	run out	12
Orst, b Main	2	not out	2
Siggers, run out	0	b F. Locke	0
Barleyman, c Jerry, b Portch	0	b F. Locke	0
Fairs, not out	4	b F. Locke	12
Extras	2	Extras	3
Total	37	Total	62

PENTSTEMONS.

This is a plant of foreign introduction, and the name is derived from *pente*, "five," and *stemon*, "a stamen." The Pentstemon represents a large genus of herbaceous perennials, very showy and among the prettiest of summer flowering plants. The Pentstemon can be increased by means of seeds and cuttings. Those who have not heat at their command should sow their seeds in March in a cold frame and bring the plants on as soon and as strong as possible so that they may be planted out in July where the plants will stand the winter and flower in the following summer. The Pentstemon does well in a good sandy loam enriched by some good cow dung and leaf soil. Cuttings can be had in plenty toward the end of the summer from the young growths put forth from the main stem, and if they are pricked in some good sandy soil in a cold frame will soon root and make nice plants for the following spring, and should be planted out in a well prepared bed about the end of May, if the weather be favourable. It is a wise plan to keep a stock of the finest strains in a stove pit throughout the winter. Those who wish to preserve a good strain should save seed from only the best varieties.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

"BRUGMANSIAS."

Brugmansias are not often seen in greenhouses or conservatories, yet they are well worth space, having a noble appearance when in leaf, and are highly ornamental when in flower. They are free and vigorous in habit, and this, in my opinion, is what is very frequently wanted in many conservatories, as formally trained plants are often carried to excess. They do well planted in a bed at the end of a cool house. Like all quick growing, soft-wooded plants, they require a soil of good turf and cow manure. Plants may be raised from seed, or cuttings taken after the young shoots are about 6 in. long and dibbled into thumbs, placed on a shelf in a temperature of 60°, watered, and shaded from the strong rays of sun. Once they are rooted, pot into 2½-in. pots in a mixture of leaf mould, sand, and a little turf, and continue potting on until growth has stopped. By a little extra attention they may be had in flower twice or three times a year. As soon as they have bloomed, cut the shoots close down to the old wood and allow young ones to grow again, and these will flower in a few months. Brugmansia Knighti is the double white, B. suaveolens single white, and B. sanguinea, scarlet, orange, and green. Being soft-wooded, they grow rapidly, and the flowers are trumpet shaped, and remain in bloom a considerable time.—*T. S Dick, Castlemilk, Lockerbie.*

HEATHS (ERICAS).

How very rarely do we see good results attained in the cultivation of the above class of plants in private establishments. The attempt is often made but only ends in failure, to the annoyance of the would-be cultivator. The reason, I think, is *mainly* in potting with a compost far too rough. Let would-be growers of this grand and useful class of plants try a mixture of the following compost, viz., peat, sand, and charcoal. The peat must be knocked to pieces and passed through a ¼-in. sieve, saving the rough material for other plants. Mix the peat dust (it is nothing else now), sand (silver), charcoal (powdered) togethered and pot the plants *firmly*. Stand them on an ash bottom in a cool house and give a good watering overhead with soft water. Afterwards pay great attention to ventilating, never allowing *east* winds to blow on the plants through the side ventilators, and not even strong west winds or else mildew will attack them. An occasional dewing overhead with soft water is beneficial after a hot day, to which has been added a little soot water. *Crock well* the pots, and pay strict attention to watering at all times. Keep as low a temperature as possible during the summer. During winter a temperature ranging from 38° to 48° will do very well.—*H. L. Hirst, The Gardens, Anley, Settle.*

HINTS ON WATERING OUTDOOR PLANTS.

When watering out-door plants has to be resorted to, it is a heavy addition to the labours of the already overtasked gardener In all gardens of any importance, water taps with hose fittings should be placed at suitable spots, for when water has to be carried or wheeled, the watering is often very superficial, just mere driblets where thorough soakings should be given. When dry weather prevails, as at present, during the bedding out time, the gardener often finds it utterly impossible to give all beds and borders a good watering—as he should do—a few hours before planting. How often do we read, or hear, the advice "well water after planting;" this I would transpose into *well water while planting*. The way I often do, and find very successful, is to make the planter go along first and *half* plant, that is, to put each plant in position, only *half* filling up the hole, then send a boy along after to water each plant well; the planter then comes behind him and finishes up neatly, confining the moisture and preventing evaporation; it also prevents the ground getting *crusted* after surface watering. This is an excellent plan to adopt when planting *Brassicas* during dry weather; when the dibber is used, I send a boy with the planter to fill each hole half up as he proceeds. When finished up with the Dutch hoe, no one could detect that water had been used.—"*Brightspade.*"

LILIES OF THE NILE,

After flowering, should be planted out of doors for about three months, kept well supplied with moisture, and occasionally giving them liquid manure. They should be planted in well prepared ground (and not as is often done, put behind a hedge or wall out of sight), and by the end of August or first week of September they should be taken up and potted in fibrous loam three parts, not sifted, and one part well-rotted cow manure and sand. Stand the plants on a layer of cinders, shade from bright sun for a few days, and by the end of September they should be housed and kept as near the glass as possible. They should have no fire-heat (unless to keep out frost) until the end of January, when they can have a temperature of about 50°. Having grown them in this way, I have had about 200 spathes from eighteen pots of plants.—*F. R.*

IRISES.

No matter where we may go or how far distant we may wander, the Irises and their glorious tints will be seen looming from low carpets of evergreen, or throwing their wonderful foliage and stately flower spikes majestically amidst banks of variegated grasses, or perchance we may even see thick, broad masses of ever-blending colour exhibiting their grandeur quite alone. At first sight we would imagine by the texture of the flowers, that they belonged to the family of Orchids; but botany and more minute examinations tell us that they are quite distinct from the Orchid and that their natural order is Irideae. If we make a botanical examination of the Iris we will find that the leaves are equitant (*i.e.*, thickening in the medium plane) and that they have parallel veins, hence the class of Monocotyledons. The flowers possess three stamens on the base of the outer perianth, with innate anthers, and style with three petal-like divisions. As for the roots, we will find that they are divided into two sections, that of the bulbous and rhizomatous. Plants can be increased by the division of the root stock. Plenty of water can be given during the growing season, and a warm, sheltered position should be chosen for their cultivation, this is to say, shelter without shade, as sun is essential to their well-being. A lovely half-hardy variety is Iris chinensis, from China; it possesses delicate blue flowers.—*George William Dickson, 107, Belsize Road, S. Hampstead, London, N.W.*

EUCHARIS.

The two most useful species are Eucharis grandiflora and Eucharis candida; the first named bearing flowers about 4 in. across. The best crops of flowers appear during the spring months if they cease to bloom at intervals throughout the year. E candida is similar to E. grandiflora, but produces smaller flowers and needs a longer rest. To grow Eucharis successfully they should be placed in a stove and planted out or in pots. If possible plant them over the hot water pipes, placing a slab or slate on the pipes, then some broken crocks, for good drainage must always be given, and plant the bulbs well down in some fibrous loam, a little silver sand, and decayed cow manure. About six full sized bulbs will be enough for a 9½-in. pot and more or less in proportion, according to size of the bulbs. If flowers are required in rapid succession plunge in bottom heat; but this should be avoided if possible, as it weakens the constitution of the plant and makes them more subject to disease, viz., the Eucharis mite, which attacks the bulb and causes the leaves to turn yellow, although this is sometimes the result of bad drainage. All the species are evergreen plants, but should be kept rather dry until growth commences, never allowing them to become quite dry. Feeding with weak manure water is better than repotting too often. If the plants are in a healthy condition they should never be disturbed.—*G. F. M.*

THE FLOWER GARDEN.

Those who were at the Temple show the other week ought to have taken notes on a large selection of plants, for all classes were represented, but none were more in evidence than hardy flowers, &c., and new and popular bedding plants.

Lantana.—This plant seems coming well to the front, and certainly it deserves first notice here. It is a remarkably showy plant, and has not that stiff formal habit which characterises many of the dwarf bedding plants. It belongs to a large genus, there being over fifty distinct species. They are widely distributed about the world, being found in America, Africa, and Asia. It strikes freely from cuttings, which should be taken in August, and wintered in the same manner as bedding Pelargoniums; in fact, it requires much the same treatment as them throughout. They can be grown on into large plants by judicious pinching and careful root treatment. They delight in a moist soil, but it must be sweet. When planted out in beds it should be provided with a soil that is inclined to be sandy. They bloom freely throughout the season and make a very effective bed. The flowers are usually combinations of red and orange, but some are pure white; others, old gold. It is very easy to cultivate, but will not thrive if shaded by other plants.

Schizanthus.—This is another genus of plants destined to have a bright future as a bedding plant. They are natives of Chili, and may be grown as half hardy annuals in this country. Beds of these showy, floriferous plants are a beautiful sight. The flowers individually are beautifully cut, from which feature the genus owes its name; from *schizo*, to cut, and *anthos*, a flower. The colours are various and beautifully shaded and blended, producing many fascinating combinations. Some varieties are pure white, in others red is the predominating colour, while many of them, with the addition of yellow markings, form a combination of the two. The leaves are prettily cut, being known as pinnatisect. There are two general methods of cultivation; one is to sow the seed in a little heat in the spring and harden off and plant out in the same manner as other tender annuals. Some people prefer sowing the seed in the autumn and wintering the plants in a house which only just excludes the frost. This plant entails a large amount of trouble and takes up cold house room, which is always so valuable during winter. If the spring is not too rough and late, those sown in March generally overtake those sown six months earlier, and there does not seem much difference in their constitutions. The tall growing varieties require a lot of trouble in tying, but they will repay all the time spent on them. A variety seen at several shows lately, under the name of S. wisetonensis, is a dwarf and rather compact form, forming a pyramidal plant about 1 ft. in height. They will repay for liberal treatment, as they do much better in a light, rich soil than when in a starved one. The leaves soon turn yellow if allowed to get dry at the root and the whole plant suffers in consequence. They have been a long time in the country without many people recognising their good qualities. S. pinnatus was introduced early in last century, about 1822.

Rheum.—One does not usually look on Rhubarb as a flower garden plant but more as a plant to be pushed into an out-of-the-way corner of the kitchen garden. Even the Rhubarb of pudding fame makes a striking plant when in bloom, but some of its sisters are decidedly handsome plants, their huge leaves giving quite a tropical aspect to the flower garden. For furnishing large spaces it is invaluable, and as it dies down in the winter it is protected from the terrible fogs and smoke of large towns, making it a desirable genus for London suburban gardens especially. The inflorescence which is thrown up many feet above the leaves is a noble looking spike and attracts attention from a great distance. There are a good many varieties on the market most of which may be had cheaply. Rhubarb was first introduced into England in 1628, when it was cultivated for medicinal purposes. R. undulatum is a noble form, and is very effective when growing in the grass in the pleasure grounds. R. palmatum is one of the best for decorative purposes.

Aquilegias.—There is often a difficulty in making a selection of flowers for cutting purposes, what to choose with a long stalk and light graceful flower; for both these desirable features too much praise cannot be bestowed upon the Columbines. It is almost impossible to keep the varieties true, as they are so easily cross-fertilised. With a few good varieties a beautiful collection may be made if care is taken to weed out inferior crosses as soon as they show their flower, before the pollen cases are accessible to insects. They like a sandy loam and a light, sheltered position. One of the best is A. glandulosa, a species introduced from Siberia in 1822. The sepals are bright lilac-blue, and about twice as long as the petals, which are pure white. It lasts well when cut, and generally produces stems 8 in. or 9 in. long. A. sibirica flore-pleno is a double-flowered variety, but is not so graceful as the single varieties.—*P. R.*

Kitchen Garden Calendar.

There is so much to do and being done in this portion of the garden during the early part of June that it is difficult to make a selection of items when the space at disposal is so limited.

Peas.—Most people like these as early in the season as possible and as late as possible. If a late crop is to be grown, it should be put in now. They require a little more attention when sown late than when sown early, as they are very liable to suffer from lack of moisture during the long droughts which are often experienced during the summer months. A good plan to conserve the moisture in the soil is to take out a trench where the Peas are to be sown, and place about 4 in. of well-decayed manure in it—mushroom dung which has been turned out from the old beds is one of the best substances for this purpose. The roots soon ramify in the dung, which retains the water which falls on it and supplies the plants with valuable food at the same time. By sowing in this manner, and supplying water when required, gatherings may be made until late in the autumn.

Runner and Dwarf Beans.—The final sowing of these should now be made and kept well watered, for if allowed to suffer from want of moisture the Beans will be stringy and tough. By sowing now, a supply may be maintained until frost cuts them down in the autumn.

Celery.—It is time now that this should be put into the trenches. These should have been prepared some time previously. The plants must be shifted with great care, as they soon suffer from excessive root interference, and if once allowed to get down, the constitution of the plant is so impaired that the effects may be noticed through the whole season. It is the object of many growers to grow Celery as large as possible, but it should be borne in mind that it is not grown for looking at, but for eating, and certainly very large Celery is often very tough and fibrous. Celery should be grown straight on without a check; if it does receive any, the chances are that it will bolt to seed and be useless for eating. Where they very often receive a check is when planting into the trenches—too many are planted before they are watered in, or too many are taken up at a time and they are allowed to flag. Every few that are planted should be carefully watered in to insure success. The soil cannot be made too rich for it will grow to perfection in rotten dung alone, without the aid of any soil. Another great mistake is often made by careless earthing up especially the first earthing, which is often pressed round the plant too firmly, with the result that the heart is cramped and cannot expand properly. The soil should be placed round the plants very carefully with a trowel, bearing in mind that the tissues are very sensitive to injury, and rotting is inevitable wherever they are bruised. The leaves should be dusted at intervals with soot to ward off the attacks of the Celery fly (Tephritis Onopordinis). Where the leaves are badly affected they should be picked off and burned, to destroy the maggots which are causing the mischief.

Parsnips.—These must on no account be allowed to become crowded. The thinning should be carried on from time to time until the plants are quite a foot apart. Parsnips do not require an extra rich soil, but a light, sandy, deeply-dug piece of ground suits them well.

Carrots.—Those that are up should be thinned out according to the size of the variety. For winter use, sowings should be made during this month.

Seed Beds.—Give these daily attention and see that they are neither crowded nor suffering from any cause or the plants will become weakened and unable to withstand the attacks of their various enemies.

If the weather continues to keep very dry, such crops as Peas and Beans will be benefited by a mulching of manure and occasional waterings.—*R.*

Hints for Amateurs.

WARM weather has set in at last, and considering the time of the year it should be safe now to get out into their blooming quarters all tender plants.

Dahlias should be got out as soon as possible now and carefully attended to until they are established. They must never be allowed to get dry at the root as they soon look miserable and the flower buds are injured and do not open properly. Slugs and snails are very partial to young Dahlia shoots and, if not prevented, soon do irreparable harm. One of the best substances to drive them off is a mixture of soot and lime in equal parts, or a piece of fresh Cabbage leaf placed in a flower pot and laid near the plant may be employed to entrap them. Earwigs evince a special liking for Dahlia buds, &c., and must be trapped either in small flower pots filled with hay in hollow canes, or in Bean stalks.

Dahlias are very brittle subjects to deal with and are soon snapped off by the wind if not securely tied. A great mistake is often seen in tying Dahlias and other quick growing plants; they are tied too tightly at first, and no room is allowed for the swelling of the shoots as the growth advances, consequently the flow of sap is checked, and the part above the stricture suffers from lack of nourishment. The tie should be broad and moderately loose. If it is found necessary to make a close tie to prevent the part from moving, it should be looked at frequently to see that no damage is being done by cutting. They require a stout stake to hold them, as when grown to perfection they produce bulky plants. When growing Dahlias it is advisable to see that plenty of manure is incorporated with the soil if it is inclined to be poor, as they are gross feeders. I will not attempt to give a list of good varieties, as often they are only known by the local names given by nurserymen in the district. Double Dahlias are pretty in their way, but they do not appeal to the artistic eye with so much effect as the single and Cactus varieties, which are freely produced and have an exquisite grace and elegance of form which well adapt them for effective arranging in vases when cut. Cactus Dahlias have the advantage over many other flowers in lasting well when cut. Young plants can be obtained very cheaply at any good nursery, and if intended for this year's blooming they should be obtained immediately. If they are inclined to grow without producing side shoots when young, they should have the growing point pinched out, this will induce them to push their lateral buds and thus form a bushy plant. Once pinching will be found sufficient; after that they should be allowed free growth and always plenty of light and air.

I have dwelt longer on these than I intended, but certainly there are not many flowers so easy for the amateur to manage and which produce such pleasing results with little labour.

Adonis pyrenaica.—Why this handsome flower is not more frequently seen in the amateur's garden is difficult to understand. Perhaps it is because its good qualities are not sufficiently well known. It cannot be because it is a new plant to English gardens, for it was introduced as long ago as 1817. Its native home, as the name denotes, is in the Pyrenees. The flowers are of the purest yellow and freely produced throughout the spring and summer. The leaves are a pleasing feature also, being finely divided and standing up in such a manner that the inflorescence is surrounded by them. It is no trouble to grow and may be raised easily from seeds or by dividing the roots of old plants. If in a moderately rich soil and open position it should be left for several years without lifting; it will then produce large striking clumps if the soil is not too wet for it. It does not like a wet soil neither will it succeed in a dry one. There are no yellow flowers to be found in the garden to surpass it for tone of colour and largeness of bloom, which often measures 3 ins. across when fully expanded. There are several annual species but these are much inferior to the species mentioned above.

Ten Weeks Stocks.—These are well known plants both to the amateur and professional gardener, and are perhaps more extensively grown than any other flowers by the former. This being so, it would be superfluous for me to eulogise their merits, but a few remarks on their treatment may not be out of place. To produce good Stocks, good rich soil is essential and a bright sunny border. A great mistake often made when planting out Stocks is that of having the soil too loose. It should be made somewhat firm by treading, but not hard. Another very common mistake is that of selecting the tallest and largest of the plants and discarding the small ones when planting out; the result of this selection is that a large percentage of the plants produce single flowers. I am no advocate of double flowers as a rule, but I think everybody likes the double Stocks. They cannot be called elegant or graceful when looked at closely, but their exquisite fragrance compensates for what they lack in beauty. Many people would not like to hear me say that they lack anything in beauty, and certainly anyone with the most fastidious of tastes cannot fail to admire a well grown clump or bed of Stocks. They amply repay for generous treatment, and should have a little weak stimulant when they are flowering, and never lack moisture at the roots.

Novel Strawberry Culture.—Strawberries are not usually grown as decorative plants, but they may be grown for both utilitarian and ornamental purposes at the same time in the following unorthodox fashion, which I believe owes the idea to a lady amateur. An ordinary barrel is procured and plenty of holes cut in the bottom to allow the surplus water a free passage. These are covered by a substantial layer of stones, crocks, &c., with some rough dung or half decayed leaves on the top to prevent the soil mixing with the drainage. Three rows of holes about 6 in. across are cut out leaving about 18 in. between each hole; one row is near the bottom, the other round the body, and the third near the top. The tub is then filled with soil and Strawberry plants planted in the apertures. A few may also be planted on the top. A drain pipe should be in the centre and reach about three parts of the way down the tub to ensure the bottom row of plants getting a fair supply of water. When in full fruit the tub makes a fascinating feature in any garden. Following this idea some very pretty mounds of plants may be produced at a very trifling cost.

A Queer Plant.—Anastatica Hierochuntina has too long a name to be talked about much, but nevertheless it is a very interesting plant. It is not strikingly pretty, yet there is something in its simple flowers that appeals to every plant lover. It borrows its lengthy appellation from *anastasis*, meaning resurrection, and very often it is known as the Resurrection Plant or the Rose of Jericho, but why it should be called Rose is hard to imagine. It possesses the remarkable property of resuming the appearance of vitality after being kept perfectly dry for years, if placed in water for a short time. This illustrates another of Nature's marvellous methods of seed dispersal. When the seed is ripe and the hot sun dries up the plant it rolls itself into a ball and is then blown from place to place by the wind. When it reaches a damp spot it again uncurls and the seeds germinate in the moisture. It is an annual and should be raised in heat like a half hardy annual to bring it to perfection.

Clarkias.—More elegant and showy annuals need not be wished for than these. They are specially adapted to filling small beds or planting in masses on the borders. They are easily cultivated and do not require any special treatment. The seed may either be sown in the spring or in the autumn out of doors. They are not large growing plants and 6 in. to 9 in. apart ought to allow them sufficient room.

Polyanthuses.—These are another very fine class of plants for spring work. They have been greatly improved in form during the past few years, and without the endless number of named varieties some exquisite seedlings may be obtained. They quickly increase if the plants are divided annually. By careful seed raising the number of varieties may be multiplied considerably. They are becoming very popular now for filling the flower beds in the spring, when they make a very welcome addition to the few flowers available at that time. They do not like too much sunshine, neither must they have the extreme of shade. A moist loamy soil is best suited to their requirements. If made into a bed and Tulip bulbs planted with them in the autumn a very fine show is produced in the spring, the Tulips making a pleasing break in the somewhat monotonous flatness which is unavoidable when only Polanthuses are used to fill the bed.

Linaria Cymbalaria.—This pretty little plant ought to be found in every garden especially where there are any old walls, &c. For rockwork it is invaluable, but being a quick grower it will soon take possession of the room required for other plants if not constantly watched and cut back. It is well adapted for pot and greenhouse culture, and thrives amazingly if afforded a limy soil and a light position. There are many towns and villages in which it may be found wild in abundance on old walls. I recently saw it also growing profusely on the walls of the ruined cloisters surrounding Peterborough Cathedral. It may be seen growing there at a great height in interstices between the stones, formed by their decomposition, and with the Wallflowers which may be seen at the altitude of considerably over 100 ft. on the side of the minster are an object of admiration from the numerous visitors to this historic edifice. In many parts of the country it is commonly known by the name of Ivy-leafed Toad Flax.

Double Arabis.—This is a beautiful hardy plant for the herbaceous border or the rockery. It far excels the beauty of the single varieties as far as masses of bloom are concerned. It should be obtained and planted immediately it has finished flowering, which is about this time of the year. It is a moderately dwarf plant usually growing to about 9 in. or 1 ft. in height.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Ornamental Grasses.—*Pevensey*: It is too late to sow seeds now for this season's use, they should be sown in March or early in April. It is a good plan to sow them in August; by doing so they do not have time to flower during the first year, but produce much finer clumps during the next season. If they are grown for drying purposes, the spikes should be cut on a fine day just before the seed is ripe and dried gradually. Some of the best annual grasses are Hordeum jubatum, Lagurus ovatus, Eragrostis elegans, Bromus brizaeformis, Briza maxima and B. minor, Agrostis elegans, A. nebulosa, and A. pulchella. Two of the most striking of the perennials are Gynerium argenteum, the Pampas Grass; and Stipa pennata, the Feather Grass. They like a good loamy soil and plenty of moisture at the roots.

Gloxinias.—*V.*: It is useless for you to try and grow on the plant for next year unless you have a warm greenhouse at your disposal, for they require a rather strong heat when growing, but will last a long time under cooler conditions when in flower.

Gentianas.—*Alpine*: It is not a wise plan to shift these beautiful little plants, as they are extremely sensitive to root disturbance, and there is no doubt but that it is due to transplanting your stock that your plants are in a poor condition. They can be easily raised from seed, which should be sown as soon as it is well ripe. They are often slow to germinate, sometimes allowing two years to elapse before they show signs of life.

Galax.—*Alpine*: The soil you are trying to grow this pretty, little rockwork plant in is not quite suitable for it, as it requires a compost of nearly all leaf mould and sand, or peat and sand. Try your plants in soil of this nature, and we think you will find that they will succeed if allowed plenty of root moisture. Autumn is the best time to transplant and divide them.

Basket Fern.—*Publican*: One of the best Ferns for large basket work such as you require is Nephrolepis exaltata. It is a very quick grower, and will stand a large amount of rough usage if properly hardened off. When the basket is full of roots you will find that the plants derive great benefit from occasional watering of liquid sheep manure alternated with waterings of soot water.

Fatsia.—*Window Plant*: We should recommend you to top your plant in the following way. First make an incision nearly half-way through the stem and insert a small stone or piece of wood in it to prevent it closing; a pot should then be split in half, placed round the stem over the cut and tied together

again. If some good light soil is then put in it and kept moist, the plant will not be long before it puts out new roots from the wound. When the pot is full of roots the top may be cut off level with the base of the small pot and potted on. If the old stem is cut down to the level of the pot and carefully watered, it will often break into growth again from immediately below the soil.

Solomon's Seal.—*O. K.*: This should be transplanted in the autumn or early spring. It will do well among bush fruit trees, and supplies useful stuff for cutting.

Arum Lilies in Water.—*S.*: They may be successfully grown in shallow water in the open air during the summer, but the corms should be taken up and stored in moist soil during the winter or they will be killed by the cold. In very favourable positions they may remain in the water all the year. Although called the Lily of the Nile it is a native of South Africa and not the north.

Musk outdoors.—*P*: We have seen it naturalised on a north border and in a very flourishing condition. It seeded freely and increased very rapidly. It requires a rather damp position and not too much sun.

Windowboxes.—*Housekeeper*: Now is the proper time to make up this useful house ornament. They should have plenty of holes in the bottom to allow the surplus water to pass away freely; these should be covered by a good layer of broken crocks, with a covering of moss or rough leaf mould to prevent the soil from falling amongst them and stopping the drainage. A good soil for windowboxes is two parts good loam and one of leaf soil and a good application of sand. One of the best subjects for planting is the Ivy leaf Pelargonium, especially that beautiful variety known as Souvenir de Charles Turner. Petunias also are very effective and bloom all through the summer.

RUELLIA MACRANTHA.

While this is by no means a common plant, it might be utilised to a greater extent than it is. The flowers are the largest of any Ruellia in cultivation, and possible of any other. It is a native of Brazil, from whence it was introduced in 1883. By growing it in the stove as well as the greenhouse it may be had in bloom at various periods of the year. During the summer it may be grown and flowered in the open air, a fact that seems to be known only to a few gardeners. Being a native of Brazil it is accorded a warm and sheltered position to make its growth in the open, and flower about the middle of August into September. The large, funnel-shaped flowers are rose, fading paler in the throat, but beautifully veined all over with a darker hue, as shown in the accompanying illustration. Properly speaking, the plant is a shrub as it has woody stems, but it is a very dwarf and easily accommodated, not varying much above 12 in. to 18 in. in height, particularly if annually propagated from cuttings, which root easily in a little bottom heat such as is accorded to Eranthemums, Daedalacanthus, Bouvardias and that class of plants, all quite familiar to gardeners. As a bedding plant it would certainly be a novelty in that line for some years.

Ruellia macrantha.

Pinguicula or Butterwort, like most or all of the insectivorous plants, native or otherwise, Drosera, Dionaea, Darlingtonia, Nepenthes, and Sarracenias, is found by the sides of streams, or in places where a superabundance of moisture is to be found. Whether this is because of a physiological need, or because that flies, &c., are in larger numbers about such parts, has not been quite thoroughly explained. Both considerations may be, in a fair way, proper or taken together, may be altogether correct.

READING GARDENERS AT BUCKLEBURY PLACE.

(*Concluded from* p. 642)

After tea in the Fireside Club Room, the visitors inspected the new bothy just completed for the benefit of the young men in the gardens, each of whom enjoys a separate bedroom, while there are cupboards, bath room and other modern conveniences, all well fitted up.

Kitchen Garden.

In the kitchen garden there was a trial of winter Onions. Last year brought out Perfection as the best and longest keeping variety, some of the bulbs being yet quite sound. Two of the finest Cabbages for winter were Sutton's April and Sutton's Flower of Spring, the former being the earliest, but the latter the most shapely and neatest little Cabbage, with firm, conical heads. Little Gem is also a neat growing and dwarf Cabbage for table use but it was later than either of the above.

Asparagus was being grown in single lines upon the French system. The natural soil is gravelly and not particularly rich, so that the material in which the roots are growing was artificially made up, and is added to every year. The young shoots in coming up through this material get well blanched and keep tender till the shoots are of large size. Some beds were also planted on the old English system. A fine lot of Peas was coming on in sowings for succession. The ground in which Raspberries, Currants and Gooseberries are grown is not dug in winter but merely mulched. Hardy annuals and other subjects are raised in great quantity by making up a hot-bed,

standing frames upon the same and covering the manure with soil. The seeds are simply sown in lines upon the latter, and the seedlings come up by the thousand.

On a north aspect wall a handsome sight was presented by the Morello Cherries in full bloom. The garden walls are built of bricks, but the trees are trained to wires which have been fixed up a few inches away from the wall. The great promise of fruit attracted general attention. Peaches and Nectarines were well set in most cases on the south aspect of the same wall, including such varieties as Crimson Galande, Dymond and Violette Hâtive.

There are three vineries, and in the earliest one the berries of Black Hamburgh, and Foster's Seedling were half grown. They were being thinned in the next earliest house. Madresfield Court carried some splendid bunches both as to size and shape. In this house Streptosolen Jamesoni, grown in pots, was very floriferous. In the third vinery the Vines were just in bloom.

In the Melon house, the Melons were in bloom, while on the opposite side of the house Cucumbers planted about the same period, had been fruiting for some time. Fine varieties of Gloxinias and Caladiums were being grown on the stages beneath the Melons and Cucumbers. The stove contained the usual compliment of Crotons, Pandanus, Dracaenas, Aralias and other fine foliage plants, with Abutilons and a few other flowering plants.

In another house Tomatos were well cropped, a commencement in gathering the earliest having been made. Younger plants in pots were coming along. Tuberous Begonias and Gloxinias occupied the benches. Zonal Pelargoniums were in full bloom in the greenhouse. A very fine double Petunia with frilled petals was conspicuous for the curious arrangement of rose petals amongst the white ones.

LECTURE ON WALLFLOWERS.

By special request, Mr. Alex. Wright, the gardener, delivered an address on "Wallflowers" before leaving the Dell Garden. Taking up his position by the side of the summer house on the peninsula of the upper pond, the Reading and District Gardeners gathered round him on all sides.

Mr. Wright said that Wallflowers constituted a speciality at Bucklebury Place. In gardens generally it was supposed that two colours of Wallflowers were sufficient; but that was not good enough there. The style adopted of raising them there was to sow seeds in the open about the middle of May. The seed beds should never be allowed to get dry, because the germinating power of the seeds was easily destroyed, and few seedlings came up. From the time the seeds were sown till they were well up, the seedlings were kept moist; and from that time till they were planted out they were given plenty of room.

Later on they were planted out in the second week of August in soil from which early Peas had been gathered, and Cauliflowers cut. Some plants had a habit of developing a single stem only, but they aimed at having bushy plants. Finally they were put into their permanent positions about the end of October or the beginning of November, as soon as the summer bedding occupants of the ground were lifted. The Wallflowers then had a chance to get established before severe weather set in, which was all in favour of this popular flower.

No one could be more delighted than him to go round a garden where Wallflowers were plentifully planted and good. Hot, dry weather, as on that occasion, made the petals droop, but moist and cool weather was much more favourable to their development and longevity. His employer was fond of Wallflowers, hence the reason that he had put out 6,000 plants into their flowering positions. Next autumn he intended increasing the number to 7,000. His method of procedure was to plant the varieties in lines 9 in. asunder, and from 7 in. to 8 in. from plant to plant in the rows.

Faerie Queene, with lemon flowers, was one of the most distinct, because of good habit, and the colour was telling and effective from a great distance. Purple Queen, with dark purple flowers, made a good contrast, and the two were employed for making up long borders. "Give me a shrubbery for a background," he said, "for showing up the beauty of Wallflowers to perfection." He had not much sympathy with the style of gardening usually adopted in this respect. Dwarf Brown Bedder made a good edging; and Cloth of Gold was an excellent sort to plant along the back of it. The golden yellow colour, and the fine habit of this variety made it one of the best. The two made a good combination when planted together in this way. Eastern Queen, a salmon-apricot fading to cream, and Sutton's Giant made another pleasing combination. The last named consisted of mixed colours as yet, and though the flowers were very large the plant was not so bushy as the others.

Continuing, he said that Dwarf Yellow Bedder was the hardiest they had, as it came nearest the yellow flowered wild form which grew upon the rocks in certain parts of the country. For placing at the back of this Blood Red was highly suitable; and the very dark crimson colour made it an acquisition though the habit was not so good as some of them. The earliest of all the Wallflowers was Phoenix which commenced flowering about the end of September and continued to May, provided the winter was open. At the time of the visit it was nearly over. Several of the above varieties were also useful for greenhouse and conservatory work in pots. Another strain raised from seed was the double German Wallflowers, which produced fine spikes, but they did not stand the winter well. In the above they had all the best colours of Wallflowers, and he hoped his brother gardeners would make good use of such excellent material for the decoration of their gardens.

Mr. Leonard G. Sutton, as president of the society, proposed a vote of thanks on behalf of the Reading and District Gardeners for what they had seen and heard that day, and hoped he would be able in future to go to all of the other outings. This was seconded by the chairman, Mr. Neve, who said he had Wallflowers in his garden at Sindlesham, but he intended introducing more variety amongst them. When merely planted in beds he could not cut flowers without spoiling the beds, but he wanted to be able to cut flowers, and he would provide material for doing so.

The company now broke up and hurriedly made their way to the railway station in parties highly pleased with the afternoon's outing.

BRITISH PINE FORESTS OF THE PAST.

THERE are, perhaps, few subjects which have given more occasion for speculation than the causes which have been operating in arresting the free and universal reproduction, in its own particular zone, of the British Pine. Reproduction is as active as ever in places favourable to the conditions it evidently requires. This we are assured of, for we have times and again seen the matter with our own eyes. But what is difficult to understand is how have these favourable conditions changed so much in the matter of altitude, as not only to cease to be a scene of reproduction, but also one wherein the very tree itself refuses to exist. Who that has not seen the remnants of a Pine forest disinterred from some peat deposits at altitudes where now no tree is to be seen for miles from the scene. That there existed a forest in that place at some former period in the world's history no one doubts, and what causes not a little amusement to the thoughtful is the fact that there should also exist individuals whose hardihood is such that they consider its re-establishment a thing not impossible.

We confess our inability to see how this can ever again be accomplished. One chief reason for this is, even though it were possible, that it could not resist the storms with which our country is periodically visited. The sooner we try to consider the age of those lignous deposits as belonging to a remote antiquity, the sounder will our judgment become on the question of general reafforestation. When one takes up a treatise upon the subject of reafforestation, it is dealt with as if there existed no difficulty that could not be overcome provided sufficient capital were advanced for the work. One advocates this thing, another person a different thing, but none of them appears to have earnestly grappled with the major questions at all. Before we begin to heal medically, it is essential to look beyond the thing demanding our attention, and find its cause. Now we have not yet observed that specialists have given enough notice to this important aspect of the question of reafforestation. Perhaps the reason is that if they did they would be less ready to advocate or support a matter which at least must only be speculative.

The denudation of our once mountain forests appears probable to ourselves to have been a thing which must have occurred ages before Greek or Roman ever visited our shores. At Caesar's time, indeed, there is some reason to believe that our mountains were very much in the same treeless condition as they are now. Of course the Pine would, doubtless, occupy a considerable area of our highland glens and valleys that it does not now, but considered as a general feature, and as the acute eye of the Roman would have seen our island in his progress of circumnavigation, probably the scene was very much as we view it now. It is clear he did not see Pine trees far less Pine forests, for in *Sec. exped. Britt. Bk. vi. cap.* 12, he says, "Materia cujusque generis ut in Gallia est prater fagum et abietem." Every one knows that the great Roman general was mistaken in this matter, for in Britain both the Beech and Fir are indigenous, but the point comes in here, neither of these trees came before his notice, for neither are, properly speaking, maritimal in nature. Other trees such as were found on the Continent, such as Oaks, Elms, Ashes, &c., evidently met Caesar's view in abundance. That there were obviously no woods on the "Insulae minores," at any rate no Pines, may be fairly deduced from the above. Still the remains of Pines are dug out of peat deposits in our islands.

This, then, is a fairly strong inference that the general arboreal features of our island at that time was very much as we see it at the present day, with the qualifications we have already made. If we accept these almost unassailable premises, a good deal of the difficulty attached to the question of denudation disappears, and we can logically enough argue with a basis of reason in searching for rational causes. The question now may appear to some of us in two forms, whether the general denudation took place in that of a catastrophe or in the ordinary course of nature. Most persons will be in favour of the latter; for it is reasonable to suppose from various other outstanding facts in nature that the ages of catastrophe were already past ere the period in which the Pine and other forest trees became general.

Then, if we look to the remaining cause, viz., a natural one, we find it extremely reasonable to suppose that the treeless mountain sides and tops once clothed with forests were at one time at an altitude which made the conditions for reproduction favourable. Allowing, then, for the sake of argument, the modest increase in altitude of 1,000 ft., what influence would this have upon our Pine forests? We think it would alter the British zone of reproduction very materially, and we think it need scarcely be pictured how the slow and steady hand of degradation age after age insensibly laboured to accomplish its work. This slow progress probably is still steadily going forward, and the best means for knowing that it is, is to turn our eyes on barren elevations where the Pine lingers yet as a most pitiable object for our sympathy.—*Brittaniorum.*

SARRACENIAS.

THIS is a beautiful genus of insectivorous plants named after Dr. Sarrazin, of Quebec, who first sent specimens from North America to Europe. It is often called the Side-saddle Flower, taking its name from the peculiar structure of the bloom, which resembles a side-saddle. The flowers do not last long, but are very beautiful when they are out. The leaves are beautifully marked and form curious hollow cylinders with a peculiar growth very much resembling, and called a lid. When these pitchers are young the lid and upper part of them is generally beautifully marked. When very young the lid fits tight down on to the top of the pitcher, but as the pitcher increases in size the lid gradually rises. Close under the lids are numerous glands which secrete an intoxicating substance which is much sought after by insects. When overcome they fall into the pitcher and are prevented from getting out by an arrangement of hairs which all point downwards. Like many other beings they find that the way to ruin is smooth, and to go down is much easier than to come up. There is soon a putrifying mass in the pitcher, which helps to attract other insects. These eventually cause the pitchers to rot and fall over

Many of the other plants which entrap insects absorb them through specialised glands. It is very doubtful whether the Sarracenias have this power. What they require is a nitrogenous food, as the peat, &c., in which they grow is nearly always deficient in this element. When the leaves decay and fall round the base of the plant they, together with the mass of dead insects, form a good nitrogenous manure for the roots. They require a good fibrous peat and sphagnum, some with plenty of substance in it and will not quickly go sour, for they require a large amount of water.

A moderately cool, moist house suits them when they have completed their growth, but it is a mistake to try and grow them successfully in this all the year round. In the spring, when growing vigorously, they require a high stove temperature and an abundance of water, both at the root and in the atmosphere, and all the light possible; indeed, they do not require shading at any time. They make a useful addition to a warm fernery, but they should not be allowed to stay in there for long together, or they lose their colour. When well grown many of the pitchers are 3 ft. high.

Darlingtonia is a nearly allied genus. It was named after Dr. Darlington, an American botanist. It is monotypic, D. californica being the only species known. It requires much the same treatment as Sarracenias, but should not be kept quite so warm in the spring as that genus.

ORCHIDS AT CHELSEA.

Amongst the Orchids in flower in the nursery of Messrs. J. Veitch & Sons, Ltd., Chelsea, the other week, were many interesting things. For instance, the hybrid Phalaenopsis Mrs. James H. Veitch was spotted all over with brownish purple on a yellow ground. Another very handsome and interesting hybrid, whose parentage is expressed in the name, had been flowering for weeks previously. We refer to the pretty Spathoglottis aureo-Vieillardi. We also noted four distinct colour varieties of Laeliocattleya Aphrodite (L. purpurata × C. Mendelii). Two of them had rosy pink sepals and petals; and a crimson-purple lip, decidedly lined with purple and yellow in the tube like L. purpurata, and differing in shades of colour. In a third, the petals were large with a decided purple netting. The large crimson lamina had a gold and white throat. The fourth one, Lc. A. alba, had the sepals, petals and tube of the lip pure white; while the lamina of the lip was crimson-rose, and lined in the tube at the base only.

Lc. Cybele, a new hybrid, flowering for the second time, had the sepals and petals faintly tinted with blush. The lip was crimson purple, with a white edge and side lobes. Lc. hyeana had rosy lilac sepals and petals, and a dark reddish-purple lamina to the lip, which showed the influence of Cattleya lawrenceana in shape. There were three plants differing somewhat in colour. Lc. digbyano-Trianaei was in grand form with faintly blush sepals and petals. The lamina and side lobes of the lip were nearly circular in outline, deeply fringed at the margins and blush with a lemon throat. Cattleya Mendelii Queen Alexandra is a new, imported variety with blush sepals and petals, and a purple blotch at the apex of the latter. The lip was crimson-purple. The sepals and petals of Lc. wellsiana were lilac, and the lip crimson-purple, with a maroon blotch in the throat. Another fine variety of Cattleya Mendelii had a crimson purple lamina and side lobes, and the throat yellow instead of white.

Laeliocattleya Zephyra had nankin yellow sepals and paler petals; while the tube of the lip was of a deeper nankin yellow, with a small dark purple lamina. Lc. Ascania was characterised by the sepals, petals and tube of the lip being of a deep nankin yellow, while the lamina was mauve-pink with a large orange blotch in the throat, making a chaste and handsome flower. Lc. Hypolyta langleyensis was a grand form of this bigeneric hybrid, with golden yellow sepals and petals. The tube of the lip was orange and the lamina red purple. The typical Lc. Hypolyta differed by the flower being wholly orange. Lc. G. S. Ball had the sepals, petals and lip almost uniformly orange, the apex of the lip being merely shaded with buff-orange. There were many forms of Laelia Latona in bloom, having the lamina and side lobes of the lip crimson red, the rest of the flower being orange yellow. Six of the plants, however, all agreed exactly in the above particulars. A beautiful variety of Laelia purpurata had white sepals, petals and tube, while the lamina was dark purple. Many other plants of the species were in bud or bloom.

The rockery as usual gave accommodation to a great variety of flowering Orchids of different types, either in pots or suspended in baskets. Some of the species in bloom on this occasion were Oncidium sarcodes, O. ampliatum, O. pulvinatum, O. divaricatum, and O. marshallianum, many of which had long branching spikes. Epidendrums were also well represented, including varieties of E. Endresio-Wallisii and E. Wallisii. Dendrobium dalhousianum is always a telling plant when in bloom, owing to the large maroon blotches on the lip. The massive flowers of Angraecum sesquipedale were also good, as was Dendrobium devonianum. The buff pink sepals and petals of Phaius Norman, and the orange brown and rose lip make this hybrid one of the finest of its kind. In the Cattleya house early summer flowering species included great quantities of C. Mossiae, C. Mendelii. C. Skinneri, and C. Schroderae in bud, sheath, and in bloom, thus forming a succession. The last named is always grown in a great number of varieties at Chelsea, the blotch in the throat being variable, but frequently very dark in colour and well defined. The sweet scented Dendrobium japonicum was flowering in this house. The bigeneric hybrid Laeliocattleya canhamiana had lilac sepals and petals, and a purple veined lip.

The cool house was also well stocked with a great variety of subjects that delight in cool treatment. The beautiful Oncidium concolor was suspended from the roof in great quantity and flowering beautifully. The flowers of the many varieties of Odontoglossum crispum included every shade of colouring. Other well known species and natural hybrids were O. ruckeranium, O. Pescatorei, O. Rossii, O. triumphans, O. Hallii, and O. andersonianum with a white or yellow ground in different varieties. O. Cervantesii is always choice owing to the purple red lines being arranged in concentric lines round the centre of the flower. Oncidium maculatum was an old, but rather uncommon species in gardens. The scarlet flowers of Cochlioda noezliana make it one of the very best of its kind. Amongst Masdevallias in bloom were M. veitchiana in fine form, and the brightly coloured M. ignea. The above notes include only some of the Orchids in bloom at the time of which we speak.

RHODODENDRONS AT KEW.

A visitor to Kew Gardens at this season is well repaid for his journey if he only visits the Rhododendron Dell, where the masses of bloom are seen harmonised with beautiful surroundings, and showing every shade of colour from deep red and purple to pure white. The various shades of Rose seem to predominate, and certainly one could not wish for a more refined colour. The word Rhododendron itself means Rose Tree, from the Greek *rhodos* a rose, and *dendron* a tree. Many gardeners still cling to the division between the Azalea and Rhodendron, but if they follow the *Genera Plantarum*, they will find that it merges them both into one. When they were held to be distinct, the Rhododendrons had eight or ten stamens and were evergreen, and the Azaleas had only five stamens, and were deciduous. As the varieties increased and new species were introduced, this division became obliterated, and now we find on careful examination that there is every transition from five to twenty-five or more stamens in the two sections, and in the Azaleas, once recognised as deciduous, both partially and wholly evergreen species. More handsome evergreen shrubs could not be wished for. The foliage is always attractive, and when in a flourishing condition and in full bloom, there is nothing to equal them for masses of colour.

R. ponticum, introduced from Asia Minor in 1763, the American R. catawbiense, and R. arboreum, a Himalayan species introduced in 1820, have supplied us with the greatest number of hybrid varieties. R. arboreum, unless situated in a very favourable position, will not stand the rigour and vicissitudes of our winter, but by skilful crossing the hardiness of some of the other species have been transmitted to the progeny which have supplied us with so many beautiful shades of rose, purple, crimson, and pink. In addition to their many other good qualities, many of the Himalayan species are highly perfumed. Rhododendron requirements are by no means hard to meet, and if kept away from lime and supplied with a peaty soil, they are very easily managed. A quiet sheltered position with a fair amount of moisture at the roots and in the atmosphere suits them admirably. With all these they are supplied at Kew.

They are planted on either side of a dell running along the river side of the garden. Here they get plenty of light and a moist, sheltered position, and form a most beautiful feature of the garden and a favourite rendezvous for artists and photographers. One of the big music-halls in London has an exquisitely beautiful view of part of this walk as a curtain scene. Seeing how easy they are to manage and cheap to procure, it is a pity they are not more extensively grown, as they are a great acquisition to every pleasure ground or shrubbery border.

For producing a handsome effect by the water side, there is nothing to surpass R. ponticum. For small beds on lawns the following are a few pretty varieties well adapted to such a position, and are now in their glory in the beds by the Palm-house:—F. R. Seidel, a pure ivory white, with very faint spots on upper petals; Purity, a pure white, with yellow-green spots; E. S. Rand, a striking crimson, and Doncaster, a very dwarf, rich crimson.

In another bed, by the Temperate House, R. Florence is just at its best. The colour is a beautiful combination of lilac and white with deep rose margins. Entering the Dell at the Pagoda end the first to catch our eye was that beautiful garden hybrid, Broughtonii, a rich rose with deep crimson markings on the upper petals. Close by this is a plant of Sigismund Rucker, a very deep crimson heavily marked with black. Other striking bushes were R. delicatissimum, a rather loose growing sort with large flowers, slightly tinged with rose pink; the outer petals in the bud are a deep rose. R macranthum is another pink and white variety with large flowers. Mrs. W. Agnew had many admirers and well deserved its praises, for it is one of the best hardy varieties in cultivation; the flowers are deep rose delicately suffused with white, with green and orange markings on the upper petals. Mirabilis, a deep lilac with crimson spots. Baron Schroeder, a deep velvety crimson, is very distinct. Catawbiense var. fastuosum, a heliotrope variety, is very interesting, showing the transition from stamens to petals in the formation of double flowers; many of the anthers were borne on small petals in place of filaments; in some flowers the anthers also were suppressed. Esmeralda, although not usually so floriferous as the rest, has the advantage over most of its more prolific sisters in having a remarkably good habit and flowers of a very rich colour.

R. flavum, one of the old "Ghent Azaleas," filled the air with its fragrant scent for a considerable distance, and with its bright coloured flowers nestling in a wealth of young fresh green foliage made a striking contrast amongst its neighbours. Old Port evidently took its name from its colour. Royal Purple makes a very conspicuous plant and from a short distance looks quite blue. Lady Armstrong had flowers with beautifully crenated margins. Frederick Waterer is one of the richest crimsons we have seen and is well christened, bearing as it does the family name of one of the most skilful and enthusiastic of Rhododendron hybridists. Lord Wolseley makes a very suitable companion to the last name, being slightly lighter in colour. Leaving the Dell and passing under the trees on our way back to the other part of the garden, we noticed the darkest variety we have ever come across, and the appellation given to it seems very suitable, being named Cetewayo; from a short distance it appears quite black. It is a regrettable fact that many of the best varieties are without labels, and those that are named have their labels placed in such inconspicuous positions as to escape notice, even when being searched for.

Patriotism.—The patriotic feelings that have been exciting the people of Great Britain does not seem to have been shared by them alone, for we notice in a price list issued by Isaac House & Son, Westbury-on-Trym, Bristol, "Sulphurea, the khaki coloured Violet." Surely this is showing a patriotic spirit indeed for even the humble Violet to change its well known shade for the fashionable colour of khaki.

IS GARDENING A SCIENCE?

(*Continued from p. 608.*)

SUMMER *v.* WINTER PRUNING.

WINTER pruning is strength, while summer pruning is weakness.

If a tree is pruned in summer while soft leaves and shoots are growing rapidly, you remove from the tree, it is true, what has been a great strain upon its resources, and which has given back very little in return; that I admit. But supposing you let these same branches and leaves remain and reach maturity, what do they do then? Why they work for the benefit of the whole tree, as much as any other part of it.

Ah, you say, then what do you recommend? Do you advocate to let remain the whole growth of the season upon a fruit tree? No, nothing of the kind. But this I advocate, that as soon as the growth which is necessary is made, that the tender growing point be pinched out; it is this growing point which is pulling so hard upon the tree. What is gained by this? Much; for as soon as this point is removed the wood and leaves immediately behind it develop into maturity quickly, and instead of drawing upon the overtaxed tree, they have their square feet of leafage spread out, basking in sun and air, and doing its part to build up a fruit crop, which the tree of which this forms a part is endeavouring to carry.

But then, on the other hand, suppose this growth is allowed to go on and grow to 1 ft., 18 in., 2 ft. or what it might be (which is often done), drawing upon the overtaxed resources of the tree, and when some of its more mature leaves are doing a little, suppose I say all this is removed with a stroke, what does this mean to the tree? Let us look at the matter from a scientific standpoint.

The roots, as you know, through this abundant growth, are in the greatest activity and are sending up water and gases with it in the form of plant food at a rapid rate, and at the very time when this flow is at its height, you remove these leaves and stems, consequently there is not the demand above for the amount of water sent up, and the inevitable follows. The constitution of the plants becomes weakened, the cambium layer gets thin and watery through this great decrease of foliage area; what follows? The fruit suffers in quality, if not in quantity, through the tree receiving this severe check at a critical period of its growth. On the other hand, if the principle of *pinching* had been practised, how much might have been saved?

Would that we gardeners put into practice more often the principle of pinching, and less the system of *cutting*. How much we should save by this. What unnecessary energy and waste of vital functions we might save many of our plants if we would only pinch instead of cut. Then, again, how often this cutting during the sap circulation throws open the door to future disease. It is by checks such as this summer pruning often gives, that many of our fruit trees fall victims to various fungoid diseases. This is Nature's teaching, and if followed cannot fail to be very beneficial in assisting her to carry her fruits and flowers to perfection, and to be a profit and a pleasure to all concerned.

PROPAGATION BY CUTTINGS.

There is also another part of horticultural practice to which I wish to draw your attention, and that is propagating by cuttings. Undoubtedly this is the plan adopted for the propagation of a very large number of plants, and especially so where nature has endowed plants with the powers of propagation in this way. Now the first indication we get that a cutting is going to root, is its commencing to callus at the bottom end. If a cutting fails to do this, you soon have signs of it going wrong; probably the leaves and stem above the soil look green and all right as if all was going well, but suddenly it collapses, and we say that it has damped off. Yes, and this is the real definition of it; it has damped off. Well, you say, what is the cause? This is it; the cut end of the cutting has failed to callus quickly, and consequently through the soil being a little damp, the end being in the nature of a fresh wound imbibes or takes up this water freely and the cuttings standing in an atmosphere to the point of saturation, the leaves cannot give off this water so away goes the end first which has the greatest amount of this surplus water stored. This is natural, and it must be obvious to the least observant of us. Well, you say, is there no remedy? Yes; and I will give you nature's own remedy first. There is nothing which accelerates the formation of a callus like air. Therefore, use a soil which will admit air freely, and a large air space at the bottom of the pot, made by using plenty of crocks. What remedy does art offer, to mitigate this evil? Can she help nature here? Yes, in a great measure she can. The best means I have found for forming this callus artificially is to dip the ends of the cutting in collodium quickly, just deep enough to seal up the wound, and this prevents the ingress of too much damp. This, I have found to be an excellent thing to form an artificial callus, and it is also good when the cuttings are a bit sappy.

This does assist nature, and it is by a knowledge of the necessities of nature that art can be employed to coax nature, as it were, to do the work required quicker than she would perform it unaided by man. Then again, the constitution of plants differs very considerably, and this affects their powers of rooting to a very great extent.

Some species of plants will root under almost any circumstances, while on the other hand, it takes all the patience and skill that one can command to get them to root; and there are those which no art of man has ever induced to root, nor ever will. Dr. Lindley, in his application of principles, says, "The Orange and Lemon to be rooted successfully must have the bottom end of the cutting touching the pot. Obviously, this is done to get the cutting where the air is most active and where there can be no undue accumulation of water." Other methods we find recommended by Mr. Forsyth and others, to induce those plants to root, which are so capricious of root action, but in every case the cuttings are with the ends touching the side of the pot, and thus a constant circulation of air is taking place and the moisture is steady and even, which goes far to encourage root action.

This brings me to another phase of horticulture, which is an important one, namely, the feeding of plants. And here I claim the gardener is, of necessity, a scientist, if he has to feed his plants upon physiological principles. How often it happens that with our garden crops too much manure is used, or, in other words, one kind of manure is used too many times in succession.

Garden crops fail as often through over-manuring as by underdoing it. In fact, there is nothing in my opinion that will throw a plant in a bad state of health so quickly as being over-manured. Let us take for an instance the Pea and Bean family. All the Leguminosae, as you know, have the power of absorbing nitrogen from the air, and storing up what they cannot assimilate on their roots in the form of little tubercles. Supposing these plants are planted into land surfeited with ammonia through the constant use of manure, can you expect that it is possible for these plants, collectors of nitrogen as they are, to grow under these conditions, and prove productive, when its every tissue is gorged with a superabundance of this one manure? Is there any necessity to be alarmed at mildew and other diseases making their appearance? Not at all. It is my firm opinion that when we have learnt the science of manuring thoroughly, so that the requirements of our crops shall be supplied to a nicety, then I believe we shall have gone a step towards keeping down disease. There is absolutely no necessity to manure with a nitrogenous manure for either Peas or Beans, and especially if the land has been manured the year previous.

It has been proved by experiment that the Leguminosae grown in a soil devoid of nitrogen (commonly called ammonia) that their development has been better and healthier than when planted in land glutted with manure. This, then, proves conclusively that the Pea and Bean are able to draw all the nitrogen required for their sustenance from the atmosphere. Well, you say, what is to be done when the land gets overcharged with this organic manure, this superfluity of humus? Why, withhold those manures which contain so much of this organic matter altogether for a time, and use a little inorganic in the form of lime, etc. In fact, in the majority of gardens, once in three years is not too often for the application of a little lime, and especially where so much manure of a humic nature has been applied. Lime has a beneficial action upon the soil, which makes it so valuable in horticulture.

Then, in addition to this lime, when the crops are sown—aye, or even when they are up and growing—add a little artificial, that which you know your crop is benefited by. This system you will find far more economical than to be constantly using dung in an indiscriminate manner. Now it would be a very great error to suppose that artificial manure can do for the land what farmyard manure can, and further, there is no disputing the fact that where artificial manure is resorted to many years in succession without the aid of dung, that such land will go completely out of cultivation, and particularly in heavy soils. Has not Nature or science a lesson for us here? Yes.

"Be temperate in all things."

(*To be continued.*)

Gardening Miscellany.

CYTISUS ALBUS.

IF anyone wishes for an easily cultivated, floriferous shrub to brighten the garden and pleasure grounds during the early part of the year they cannot do better than plant the above species of Cytisus, known as Spanish Broom. The flowers are pure white and produced on long graceful branches. It requires a sunny position and plenty of room as it soon resents the encroachments of any neighbouring plants. It will grow in almost any soil but prefers a sandy loam. It was introduced into this country about 1750.

BERBERIS DARWINII.

MOST of the Berberis family form pretty shrubs when in bloom and are beginning to be found indispensable in every garden of any pretensions. Like many other families the commonest is the prettiest, and none are grown more extensively than the above variety. During this season it has been a picture of floriferousness making banks of deep orange colour in many gardens. It was introduced from Chili in 1849, and like most other plants which hail from there, requires plenty of light and room.

EARWIGS.

THESE destructive insects have some very peculiar habits, and differ in many respects from most others. One of the chief points of difference is that the female does not leave her eggs when laid, in the same manner that most insects do, but stays by them until hatched, and protects her progeny in the same way that a hen would protect her chicks. They have the habit also of making sudden migrations, coming suddenly into a position and leaving it as suddenly as they came. The wings are very beautiful, but are very small and fragile, they are very neatly folded when not in use. The folding is accomplished by the formidable forceps which are so well known to all who handle them.

DIPLADENIAS.

No climbers are more worthy of a position in every stove than these. They have been hybridised with such success that they are now unrivalled among stove creepers for brilliance of colour. They have two glands on the ovary. It is to these glands that the genus owes its name, which means double gland, from *diploos*, double, and *aden*, a gland. The flowers are produced rather late in the summer, on the new growth. After flowering the young growth should be well thinned out.

STREPTOSOLEN JAMESONII.

THIS is one of the best of the Solanaceae order. It is well adapted to greenhouse cultivation, especially if it can be provided with a pillar to climb up, and a light position. The flowers are produced in profusion on terminal corymbose panicles and are of a deep orange colour. It is the only plant in the genus. It thrives in almost any soil but prefers a sandy compost. It is readily propagated by cuttings inserted in sand and placed under a bell-glass. It is nearly always in flower, having no definite period for blooming.

SOLANUM JASMINOIDES.

THIS is another of the beautiful order of Solanaceae, also a greenhouse species. It is a graceful climber and a free flowerer. When grown in a light position on a greenhouse roof it flowers practically all the year round. It has much the same habit as S. Seaforthianum, the stove species. The flowers are a bluish white and show out conspicuously from the

dark green foliage. It makes a very graceful creeper for trailing from rafters in a conservatory. It does well outdoors if in a sheltered position. It was introduced from South America in 1838. There is a variety S. jasminoides foliis variegatis which has leaves blotched with creamy white.

A NOTABLE WISTARIA.

There are many old specimens of this beautiful leguminous plant. They are usually trained against a wall or pergola. A very old patriach can be seen in Kew Gardens, near the Tropical Fernery, trained in a very unorthodox way; it is trained round a circular framework and then rounded off at the top. Although trained with formality it is a very beautiful picture when in bloom.

ARACHIS HYPOGAEA.

This is the plant which produces the familiar fruit known by the various names of Pea Nut, Monkey Nut, Ground or Earth Nut. It is a small, annual plant belonging to the Leguminoseae. It owes its name of Earth Nut to the peculiar habit it has of burying its seeds. This is accomplished by the pedicels pressing the young pods down on to the soil, so that as they grow they press into it. It was first introduced from S. America in 1812.

BOMAREAS.

This is a beautiful genus of climbers, adapted to greenhouse cultivation. In very favoured situations in the south they prove hardy. They are very impatient of root restriction and do much better when planted out than when in pots. They like a moderately light soil, inclined to be sandy, and a light airy position. The flowers show many beautiful combinations of yellow and red.

SUGAR BEET.

The following is a brief summary taken from *The Farmer's Gazette* on the above root. The white or Silesian root (Beta alba) is the variety most highly valued by sugar manufacturers, because of the fact that it is particularly rich in saccharine matter. The principal characteristics of good sugar beet are (1) they have a regular pear-shaped form and smooth skin, (2) they do not throw out many branched roots or forks, (3) they have a white, firm and dense flesh and a clean sugary taste, (4) they should weigh from 3 to 4 lb., (5) they should have small tops and no tendency to become necky, (6) they should not show much above the ground but grow almost entirely in the soil, (7) they should have a specific gravity of from 1·060 to 1·070.

POLYGONUM BALDSCHUANICUM.

No hardy climber has received much more attention than this beautiful plant during the past few years, and it certainly deserves all the admiration and attention it has received. It has not been before the public for many years, but it is already becoming a very popular plant. It is a very vigorous grower, and soon covers a large space. It climbs well by itself, if given anything for it to hold on to. The flowers are white and are borne in great panicles from July to September. It does well when climbing over a tree or bush. A fine plant of it was much admired during last summer in Kew Gardens, growing over a Conifer and gracefully falling in masses of white bloom, which could be seen from a long distance, situated as they were, with the dark green of the Conifer for a background. It does not require any special soil, any ordinary garden soil supplying its needs if enriched with a little well-decayed manure. The Americans are enthusiastic over it and their nurserymen are turning out large numbers of young plants.

ESCHSCHOLTZIAS.

These handsome annuals are very easily grown in nearly any soil. It owes its name to D'Eschscholtz, a celebrated naturalist, who accompanied Kotabue round the world. The best course to adopt to secure a good display is to sow the seed about August, and when large enough to handle prick off into sheltered beds from which they may be lifted and planted into their positions in the spring. By this means an early display is obtained. For a later supply of bloom the seed should be sown at once in the positions they are to occupy. By sowing the first batch in August and the next in the spring a grand display of colour can be maintained until late in the autumn.

SOCIETIES.

ROYAL HORTICULTURAL.—*June 4th.*

The leading features of the meeting on Tuesday last were Orchids, Eremurus, Streptocarpus, Roses, Pelargoniums, Sweet Peas, Hydrangeas, and hardy herbaceous plants in considerable variety.

Orchid Committee.

Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited a large group of Orchids consisting largely of Cattleyas and Laeliocattleyas. Amongst the latter were well-flowered plants of Lc canhamiana, Lc. c. alba, and Lc. Aphrodite alba. The long panicles of flowers of Oncidium divaricatum were very conspicuous and showy. Other choice and useful subjects were Spathoglottis aureo-Vielllardi, Cochlioda noezliana, Epicattleya radiato-bowringiana, Anguloa Clowesii, Angraecum modestum, Oncidium pulchellum, Phalaenopsis luddemanniana, P. Mannii, P. Mrs. J. H. Veitch, Laelia Latona, and various others. (Silver Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, staged a collection of Orchids, consisting chiefly of Cattleyas. Very distinct and noticeable were Cattleya Mossiae bellissima, C. M. excelsa, C. Wageneri, Dendrobium Dearei, D. Lowii, D. Falconeri lilacinum, and Laelia purpurata, the latter being shown in considerable variety. The group was backed up with Palms and Negundo aceroides variegata. (Silver Flora Medal.)

H. T. Pitt, Esq (gardener, Mr. Thurgood), Rosslyn, Stamford Hill, staged a very varied group of Orchids, including the magnificent variety, Odontoglossum crispum pittianum. Other good things were Laelia Latona, L. digbyana, Odontoglossum H. T. Pitt, Odontoglossum citrosmum, Cattleya Mossiae, Auguloa Clowesii, Laelia tenebrosa, and Odontoglossum crispum in great variety. (Silver Gilt Flora Medal.)

H. F. Simonds, Esq. (gardener, Mr. Geo. E. Day), Woodthorpe, Beckenham, also staged a fine group of Orchids, including well flowered pieces of Laelia purpurata, Oncidium concolor, Laeliocattleya schilleriana, Miltonia vexillaria, Odontoglossum nebulosum, O. cordatum. (Silver Flora Medal.)

Messrs. Stanley, Ashton & Co., Southgate, N, staged a large collection of Cattleyas and Laelias, with other Orchids in smaller quantity. Well-flowered and fine were Laelia purpurata, L. p. russelliana, Cattleya Mossiae, C. M. caerulea, C. M. reineckeana, and others in a great variety of beautiful colours. Choice and beautiful were C. M. Alice Nugent, and C. M. Mrs. F. W. Ashton. All were attractively set up with virgin cork, Ferns, and Palms. (Silver Flora Medal.)

Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, set up a rich and varied group of Orchids, including fine pieces of Scuticaria Hadweni, Cattleya Warneri, C. Mosslae reineckeana, Aerides Fieldingi, Laelia majalis, Epidendrum (Nanodes), Medusae, a rare Orchid in cultivation, Laelia tenebrosa, L. digbyana, Cattleya Aclandiae, Epidendrum macrochilum, Laeliocattleya Wiganiae aurea, and many other choice things. (Silver Gilt Flora Medal.)

A. H. Smee, Esq. (gardener, Mr. W. E. Humphreys), The Grange, Hackbridge, Surrey, exhibited a group of Orchids, including many fine varieties. Amongst others we noted Cattleya Mossiae hackbridgensis, C. Mendelii Perfection, C. Skinneri alba, C. Mossiae Minerva, C. M. londinensis, C. M. lawrenceana, C. M. Mrs. Smee's var., C. M. arnoldiana, C. Mendelii Alfred Smee, and many other fine things. (Silver Flora Medal.)

J. Colman, Esq, (gardener, Mr. W. P. Bound) Gatton Park, Reigate, also staged a fine lot of Orchids, including well-flowered pieces of Cymbidium lowianum, Miltonia vexillaria, Odontoglossum crispum, Vanda suavis, Laelia purpurata, Thunia Veitchii and others. (Silver Flora Medal).

A Cultural Commendation was accorded to R. Hay Murray, Esq., (gardener, Mr. T. Blackmore), Spinfield, great Marlow, for a large and splendidly flowered piece of Dendrobuim bearing about 40 drooping spikes of flowers.

Lieut. Col. Shipway (gardener, Mr. Walters), Grove House, Chiswick, staged Cattleya Mendelii Mrs. Shipway. The Hon. Walter Rothschild (gardener, Mr. E. Hill), Tring Park, Tring, staged some hybrid Laeliocattleyas.

Messrs. B. S. Williams and Son, Upper Holloway, staged a group of Orchids, including well-flowered pieces of Laelia purpurata, Thunia marshalliana, Cattleya Mossiae, Laelia Cinabrosa, Oncidinm, marshallianum and various others. (Silver Banksian Medal).

Floral Committee.

Messrs. J. Veitch & Sons, Ltd., Chelsea, had a remarkable group of Eremurus himalaicus and E. robustus. The spikes were effectively arranged in vases which were tastefully masked by immense blooms of Paeonies. The exhibit occupied a large space down tha centre of the hall. It also included some beantiful hybrid :Aquileglas. Following all these was a table of Streptocarpi, and a small gronp of Kalanchoe flammea also shown by Messrs. J. Veitch and Sons. The Streptocarpi were very handsomely foliaged, floriferous plants. They were all hybrids raised by this firm, and showed the vast strides of improvement that have been made by these beautiful Cape Primroses. The Kalanchoes made a very effective picture, the beauty being greatly enhanced by the diffused sunlight which fell on them through the roof. (Gold Medal.)

Messrs. Sutton and Sons, Reading, had a beautiful exhibit of Gloxinias, Calceolarias, Begonias, Petunias, Saintpaulias, etc. The Gloxinias showed a very good strain of plants the leaves being of good substance and the flowers of exquisitely beautiful shades and produced in great profusion. (Silver Gilt Banksian Medal.)

Messrs. W. Paul & Son, Waltham Cross, exhibited a large variety of bloom trusses from Rhododendrons grown in loam. They were of both very good colour and substance, and seemed to have had a good time in spite of the absence of peat.

Messrs. W. Cutbush & Son, Highgate, London, put up a very effective group of Eremuri and Spiraeas. The beauty was greatly added to by the judicious addition of a few Acalyphas, Japanese Maples, and an edging of small flowered crimson Begonias and Adiantum. (Silver Banksian Medal.)

Messrs. Thos. Ware, Ltd., Hale Farm Nurseries, Feltham, London, staged an excellent exhibit of herbaceous and rockery plants and flowers. Irises were much in evidence and were the object of many admiring remarks. The vases of Pyrethrum blooms also stood out well. Amongst many other beautiful plants in this collection we noticed Ostrowskia magnifica and Arum Eggin. (Silver Flora Medal.)

Mr. Arthur Wade, River Side Nurseries, Colchester, made an effective display with Oriental Poppies, Paeonies, Pyrethrums, etc. Pyrethrum La Vestau was shown to advantage and is a decided acquisition to every garden. Sweet Peas were also shown, the colours were very good, but we think that when the Cupid variety is grown the graceful beauty is lost. Many of the plants staged in this exhibit were of this type.

Mr. Amos Perry, Winchmore Hill, London, staged a large quantity of various hardy cut bloom, including many beautiful varieties of Papaver, of which the colours were magnificent. Other beautiful blooms, we noticed, were Oenothera speciosa rosea, the curious Helicodiceros, which fortunately was not emitting its usual obnoxions effluvia. Aethionema grandiflora, Ixiolirion tartaricum, Heuchera, Erigeron, Pyrethrums, and Paeonies were also well represented. (Silver Gilt Banksian Medal)

Messrs. Kelway & Son, Langport, made a grand show with their Paeonies and hardy Pyrethrums. Amongst the Paeonies we should select Lady Curzon as the best if such a selection were possible with such an excellent exhibit. Pyrethrum James Kelway made itself conspicuous by its beautiful rich crimson colour; P. Fairfax, a pretty shade of pink, was also a good variety, and only requires seeing to recommend it to all lovers of this beautiful genus. (Silver Banksian Medal.)

Leopold de Rothschild, Esq., exhibited a collection of scented Pelargoniums and Kalanchoe flammea.

Messrs. R. Wallace & Co., Colchester, made a striking display with hardy herbaceous bloom, chiefly bulbous stuff and German Iris. Lilium odorum and the varieties of L. thunbergianum produced a striking effect. (Silver Gilt Banksian Medal.)

Messrs. J. Cheal & Sons, Crawley, exhibited a table of vases filled with a large collection of hardy flowering shrubs, also a pretty bunch of Pseud-Acacia aurea. Quercus Souvenir de France van du

Bom was also shown. It is one of the prettiest of the Oak family, having small, deeply-cut foliage of a bright yellow shade. Ulmus Damperli aurea was another beautifully coloured, foliaged tree. Quercus follis purpureis was also to be seen in this exhibit; for producing a highly-coloured effect on a lawn there is no tree to surpass it.

Messrs. H. Cannell & Sons, Swanley, Kent, staged a large number of vases of their beautiful hybrid Aquilegias, showing the great diversity of colour which may be obtained by carefully hybridising these old-fashioned plants.

Messrs. J. Laing & Sons, Forest Hill, London, exhibited Streptocarpi and Gloxinias, also a unique salmon-coloured Begonia named Attractive, and attractive it really is, for it is a graceful plant and has very pretty flowers, the petals varying in shape from ligulate to broadly ovate.

Mr. M. Pritchard exhibited an excellent collection of herbaceous bloom, including Hyacinthus amethystinus, Trollius japonicus plenus, Kniphofia, Heuchera, Campanulas, Incarvilleas, Lychnis, Iris, &c. (Silver Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, put up a pretty little group of well grown Carnations, including some beautiful varieties of Malmaisons.

Messrs. J. Peed & Sons, Norwood, London, exhibited a group of Hydrangea hortensis.

Messrs. J. Carter & Co., High Holborn, London, had a large exhibit of Sweet Peas shown with the foliage; also their invincible prize strain of Gloxinias, on which the flowers were borne in abundance, some of the plants carrying fifty blooms. (Bronze Flora Medal.)

Messrs. H. Cannell & Sons made a blaze of colour with a group of Cannas, many of which received an Award of Merit. The exhibit showed what a remarkable range of colours these plants can produce. (Gold Medal.)

Messrs. Barr & Sons, Covent Garden, London, exhibited a large number of Iris, Papavers, and other beautiful herbaceous flowers: also a number of dwarf Japanese trees. A dish of new hybrid Nympheas was also shown, in which we noticed N. sanguinea, a rich crimson variety. (Silver Banksian Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, also exhibited a group of hardy flowering shrubs, including such beautiful plants as Hydrangea hortensis mandshurica, Viburnum tomentosum, Chionanthus retusus, Styrax obassia, and many other beautiful families of hard wooded plants.

Mr. Anthony Waterer, Knap Hill Nursery, exhibited four show cases of seedling Rhododendrons and Azaleas, in which we noticed many exceptionally good varieties.

Messrs. Paul & Sons, Cheshunt Old Nurseries, staged some very pretty vases of Brier Roses and double Lilac.

Mr. G. Prince, Rose grower, Oxford, exhibited Roses of excellent quality, especially the pretty, little single forms and the Yellow Banksian. (Silver Gilt Banksian Medal.)

Messrs. W. Newport & Co., Uxbridge, showed a batch of their new dwarf Lobelia, Newport's Model.

Messrs. Frank Cant & Co., Colchester, exhibited a collection of their beautiful Rose blooms amongst which we noticed Laurette, Messimy, Papillon, Climbing Devoniensis, Gustave Regis, D. Grill, Papa Gontier, and Mrs. W. J. Grant, all good varieties for button-hole and bouquet work. (Silver Floral Medal.)

Mr. H. B. May, Upper Edmonton, made a perfect rainbow of colour with an exhibit of Pelargoniums which filled the whole length of a table. Leopard and Mrs. W. H. Martin, both Ivy-leaves, were very good, and both received an Award of Merit. (Silver Gilt Flora Medal.)

Messrs. Hugh Low & Co., Bush Hill Park, again exhibited a batch of Schizanthus wisetonensis, in equally fine condition as on former occasions.

Messrs. G. Boyes & Co., Leicester, exhibited a few well flowered plants of their new Carnation, Earl Roberts; it is a deep yellow, the flowers have a good form and a whole calyx.

Fruit and Vegetable Committee.

Mr. S. Mortimer, Rowledge, Farnham, exhibited fifteen Melons, for which he received a Silver Banksian Medal.

Leopold de Rothschild, Esq., Gunnersbury House, Acton (gardener, Mr. J. Hudson), exhibited a box of Plums, Jefferson and Early Transparent Gage. (Silver Banksian Medal.)

Messrs. T. Rivers & Son, Sawbridgeworth, exhibited a dish of Peaches.

Earl of Darnley, Cobham Hall, Gravesend (gardener, Mr. T. R. Cuckney), exhibited a box of well grown Royal Sovereign Strawberries.

J. L. Bucknall, Esq., was awarded a Silver Banksian Medal for a box of Royal Sovereign Strawberries.

Lord Suffield, Gunton Park, Norwich (gardener, Mr. Allan), exhibited twenty well fruited plants of Strawberry Lady Suffield. (Silver Banksian Medal.)

Messrs. Sutton & Sons, Reading, made a very tempting exhibit with Tomatos and Melons. They were staged in a very effective manner with Ferns and Panicum. There were also some very fine pots of very prolific Peas. (Silver Knightian Medal)

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. T. W. Dollery, The Gardens, Whitburn, Sunderland, for his article on "Ornamental Grasses," p. 637.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

PHOTOGRAPHS OF PLANTS.—The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in THE GARDNING WORLD. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Treatment of Cuttings sent from Italy.—*Clydesdale*: The specimen you sent was Mesembryanthemum edule, known in this country as the Hottentot Fig. The Italian one of Moonshine does not appear to be known in this country. Their cultivation is simple. Let the cuttings dry at the ends a little before inserting them in sand under a bell-glass. When rooted pot them off singly in fibrous loam and peat, with some leaf mould, a little well-rotted cow dung, some small pieces of broken bricks or crocks and plenty of sand to make the whole porous to permit the passage of water freely. You may omit the cow dung for the first potting, but can use it for subsequent potting as the plants get larger. Stand the pots on a shelf against the glass, or in a sunny position at all times, as the plant comes from the Cape of Good Hope and requires all the sun it can get in this country to harden the tissues and make the plants flower. You cannot expect this species to flower till it gets to some size, as the shoots, if planted out, attain a length of 3 ft. or 4 ft. In pots or pans they would be shorter, but you should allow them to hang down over the sides of the vessels in which they are grown. Round seed pans, about 4 in. in depth, would be more suitable than pots, if you have them. During the warmer part of summer you may stand the pans on a board or pieces of slate in a sunny sheltered position out of doors. This will bring them into flowering condition much sooner than under glass. In the Channel Islands people plant them on banks and on elevated gardens where the shoots can hang down over the retaining walls, and in Italy they probably do the same.

Constituent Parts of Basic Slag.—*H. L. Hirst*: Basic slag, basic cinder, or Thomas phosphate powder as it is variously called, is a bi-product obtained in the process of smelting iron by the Thomas-Gilchrist process. It contains phosphorus as its most important manurial constituent. The slag is ground down finely until it assumes the form of a powder. Good basic slag contains 14 to 18 per cent. of phosphoric acid, which is more readily soluble than that of coprolites prepared in the same way. It is not essentially a quick acting manure, however, so that you might apply it to land in March where you intend planting vegetables in April or May. In the case of fruit trees, you should also apply it early, say in February or March, to get the full benefit during the ensuing season. It has been found in practice that basic slag is not the most economical form of a phosphatic manure to apply to limestone soils or those that are generally rich in lime. It may give you fairly good results all the same, but it is more efficacious when applied to moorlands, heaths, and sandy soils. If you can get it cheaply and conveniently, it might be worth your while to use it. On the other hand, more economical and effective manures for a limestone soil (all things being equal) would be dissolved bones and other superphosphates which have been acted upon by sulphuric acid in their preparation, and which are also known as acid phosphatic manures.

Propagating Aralia Chabrieri.—*R. M.*: You cannot make good plants by propagating merely from side shoots. Plants so raised take a long time to assume the upright and graceful habit which this plant should bear, if ever it may make a proper leader at all. The only way to succeed with this plant is to take off the top of the plant and treat it as a cutting in sandy peat in a propagating case. Keep the old plant and encourage it to grow. Upright shoots will arise at or near the top where it had been cut. When these shoots are properly firmed take them off and treat them as cuttings. Other shoots will arise in the same way upon the old plants, so that in course of time you will have all the young plants you can desire. They will assume the erect habit straight away, and shortly make useful table plants.

Raising Young Plants of the Musk Tree.—*A. B. J.*: Your best plan will be to take cuttings of young side shoots when beginning to get firm and insert them in sand or light sandy soil, with a fourth part of leaf mould. Give good drainage and place the cuttings under a bell-glass or in a case in gentle heat, and exercise a little patience till roots are emitted. As a rule, the cuttings root freely if not very quickly. We understand that you mean the shrubby plant with Musk-scented leaves. It is also known as Muskwood (Olearia argophylla). Young plants are the best, for the sake of the scented foliage; but only old plants will flower, though the blossom is not very showy.

Planting the White Water Lily in a Lake.—*H. Jameson*: Where the water is three feet or four feet deep the usual method of establishing the White Water Lily is to put some rhizomes in a basket containing some loam. Fasten the rootstock into the basket to keep it in position till it gets established. If you can dry the pond, that is, empty it, you could then manage the operation more easily by placing mounds of soil where you wish the plants to grow, making them sufficiently high so that the crown of the Lilies will be 18 ins. to 2 ft. under the surface of the water, 18 in. being a good depth. Place some stones round the lower parts of the mounds of soil to help keep it together, and the Lilies will soon take a complete hold of the soil, and require no more attention.

Boronia Megastigma after Flowering.—*R. M.*: Prune back the last year's shoot to within a few buds of the base, and encourage the plants to make fresh growth in an intermediate house. Syringe the plants at least twice a day, but do not give very much water till the shoots are again growing freely. If you think that the plants require repotting, give a slightly larger shift immediately the buds have made a fresh start to grow. For compost use loam and peat in equal proportions with plenty of sand to keep it porous, for the free passage of superfluous water. Pot firmly as you would do with Heaths.

Propagating Exacum affine.—*A. W. M.*: A good plan would be to set aside a few plants and fertilise the flowers artificially to make sure the flowers will set. About this period you should keep them in some airy, well-lighted house, kept like a warm greenhouse. This will favour the setting of the flowers. As a rule, it is not difficult to save seeds from this species. You might try a few cuttings if you can get them on the plants, but as a rule they are not much given to producing them after they are allowed to run to flower.

Names of Plants.—*E. S.*: 1, Dendrobium formosum giganteum; 2, Cattleya Mendelii; 3, Oncidium marshallianum; 4, Oncidium pulvinatum.—*A. C.*: 1, Lychnis dioica flore pleno; 2, Heuchera sanguinea; 3, Saxifraga rotundifolia; 4, Daphne pontica; 5, Daphne Cneorum; 6, Kerria japonica flore

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, JUNE 15th, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.,** where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 18th.—R.H.S. Committees.
WEDNESDAY, June 19th.—Oxfordshire Horticultural Exhibition at Oxford.
THURSDAY, June 20th.—Linnean Society Meeting; Royal Botanical Society Meeting.

THE SCIENTIFIC OBSERVATION OF NATURAL PHENOMENA IN BRITAIN.—In recent years we have been hearing a good deal about Nature schools of study, and some practical attempts at it are carried on both in this country and America, possibly elsewhere. The average man in the street and most of the staunch supporters of the old order of things have much to say against innovations of the kind, particularly when part of the curriculum includes practical application of the dissecting knife, which has many hard names given it according to the nature of the subject operated upon. Entirely different, however, is the theme upon which we propose to dwell for a little on the present occasion. All over the mainlands of England, Scotland, and Ireland, with a few on some of the larger islands, are observers noting various natural phenomena, and sending their notes to headquarters. Under the title of "phenological observations" these various notes have been summarised in the form of a report by Edward Mawley, Esq., F.R.H.S., Rosebank, Berkhampsted, and published in the "Quarterly Journal of the Royal Meteorological Society, Vol. xxvii, No. 118," for April, 1901. As a matter of course it summarises the year 1900, commencing the winter with December of the previous year, and finishing up 1900 at the end of November.

In this summary it is evident that meteorology is only an item in the work of these observers located over the British Isles. Many of the tabulated records show what the casual observer, judging from his own district alone, could scarcely dream of being the case. We refer in the first instance to the first or earliest flowering of a given number (13) of plants in various parts of the country. One would imagine that the greater the latitude, that is, the further north we go the weather would be colder and the season later. To a certain extent that holds good, but the conditions even of such a small portion of the earth's surface as Great Britain are so complicated that we have to reckon upon many things quite independently of latitude. The plants under observation are Hazel, Coltsfoot, Wood Anemone, Blackthorn, Garlic Hedge Mustard, Horse Chestnut, Hawthorn, White Ox-Eye, Dog Rose, Black Knapweed, Harebell, Greater Bindweed, and Ivy. All of these plants are common enough, and no doubt suitable for the purpose provided certain rules are observed with regard to them. In order to determine the first appearance or expansion of a flower upon any of them, in our opinion it would be necessary to observe the same plants year after year, so as to make sure of their natural period of flowering, and that the conditions were always the same. It is well known to gardeners that there are precocious individuals, as well as late ones, amongst every class of plants; and the results could scarcely be an average record if an early one was noted one year and a late-flowering individual the next. The observers may be alive to this fact, but we have no evidence of it in this report. All the plants under observation are of more than one year's duration, with the exception of the Garlic Hedge Mustard, which is generally an annual, though occasionally biennial, so that the same individual would never be seen in bloom a second time, and fresh seedlings might arise under different conditions.

According to the tables all the plants were behind their average date of flowering in nearly every part of the country. It is interesting to note, however, that most of the plants bloom earlier in the north of Scotland than they do further south. This fact is, no doubt, due to the influence of the Gulf Stream upon the climate of that part of Britain. The Hazel was first observed in bloom in the south of England, and latest on the east of Scotland, the difference being about thirty-two days. In the north of Scotland, on the other hand, it flowered about thirteen or fourteen days earlier. In the case of the Horse Chestnut there were only about twelve to fourteen days difference between its flowering in the south-west of England and the north of Scotland. The Dog Rose and the Harebell flowered nearly contemporaneously in the south of Ireland and England and the north of Scotland. Strange to say, the Greater Bindweed flowered earlier in the latter district than anywhere else.

Turning to the summary of the four seasons we note that the winter (December, January, and February) was a cold one in all parts of the British Isles, though the temperature almost everywhere was rather high in January. The rainfall was in excess except in the west and north of Scotland. Sunshine was good except in the English districts. Many garden plants remained in bloom till the end of the first week in December, while Roses and Mignonette could be gathered in the middle of February. The hive bee was six days behind its average date of appearance.

During spring (March, April, and May) the first month was a cold one in all parts of the country. The rainfall was in most cases deficient. Sunshine was again scanty except in certain favoured northern districts. Owing to the cold state of the ground and the lack of sunshine garden seeds were very slow in germinating; while on the contrary fruit trees bloomed profusely and set wonderful crops of fruit. The past winter and spring have been very similar in general character to that of the previous one, and it will be interesting to note whether results will be similarly fine. Last year was also notable for its profusion of bloom upon wild trees and shrubs. The flowering plants under observation were uniformly late in coming into bloom. The record given is: "the Coltsfoot was twelve days late, the Wood Anemone ten days late, the Blackthorn eleven days late, the Garlic Hedge Mustard nine days late, the Horse Chestnut eight days late, and the Hawthorn nine days late. Certain specified birds, wasps, and butterflies were all more or less behind their usual dates of appearance."

June, July, and August, or the summer, was a warm one in all parts of the kingdom, though July alone was exceptionally warm. The rainfall was rather above the average; and sunshine was abundant except in Scotland. The sudden and prolonged heat of July checked the growth of Potatos, and the rain that supervened during August brought on disease, consequently the crop was light. The gales on the third and fourth of August caused much damage to fruit and other trees.

The autumn (September, October, and November) was characterised by a high temperature over nearly the whole of the British Isles. It was also a wet one except in England, where the rainfall was everywhere deficient, and the sunshine correspondingly abundant. Garden flowers were remarkably abundant all through the autumn owing to the high temperature, Dahlias continuing to bloom till the middle of November. The planting and transplanting of fruit and other trees were greatly retarded owing to the dry state of the ground till November was well advanced. Wild fruits were unusually abundant, including Hips, Haws, Acorns, Beechmast, and Blackberries. Sloes, Bullaces, and Damsons might be added to the list. In the garden hardy fruits of all kinds were heavily cropped, with the exception of Pears, which were deficient generally. Taking a glance at the whole year, the cold and gloomy spring and the heat of July were the most notable agents in influencing vegetation. It is a pity all these useful data could not be previously determined, for gardeners could then make preparations to mould matters more in accordance with their own requirements and conveniences.

The Rainfall.—During the first four months of the year the rainfall has been much below the average throughout the country.

Mr. H. Dunkin, horticultural lecturer for the Warwickshire County Council, says that the southern division of that county is specially adapted to Apple culture.

Luscious Mangoes.—The British Island colony of St. Lucia, says *The Fruit Grower*, exported during 1899 Mangoes to the value of £644, and vegetables to the value of £812.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, June 18th, in the Drill Hall, Buckingham Gate, Westminster, 1—5 p.m. A lecture on "Gardening in the London Parks," will be given by Mr. W. J. Wheatley at 3 o'clock.

Hazelbourne Orchids.—On several occasions during the past few years fine exhibits of Orchids, chiefly Odontoglossums, from Hazelbourne, made their appearance at public shows, giving evidence of good culture and good varieties. Excellent prices were obtained for the finer forms at the sale rooms of Messrs. Protheroe and Morris, Cheapside, on the 4th inst. A heavily blotched variety of Odontoglossum crispum reached 200 gs. at the fall of the hammer, O. c. Emily Ellis sold for 105 gs.; and the beautifully spotted O. c. Hazelbourne var., 70 gs.

The Veitch Memorial Medal.—For the third time since the custom of bestowing these medals, *honoris causa*, was instituted, the recipient has been an American, either a native or franchised. This time the honour has been bestowed on Mr. T. Meehan, of Philadelphia. He is an Englishman by birth, and graduated at Kew, and adds one more to the lengthy roll of Kew men who have distinguished themselves. He has risen from a journeyman gardener to the position of a leading municipal dignitary of a great city, but is still a gardener, and owns one of the most important nurseries in the United States. He has devoted much time to scientific research, and has made numerous botanical observations of great value. To show how his work has been appreciated, for thirty years he has been vice-president of the Academy of Natural Sciences in Philadelphia. It is to his exertions that Philadelphia owns its museums and public parks and gardens. It was in 1848 that he left Kew. While he was there his political opinions and indignant denunciations of numerous proceedings are said to have greatly offended Sir William Jackson Hooker, the director.

Fruit Trees are greatly benefited by mulching their roots during hot weather.

A Smoking Tree is one of the natural wonders of Ono, Japan. It smokes in the evening only, just after sunset, when the smoke may be seen issuing from the top of the trunk, the whole tree being 60 ft. high.

Royal Counties Show.—The annual show of the Royal Counties Agricultural Society was held at Weymouth last week. Over £2,000 were offered in prizes and a large number of entries were made in consequence. The show was favoured with brilliant weather throughout the four days and attracted crowds of visitors.

Artificial Flowers in Churchyards.—Many of the papers have started on a crusade against the bell-glass disfiguration of our graveyards, and their efforts are praiseworthy ones, but we cannot agree with "H. N. E.," Bitton Vicarage, Gloucestershire, in a contemporary, when he advocates the vicar exercising his right to forbid them. That is not the way to encourage art, no arbitrary measures must be used, persuasion and education are far better weapons than coercion.

The Island of St. Helena, famous as the prison of Napoleon the Great, and, later, of Cronje and his compatriots, is infested with rats and rabbits. From time immemorial rats have been a source of great trouble on the island, devouring the crops and almost everything else. There seems a compensation in the fact that the young rabbits fall an easy prey to the rats and are thus kept under to some extent. So omnivorous is the St. Helena rat that it eats its own young, otherwise the island would be almost uninhabitable. At the present time there is a serious plague of these pests. A recent visit to a patch of Indian Maize showed that not one single cob in the whole patch had been saved from the voracious rodent.—*The Fruit Grower.*

Phosphate of Lime.—This valuable manurial agent is obtained from a variety of sources. Doubtless the bulk of it now in the market comes from a queer little island in the Pacific Ocean, known as Christmas Island. The supply is practically inexhaustible, the island being covered with thick layers of it. At one time the island was the resort of myriads of birds, and in the course of ages it became coated with a thick layer of dung, which has become fossilised. This is dug up, and when treated with sulphuric acid produces the well known artificial fertiliser, superphosphate of lime. The annual export reaches many thousand tons, and the lonely little stretch of land, which was uninhabited as recently as 1888, is now the home of hundreds of busy workers.

Fruit Prospects in Cheshire.—The anticipations of a large fruit harvest are often blighted by cold winds and late spring frosts destroying the sets. This year the outlook seems very favourable so far. The spring being late, the trees were not stimulated into premature growth, which is often the cause of so much damage from the following frosts. The reports from the fruit districts in Cheshire for the coming season are very encouraging; all the trees, both standard and bush, are bearing heavy crops. Strawberries last week looked in an unpromising condition owing to the drought, but the recent rains have stimulated them into vigorous growth again, and they bid fair to produce an abundance of fruit. Currants and Gooseberries, according to reports to hand, are bearing exceptionally good crops.

America Again Before Us.—Although gardening as an art has been practised in England for a much longer period than it has in the United States, yet they are far before us in many branches. One of the latest advances is that of a new hall for horticultural exhibitions in Boston, Massachusetts. It is built on a large and magnificent scale, and judging from the photograph is a very striking building. The Massachusetts Horticultural Society is one of the pioneers of horticulture in the United States, and has had an incalculable influence in stimulating high-class culture of fruit, flowers, and vegetables. Its first exhibition was held in a dining-room in 1829. As the society grew it built itself a hall, but this soon became inadequate, and on May 29th last the new, large hall was formally opened, and stands as a memorial of the progress of agri-horticulture in America.

Antidote for Mosquito Bites.—Professor Voges who is controller of the National Board of Health at Buenos Ayres, recommends naphthaline for neutralising the poison innoculated by mosquitos, even when much inflamed it is effective, he says, if well rubbed in This ought to prove a valuable bit of advice for many people in England, for there were many complaints of bites from these poisonous little wretches last summer.

Survival of an Old Custom.—In this busy, up-to-date age many of the old religious ceremonies have been abolished. One very interesting and picturesque function is still performed at Castleacre, a small Norfolk village. It is known as "The Blessing." On Ascension Day the parishioners assemble at the church where a procession is formed, which, with the vicar and choir at the head, parades the village and then visits the fields and blesses the crops, singing hymns and chanting suitable psalms. The spectacle is unique and a very fascinating one, judging from the size of the procession and the number of visitors who attend the ceremony.

Cyanide of Potassium for Fumigation.—This is being used largely in America for the destruction of the dreaded San Jose scale. No trees are allowed to be brought into Canada until they have been properly fumigated. Fused cyanide is one of the most deadly of poisons, and requires the most scrupulous care in handling, as a piece even as small as a pin's head would prove fatal if swallowed. It has been tried with varying results in this country, but has been abandoned because of the expense. It is evident that our fruit growers did not manage the matter properly, for according to an American fruit farmer he has used it for many years with the greatest of success, and it does not cost more than 1/- per 1,000 trees, of course nursery stock size.

Soft-Fruit Glut.—There has been such a glut of fruit on the market during the past week that the prices have been exceptionally low, and the competition has been very good for the buyers. Strawberries have been pouring into the market in tons during the past week from France; enormous quantities of Grapes have been brought over from Belgium, Mangoes and Bananas have arrived from Jamaica in shiploads; Apples, Pears, Grapes and Peaches are arriving at frequent intervals in shiploads from Australasia; and these, with the output from home sources, have stocked the markets to overflowing. Two boats the other day brought to Plymouth 16,000 packages of Peas and Strawberries. This being the condition of affairs, how can we wonder at Strawberries being retailed at 3d. a lb. the first week in June?

Ousting the Sterner Sex. — We poor male creatures are face to face with a grave difficulty. There is ever an increasing superfluity of women, and they must live somehow. Law will not allow us to take more than one wife at a time, and certainly if it did many of us would not want to. Women are now successful competitors in upwards of thirty trades. Forty years ago if any one mentioned the weaker sex in association with these trades they were met by a storm of derision. One of the latest trades to be invaded by the feminine worker is that of linotype work. Instruction imparted at the Horticultural College, Swanley, has shown what women can do and are doing, and students are so quick at grasping the subject that good appointments are following as a natural sequence.

Larceny.—It takes a clever man to be an expert thief, but the following charge of larceny brought against a New Jersey farmer shows how up-to-date this particular way of earning a living is. It has been frequently demonstrated that electricity is conducive to the forcing of certain plants. This ingenious farmer has been sued by the Border Town Trolley Company for larceny of their electric current. When the matter was investigated, it was found that the patch of ground, about 300 ft. by 200 ft, on which he grew his remarkable crops of radishes, was a complete network of wires just below the surface. If he had supplied his own current to this arrangement, no one would have objected, but he contrived to obtain it in a cheaper manner by tapping one of the company's main feeders and connecting on his system, thus getting a very cheap stimulant for his crops.

Tobacco. — The various manufacturers who examined the Tobacco grown in Ireland last year say it is a decided improvement on previous efforts.

Hailstorms and Destruction of Crops in France. Early on Monday morning last a terrific storm broke over parts of France, creating considerable alarm and doing great destruction to property. The River Cérou flooded the valley of Carmaux. Elsewhere much damage was done to the fruit trees. Much damage to the crops was also caused at Limoges. The crops and gardens have been destroyed at Niort by a terrific hailstorm, the hailstones being so large that hundreds of birds have been killed in the open. Trees were torn up by the roots at Gap, and two men were seriously injured by a large branch falling upon them.

Hedges of Agaves.—The American Agave is one of the most useful of any of the Amaryllidaceous plants, and can be applied to many purposes. It is cultivated in America (Mexico) for the sake of the sugar it yields, and this gives, after fermentation, an alcohol called *pulqué*. One of the most original uses to which the Agave has been put is that of forming hedges. An illustration of one of these hedges appears in the *Revue de l'Horticulture Belge* for January. The picture depicts a hedge of Agaves on the road from Tacoronte to Orotava in the island of Teneriffe. Besides being charming in its general aspect, this sort of hedge constitutes an impenetrable barrier to man or animals. The Agaves also yield large quantities of fibre for commerce.

Fragrant Fountains.—A writer in the *Daily Mail* recently brought forward the suggestion of having scented fountains in our parks. He argued that the sense of seeing was catered for by arrangement of flowers and plants, hearing by the engagement of bands, but smelling was a neglected sense. He proposes Rose or Violet scented fountains as a remedy. We know of another sense that is neglected, too, which would, we have no doubt, be more acceptable than supplying grateful odours to the olfactory nerves—we refer to free refreshments to satisfy taste. Perhaps after the Council has successfully accomplished the scheme of breeding butterflies for the parks, which was proposed recently, we may have our wish.

The Hamilton and District Gardening and Forestry Association had their monthly meeting in the Mining Institute on Tuesday evening, the 4th inst. The Rev. F. B. Paterson, the president, occupied the chair. There was a great attendance to hear Mr. Graham, late of Coltness Gardens, Wishaw, give a most instructive and highly practical paper on "The Cultivation of Hardy Fruit Trees in Pots." Mr. Graham can speak on this subject with much ease, being a first class cultivator and grower when at Coltness for over eleven years. He put most stress on Pears and Plums, the construction of houses for success, timing, and attention to watering and disbudding, &c. He also counselled the audience to be most particular about insects which are most injurious to orchard house fruit trees. After some discussion Mr. Graham was awarded a most hearty vote of thanks. The next lecture is by Mr. Hogg, of Woodside Gardens, Paisley, on "The Cultivation of Orchids," July 2nd.—*J. M.*

Wholesale Lettuce Growing.—If anyone wishes to grow Lettuces properly, they cannot do better than take a trip into one of the market growing districts round London, especially the Mortlake side, and make a few observations of the various methods employed. The labour and cost incurred by the attention to details is surprising at the first notice, but when treated generously Lettuces pay for the trouble bestowed on them. To produce Lettuces with firm hearts and in prime condition they must be provided with a well drained, and thoroughly worked soil, with ample food in it in the form of well decayed stable dung. Although they like a well drained soil it must not be inferred that they delight in a dry one, but just the opposite, for if too dry at the root they produce tough leaves and run to seed prematurely. To walk through some of the gardens now in the Mortlake district makes one picture crisp refreshing salads for the hot days, as the Cos varieties are just in their prime and are being rushed into the markets daily by waggon loads.

The Technical Instruction Committee of Buckinghamshire have heen giving demonstrations in the use of sulphate of copper solution as a destroyer of Charlock.

Ignorance or a Typographical Error?—The following appeared recently in an article on the Pope in a daily contemporary:—"He speaks of passing the summer in his little palace in the midst of his favourite vineyard, and he has personally ordered the *fumigation* of his Vines by means of a chemical manure."

Suicide of a Gardener.—An inquest was held last week at Crewe on the body of a gardener aged sixty-two, named William Berrington. He was found hanging in a loft on his employer's premises, Councillor J. T. Worthington. He had been missed for several days. In his pocket were five pocket knives and at his feet a blood-stained razor with which he had attempted to cut his throat. A verdict of temporarily insane was given.

Keeping Cut Lotus Blooms.—These blooms are used largely by the Japanese for decorating purposes. *American Gardening* describes the treatment adopted to prevent flagging. The blooms are cut at dawn, a little before sunrise, and then kept head downwards immediately after cutting to prevent the sap from running out of the stem. The end is then tied up with string and burnt. Another plan is to rub burnt alum into the end of the stem, which has also to be boiled in a decoction of red pepper and Artemisia.

Pineapples from Jamaica.—Arrangements are being made in this island for the more extensive production of Pineapples, for which the climatic conditions are so admirably suited. At present there are only about twelve acres devoted to their cultivation, but the annual export from this small patch exceeds 70,000 fruits annually. There are plenty of districts in the island where 1,000 acre fields of them might be grown. Our present supply of this delicious fruit comes chiefly from the Azores, especially St. Michael's.

Puddling Rose Trees.—The *American Florists' Exchange* for April advocates the practice of puddling the roots of Roses before sending them on long journeys. It says that after the experience of many years, many American growers believe the practice as necessary as packing damp material amongst the roots. A tin box is half filled with stiff, partly clay soil and enough water added to make a soft mush, and the roots are dipped into it. The utility of the practice undoubtedly comes from the incasing of the surface of all the roots in something which excludes the air and at the same time preserves moisture.

Death of Mr. Thomas S. Ware.—We regret to learn of the death of Mr. Thomas S. Ware, at Barnard Castle, Durham, on May 30th, aged 76. All hardy plant lovers will remember that he was the founder of the firm of T. S. Ware, of Hale Farm Nurseries, Tottenham, to which many a pilgrimage was made by hardy plant lovers of by-gone days to learn what was new in the hardy plant line. Of course the late Mr. T. S. Ware had severed his connection with the firm in the early nineties, when he retired into private life. He was a man of whom many spoke well, who had the pleasure of his acquaintance. He was buried at Chingford, Essex, on June 3rd.

United Horticultural Benefit and Provident Society.—The monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last—Mr. C. H. Curtis in the chair. The minutes of the last meeting were read and confirmed. Eight new members were elected. One lower scale member asked to be allowed to pay the higher scale, which was granted. Eight members are receiving sick pay. Messrs. H. M. Pollett & Co.'s estimate for printing 1,000 copies of the rules was accepted. The secretary produced the receipt for £55 0s. 8d. paid to the widow of the late Mr. Michael Davis, being the amount standing to his credit in the ledger. A letter of thanks from Mr. H. Saunders was read, for 7s. per week allowed him from the Benevolent Fund, and a receipt for £5 paid to Mr. Saunders from his deposit account was produced. A grant of 10s. from the Convalescent Fund was made to Mr. Joseph Russell (No. 473). The treasurer reported that he had a balance in hand of £155 5s. 5d.

MESSRS. PEED'S GLOXINIAS.

York flower show will prove a floral treat to visitors if all the exhibits are of such excellent quality as the batch of Gloxinias to be shown by Messrs. J. Peed & Son, Roupell Park Nurseries, West Norwood, London, which we had the pleasure of inspecting on the eve of the show. They were all arranged in a long heavily shaded house, and made an exquisite picture with their high-toned colours blended in a beautiful harmony, the effect of which was greatly enhanced by the suffused light, which proved a welcome shelter from the blaze of tropical sunshine which was reigning outside. The strain this firm are working on possesses some of the most desirable features; besides being a most floriferous strain it possesses foliage of extra fine quality and substance—a feature which so many profusely flowered strains lack. The leaves of some of the plants were of a size seldom seen in these plants, and possess a lustre and freshness that was both pleasing to the eye and served to set the blooms off to the best possible advantage. The habit of the plants also makes the strain a very desirable one, being of a compact nature with the flowers thrown up well above the foliage on strong erect scapes. The batch included a large number of unnamed seedlings, many showing colours that are seldom seen in this class of plants.

Amongst the named varieties we noted the following as worthy of special notice:—Countess of Warwick, a pink and rose variety, very free bloomer, certificated at York last year; King Edward the VII., a deep maroon; Queen Alexandra, white ground with rose margins spotted with a deeper rose; Amy Greenhill, white with faint rose ring round each segment, proving a special attraction to all visitors in the house; Walter Weever, white with blue margins beautifully shaded off; Mrs. W. Weever, white with rose-pink margins, densely spotted to base of the throat with deep red; Lord Roberts, a very rich purple with white edges, foliage extra fine.

E. L. Peed has deep rose margins and a rich red throat; Brilliant is carmine with purple throat which throws up the colour well; Duchess of York, white densely spotted with rich, small, purple spots. Shamrock I., is very deep rose with beautifully undulating margins, a very striking variety; Purple King, very deep purple, with white edges; King Oscar, a very deep coloured rich velvety bloom; Petunia, white throat, purple suffused with white segments; C. Young, an excellent crimson with light rose edges; Sir T. Lipton, claret and rose; Queen of My Heart, a very large bloomed variety with white ground heavily spotted with deep purple, the throat handsomely pencilled with the same colour; Mrs. M'Kinley, white throat with a few purple spots forming a ring at the top, segments rose pink; Fairy Queen, white profusely bespattered with crimson spots.

ALPINE PLANTS IN BLOOM.

A ROCKERY BAY.

Many of the bays in the rockery at Kew are making a pretty picture at present, especially the first one, entering the dell from the Cumberland Gate. It is a beautiful mass of new, fresh green vegetation. The two well known Ferns, Aspidium Filix-mas and Asplenium Filix-foemina figure conspicuously in the scene. On one side Ramondia pyrenaica and R. serbica are in full bloom, growing in crevices between the stones which are covered by the tiny Arenaria balearica; while at the bottom the handsome Primula japonica shares the ground with Meconopsis and hardy Cypripediums. Other odd plants are Lysimachia Nummularia, Saxifraga rotundifolia, S. granulata, several small Ferns, and a few Veronicas.

SILENE QUADRIDENTATA.

This is a pretty little rockwork plant belonging to a very big genus, some botanists classifying as many as 400 species. It is also known as S. monachorum. None of the family are difficult to manage, but thrive in a light loamy soil. The above species requires a rather damp situation. It makes a very effective pot plant for greenhouse work, as it is such a floriferous species. It is now in full bloom.

SAXIFRAGA SIBTHORPII.

S. Sibthorpii makes a very pretty little rock plant, but will soon encroach on its neighbour's ground if not constantly watched, as it produces seeds abundantly, comes up everywhere, and has a tendency to smother all other small plants which attempt to obstruct its course. The flowers are very freely produced and of a bright yellow colour.

VERONICA GLAUCA.

There are some exceptionally fine shades of blue in the Veronica family, and the above species is one with such an intense blue as to make it always a conspicuous plant wherever it is grown, and a general favourite. It is an annual, and is easily raised from seed sown in shallow pans of sandy soil. The flowers, which are very freely produced, are blue, marked with lines of darker blue, with a large cruciform eye in the centre. It is admirably adapted for filling a sunny place in the rockery. It produces an abundance of seeds which ripen perfectly if the season is not too wet.

LEONTOPODIUM ALPINUM.

This much talked of alpine is now flowering in many rock-gardens. To the alpine tourist it is better known as the Edelweiss, and many are the deaths that are caused by the daring climber attempting to scale some inaccessible spot to collect a specimen of it. It is by no means a difficult plant to grow, and succeeds on an exposed place in the rockery if provided with a firm sandy soil. It is easily raised from seeds, which are produced very freely in hot seasons. It requires protecting from excessive moisture during the winter, but not from cold. It was first grown in Britain in 1776.

SAXIFRAGA CERNUA.

This is a British plant but now very rare, if ever it was plentiful in Britain. The only place now where it can be found wild is on Ben Lawers in the centre of Scotland. It is now blooming freely in the rockery at Kew, near to the dripping well. It is of very slender habit and reminds one of the Ivy-leafed Toad Flax, Linaria Cymbalaria. The flowers are seldom produced very freely, and no doubt this accounts for its rarity; but although it does not bear many seeds it produces large numbers of tiny red bulbils which cluster in the axils of the leaves and are capable of reproducing the plant.—*K.*

PYRETHRUMS FROM LANGPORT.

June is the month to see Pyrethrums in perfection, and to study the many colours into which both single and double forms have been developed. They often commence flowering in May, provided the season is anything like an average one, and they may flower more or less in July; but as a rule the ground becomes too hot and dry for them by that time in the south. The September rains often cause them to start into growth and flower a second time. When growing freely and flowering, they delight in a good supply of moisture, and in gardens where the soil is sandy and light, it would help them greatly if the cultivator would mulch the ground with anything that will keep the soil cool, and give it a good watering occasionally. For cut flowers and garden decoration generally they are worthy of a little attention in this way, and the profusion of flowers will make amends for any time spent on their behalf.

A box of specimen blooms of the varieties grown by them reaches us from Messrs. Kelway & Son, Langport, Somerset, who are well known as raisers and growers of this showy class of plants, of many years' standing. From time to time the best varieties that turn up in batches of seedlings receive distinctive names. Those sent us are all selected and named sorts. Amongst the single varieties, Queen of the Whites is peculiar, inasmuch as the yellow disc has reverted to white florets resembling the ray, except in being very short, so that the variety still remains decidedly single. Amongst the dark varieties James Kelway is decidedly the best, the rays being of a brilliant crimson, and very effective in the cut state. The carmine flowers of General Gaselee are much larger and very conspicuous, the disc being unusually prominent. The stems are also remarkably strong. Grizzel is several shades paler, being of a deep rose. Alice is rather a pleasing, light colour, being rosy-pink, neat in form, and uniform in hue. The palest of all the singles, leaving aside the white one above mentioned, is Countess of Onslow, the flowers of which are of a delicate pink. All of the above six have been judiciously selected, for neither may be con-

fused with the other, and while all are good, it is merely a matter of taste as to the colours one might prefer.

Of the double varieties sent us, Lord Rosebery comes nearest James Kelway in colour, but that only applies to the rays or outer florets, the central ones being some shades paler, but still rich in hue. The variety Melton may be described as crimson-red or some similar hue. A very large and closely imbricated flower, resembling a Victoria Aster, is that named Ovid, having rich rose flowers, deepening to red on the outer florets. Alfred is a smaller flower, but altogether darker in colour, being of a rich rose-red; and the disc florets are more tubular or quilled. A very good variety also is Wilson Barrett, with light rose flowers, quilled and very densely built up.

A very distinct and pretty colour is that of the variety named Pericles. The long rays are of a delicate pink and hang down, thus giving prominence to the disc florets which are of a clear yellow at first, but gradually become tinted with salmon pink at the tips when they get fully developed. A larger and much fuller flower is Lady Kildare, more or less yellow in the centre but gradually assuming a very delicate shade of salmon-pink as they get older. Empress Queen is a smaller flower than the last named and of a delicate blush tint. The florets all over the disc are rather deeply cut, thus rendering the bloom different in appearance from any of the rest of the coloured varieties. The flowers of Lady Randolph Churchill are pure white, and the florets being less densely arranged they show off their deeply cut or laciniated character even better than those of Empress Queen. Some very beautiful beds on the grass or clumps on the flower borders could be made up with these named varieties; and the colours could be so arranged as to display an exquisite harmony of colour. Good sized plants are productive of the best effects owing to the great quantity of blooms they throw up and which come into bloom in close succession or simultaneously.

THE DESTRUCTION OF APHIDES.

These pests, so destructive to the young growths of outdoor fruit in early summer, particularly to Peaches, Cherries, and Plums on walls, may be effectually kept in check in several ways, but by far the best is by the application of paraffin-naphthaline wash. This wash is prepared as follows:—To 5 lbs. of the best soft-soap add about 1 quart of soft water and simmer on a slow fire. When the soap is all dissolved, add ½ lb. naphthaline and stir until it is all dissolved; then take the mixture off the fire, add 1 quart of paraffin, and thoroughly mix. The mixture should now be a thick liquid, in which the paraffin is evenly distributed throughout, as an emulsion, and which can be stored away, as it will keep for a considerable length of time. The quantity of the mixture required for use is from 10-20 lbs. to 100 gallons of water, preferably soft. When spraying is decided on, always bear in mind the following facts:—(1) Wash the trees on the first appearance of the pests. (2) Use as fine a nozzle as can be obtained, so that the insecticide issues as a mist, thus permeating every part of the tree. The above mixture applied two or three times will save the trouble of such frequent syringing with clear water and is easier of application than the ordinary soft-soap and paraffin, as the paraffin remains in suspension without being constantly agitated.—*C. J. G.*

"NORTHERN NOTES."

In our variable climate, June is perhaps the pleasantest as well as the busiest month in the whole year; the days also being at their greatest length. The trees also are in their full beauty of foliage in the month of June. Everything in the gardens here was famishing for rain, and had a somewhat parched appearance, but, thanks to the heavy rains this week, they have grown apace, and look very healthy. A final sowing of main crop Peas should now be made. The ground for these should be deep, rich, and cool. The hoe should be freely used this month, as by keeping the surface soil loose and free, the beneficial action of the dews at night is accelerated. Very important are hoeings after heavy rains which beat down the surface of the soil, and so neutralise results. All annuals should now be planted out; the ground here is in splendid condition for planting, and where there is much pricking out to be done, it should be attended to immediately when the soil is in such a nice friable state. We here are well on with our bedding out. Birds now begin to attack Cherry trees, so for the protection of the fruit, the trees should at once be netted. Continue the destruction of insects by frequent washings or dustings of powdered lime, soot, or tobacco powder, as occasion requires. The general neatness of the beds, lawns, and walks should also be seen to.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

DRACAENAS IN FLOWER.

It is not everyone that has seen a Dracaena in bloom, as they flower very rarely; this is to say, every five years. Dracaenas are very beautiful for their foliage alone, and it is very refreshing to walk into a cool conservatory and witness their long lanceolate leaves drooping as it were round the single stem. Then at the very tip-top appears the inflorescence which is a large spiral truss, consisting of a quantity of small stems each bearing a bloom with three petals and three sepals all attached. The flowers are either white or yellow and sometimes sweetly scented. After all Dracaena flowers do not give the plants a better appearance, but on the other hand tend to make them look rather unsightly; but let it be known that Dracaenas are grown chiefly for their foliage. Botanists can tell the number of times a plant has flowered by observing small indentations in the bark which form every time the inflorescence appears, beginning from the bottom and working upwards. There is no fixed flowering season for Dracaenas. Propagation of Dracaenas is generally effected by what is called ringing. To do this the plant should be cut halfway through the stem near the foliage. This cut should be kept well open with a piece of moist moss, and the whole should be bound round with moss, this is to say, either side of the cut, the plant should then be put in a moist heat of 75 °.—*G.W.D.*

LAYERING STRAWBERRIES.

This operation should be performed as soon as possible, as upon the production of strong young plants depends much of next season's success, whether the plants are intended for forcing or planting out. The work is often delayed until the fruit is gathered because of the inconvenience caused by a number of pots on the beds with the result that the earliest and strongest runners are wasted and a month of the best growing season lost. If large quantities of plants are required it is far better to grow a few rows specially for layering purposes than to wait until the fruiting season is past. For forcing purposes some growers layer direct into the fruiting pots, but I am not in favour of the method, as it entails considerable heavy work in carting the pots to the beds, and if the weather is wet the soil in the pots has a tendency to become sour, a circumstance often helped by the ingress of worms. For those reasons I prefer to layer into 60's, securing the runners with wooden pegs, made from old birch brooms (of which a good stock should always be prepared during the winter months). Watering should be well attended to. When the runners are well rooted, sever them from the old plants, stand in a shady place and sprinkle overhead for a few days until they recover from the check.—*E.C.*

CLERODENDRON BALFOURIANUM,

For greenhouse and conservatory decoration, is a good old favourite of scandent habit, producing large, smooth, dark green opposite leaves and large panicles of bright crimson flowers, with pure white calices. It should be potted in a mixture of peat, loam, and dried cow or sheep manure, with the addition of sand. The plants should be trained to a wire trellis or three or four sticks while the plants are growing. They should have stove heat and abundance of water, with a good light, though not so as to burn the foliage and flowers. After the flowering period these plants require to have less water, *gradually* lessened until the plants are denuded of foliage, when the roots may be kept in a comparatively dry condition until the time for starting again comes round.—*G. W.*

THE PLANT HOUSES.

The hot weather accompanied by drying winds which has prevailed during the last few weeks has taxed the resources of the men in the plant houses to keep down insect pests. In many districts Red Spider is causing a deal of trouble and almost refuses to obey the hint to depart when frequently syringed.

Scale.—No insect is more troublesome to eradicate than this curious pest. To cope with it successfully the gardener must first know its habits. Too often these are not known sufficiently well. Perhaps the gardener is too busy, or perhaps he is too apathetic to trouble about the history of such a minute organism. Here he makes a mistake, for if he knew more of its habits he would know better how to attack it. It is a regretable fact that at the present day many gardeners holding high and responsible positions would laugh at the idea of the syringe being able to keep down scale, they hold on with such tenacity they reply, that it is impossible to shift them unless it is by sheer force. A few words on the life of the scale may not be out of place here, they may help to instruct and improve the observing faculties of young readers and perhaps enlighten a few of the older ones. As to what class or division they are put into by the entomologists is of no consequence, only that they are very closely related to that other destructive pest known as green fly. It is the females which do the damage to the plants, the male being quite harmless. It is the females which make the scale-like prominences on the leaves, &c. When young they are provided with three pairs of short legs and a beak with which they bore into the tissue of the plant when they reach a suitable spot. When once the beak is inserted in the tissue they do not move again, but remain there and feed on the sap. As growth increases so does the scale-like coverings, and when the eggs are laid they are stored away beneath this for protection and remain there often long after the insect is dead. The males assume an entirely different form; they are very minute and partake of the form of a fly, with a distinct head, thorax, abdomen, two wings, six legs and a forked tail. They do not possess a mouth, and only live two or three days. They travel about the leaf very quickly and fertilise the stationary females. When these few outlines are known it is easily seen how daily syringing will both wash off the males and destroy the young females before they have time to fix themselves. If a very small amount of some insecticide is used every time in the water when syringing it will make the surface of the leaves distasteful to them. They have a natural enemy in the form of a parasite which belongs to the great Hymenoptera division and proves very destructive to them.

Fuchsias for the Greenhouse Roof.—For making a big show of bloom overhead during the greater part of the year in a cool house, there is nothing to beat these old-fashioned window plants. They have been carefully worked at by the hybridist with the result that great improvement has been made both in form and colour. When grown as climbers, they require much the same treatment as a grape-vine that is pruned on the spur system. They delight in a light, airy position, with the force of the sun broken by some very light shading material. A good loam and leaf soil in equal parts and a good sprinkling of sand proves a very good compost for them. When full of roots they require a good stimulant, as they are big feeders and soon show the effects of starvation by discoloured foliage, and by casting their flower buds. They are seldom troubled with many insects, and are, taken altogether, an acquisition to any greenhouse or conservatory. One of the best varieties for growing on the roof is Lord Roberts. It is not by any means a new plant, although it bears one of the popular up-to-date names. Lustre and Monarch make two good companions for it; together they make a beautiful trio, and the reason I choose these three out of the enormous collection is because I have at the time of writing a picture in my mind's eye of these three plants on a greenhouse roof which I visited recently.

Campanula persicifolia alba grandiflora.—This beautiful, graceful, snow-white Campanula is making those greenhouses gay at this season of the year, which are fortunate in possessing a batch of them. They are very easily grown, and only

require the same treatment as the other perennial Campanulas. A more refined, pure, and graceful flower could not be wished for.

SAXIFRAGA SARMENTOSA.—This is a welcome plant in every greenhouse, whether in flower or out, for at all seasons it is pretty. When in flower it makes a wonderfully attractive display. It is at the present time in full bloom, and is the pride of many greenhouse holders. It is easily grown, and can be readily propagated by division of the plants early in the spring. It requires plenty of light and a temperature that does not go above the ordinary greenhouse heat. It is very impatient of heat, and soon goes wrong if kept in too warm a house.

ACHIMENES.—These pretty little gesneraceous plants are now in the midst of their flowering season, and are giving a touch of colour to many greenhouses and conservatories. The flowering period may be greatly extended by keeping the old blooms picked off and gently stimulating the plants at the root. They like a light, airy position, and must not be overwatered.—*C.*

Hardy Fruit Garden.

THERE is not much that requires attention in this department at this time of the year. Thinning and regulating the shoots on wall fruit trees must be carefully and systematically carried out, and their roots never allowed to get dry or the fruit will drop as the result.

STRAWBERRIES.—Where they have not received sufficient water from the rain, they must have it applied by hand immediately, or the fruit will not set properly, and will be small and of inferior quality if allowed to receive the least check. Runners that are not required should be taken off in the early stages of growth to avoid waste of energy. To obtain good runners for forcing purposes, many gardeners pick the blooms off the new beds and only let the plants produce about two runners; by this means the runners prove of exceptional strength and vigour, as the parent plant had no fruit to drain away the nutriment. Some commend this principle, others condemn it; I have seen both plans resorted to, and certainly where the waste of space for an unprofitable bed can be spared, I should choose runners from plants that were not exhausted by fruit bearing. Many people err when they throw away plants which have been forced, thinking they are no more good. If they are carefully hardened off again and judiciously fed with a little weak manure and then planted out into a well manured and worked piece of ground, they will produce a heavy crop of fruit the following season, often surpassing in excellence the crop borne on a bed of young plants. After the fruit has been gathered, it is the rule with many gardeners to leave the plants to take care of themselves. It is during this period that the following season's fruit crop is very often spoilt by the plant's constitution being impaired through being choked by weeds or suffering from some other avoidable cause.

YOUNG TREES.—These must not be neglected, for if not properly trained now, and a good foundation made, it never can be done. Trees that are to be trained against walls, &c., must be carefully regulated and trained by nailing in the shoots in their proper positions. They should be encouraged into growth by frequent waterings.

THINNING FRUIT.—This is too often neglected, especially with Plums, which have the habit of producing a heavy crop one year, followed by an extremely poor one the next. If the fruit is carefully thinned when it is produced in such large quantities, the tree will bear a good crop the following year, whereas if the excessive drain on the tree's resources is allowed to take place one year, it takes all the next season to recuperate its strength again. Not only is the crop thus regulated, but the fruit that is produced is of a superior quality.—*F.J.*

Gleanings from the World of Science.

THE subjects given below were discussed by the Scientific Committee of the Royal Horticultural Society on June 4th.

Before commencing the usual business the chairman said he had a very pleasant duty to perform which was to present the visitor, Sir G. King, with the Victorian Medal of Honour. Sir George King expressed the great pleasure of receiving it, but considered himself as not worthy of that honour, a sentiment unanimously disavowed by all the members present.

Schinus Molle with Galls.—Mr. Robert Newstead reported as follows upon the specimens sent by Dr. Bonavia from San Remo:—"The insects upon the shoot are a species of adult female Ceroplastes, and I think C. Rusci, *Linn*, which is the only known Palaearctic species of the genus. The insect is one of the most beautiful of the coccidae."

Cherry Fruits and Caterpillars.—Specimens sent from the Chiswick Gardens showed some 50 per cent. of fruits attacked. The insect being within the calyx, this protects them from insecticides. Mr. Saunders reported as follows upon them:—"The young Cherries from the Society's Gardens at Chiswick were attacked by the caterpillars of a small moth, Argyresthia ephippella, one of the Tineina. As to the destruction of this insect, where it is possible, cutting off and immediately burning the infested bunches of blossom is a very effective method. I cannot find any account of the life history of this insect, so am uncertain in what condition, or where it passes the winter. If it be either in the egg or chrysalis state attached to the bark of the stem or branches, a good remedy would be spraying with a caustic alkali wash some time after the leaves have fallen, and before the buds show any signs of opening in the spring. If the chrysalides be formed in the ground, a good dressing of lime applied to the surface early in the spring would probably prevent the moths from reaching the open air. Spraying the fruit would not be of any use, as the insecticide would not reach the caterpillar inside."

Raspberry buds attacked by Caterpillars.—Mr. A. Gaut of the Yorkshire College, Leeds, sent the following communication:—"Enclosed you will find some Raspberry buds containing caterpillars of the Raspberry stem bud caterpillar (Lampronia rubiella, *Bjerk*), which you might think your committee would like to see and notice. In and around Garforth, about seven miles east of Leeds, upwards of 100 acres of Raspberries are grown for market purposes, and in some years this attack is a very serious one, as was the case last year, 1900. I visited the grounds then during the months of April, May, and June, and noticed the caterpillars, pupae, and little moths in immense quantities, and in some of the Raspberry grounds the canes had the appearance as if they had been very much injured by frost. This entailed great loss to the growers. On April 20th, I took a walk through several of the grounds and noticed large quantities of the little scarlet caterpillars crawling up the stems, and very many within the buds, and I naturally expected a very serious attack again this year, but fortunately owing to the warm weather we have experienced during the past week the young buds and shoots have made such rapid progress that they have grown away from the attack, and although the caterpillars are still present in immense quantities, the crop will not be so much affected. I notice that it is in cold, late springs we get the worst attacks. Some of the more intelligent growers do not suffer so much, as they take the precaution to mulch the ground with soil containing some insecticide, or dress the ground about the stools with soot or lime during the winter months, and it is curious that those who follow the old practice of digging amongst the canes in winter also escape fairly well. I am doing all I can in the way of advice, but it is difficult to get many to follow it, and where there are so many growers it is impossible to get them all to combat this attack at one and the same time, as should be the case."

Fungus on Wood.—Mrs. Floyer sent a specimen of an orange-coloured wool-like mycelium, observing that "it grows on the wooden posts put to protect visitors in the interior of Poole's Cavern, Buxton. It occurs many yards inside, where no light except that of an occasional gas-jet can reach it." Dr. M. C. Cooke reported upon it as follows:—"The substance you send has long been known and noted under the name of Ozonium aureum, and classed with fungi; but it is only an incomplete or imperfect stage, analogous to Rhizomorpha. It is supposed to represent the mycelium of some one or more of woody Polypori, and possibly of Fomes fomentarius; this is, however, of small importance. It is an incomplete fungus, and will attack living trees, especially about the roots, and ultimately kill them."

Pelargonium dissociation.—Mr. Wilks exhibited a truss from a plant which normally bears bright red-crimson flowers; but it had three blossoms of a pale pink-mauve tint, probably a reversion to an ancestral parent, such as P. grandiflorum, one of the original sources of the modern composite hybrid of Fancy Pelargoniums.

Podisoma on Juniper.—A branch bearing this fungus was received from Mr. W. H. Divers, Belvoir Castle Gardens. It is dimorphic, and produces the other form, known as Roestelia lacerata, on the Hawthorn.

Rose leaf discoloured.—Mr. Saunders showed leaves from a Marie Van Houtte Rose growing at Oxford. It was planted in 1899, and did fairly well in 1900. This year all the leaves are variegated, much resembling those of the Japanese Honeysuckle. It was difficult to pronounce as to a cause, but something in the soil was suggested as likely to produce it. He also showed a stem of Rosa rugosa with a gall-like growth formed just above the level of the earth. The plant was one in a Rose hedge composed of R. rugosa and Aimee Vibert. Several of the plants are affected in the same way. It appears to resemble a bacterial disease that attacks Raspberry canes in the United States, known as "root or crown gall." The Rose was grown at Micheldever, Hampshire. Mr. Worsdell undertook to examine it. He also exhibited a Tulip showing a bulbil in the axil of a leaf on the flower stem.

Cephalotaxus Fortunei malformed.—Mr. Worsdell exhibited drawings of proliferous conditions of the female flowers of this tree. These form really an inflorescence of bracts with two ovules, the latter being another shoot. Both the main axis and the floral axis were proliferous. The question arose as to whether this was the result of an impediment to the circulation through strangulation, to which the tree was subjected, or to non-pollination.

Miltonia macropetalum.—Mr. Chapman showed a fine flowering plant, remarkable for having the lateral petals marked like the labellum. It had exhibited this peculiarity for eight years, and plants raised by offsets from it bore the same abnormal flowers.

Tulip, Malformed.—Mr. O'Brien exhibited a Parrot Tulip, in which the bracts and outer perianth leaves were partly green and partly yellow, exhibiting a not uncommon struggle between the "vegetative" and "reproductive" energies.

Aroid with Flies.—Mr. Bowles exhibited a large-spathed Aroid, the contracted part of the spathe being full of dead flies (Lucilia Caesar). These had previously laid eggs, the grubs of which had lived in the decayed mass. It was somewhat difficult to explain how cross fertilisation could be secured, or insects born within the spathe could escape.

Peach Leaves, Diseased.—Samples were received from Mr. Fowler, which Dr. Cooke undertook to examine.

Crinum Hybrid.—Mr. Worsley showed a fine bloom with a rose-coloured perianth of C. scabrum × C. Moorei.

Tomato Leaves Proliferous.—Dr. Bonavia sent some examples of this not uncommon peculiarity. It was the variety Orchard's No. 1. Dr. Bonavia regards the leaf as a modified branch, but the anatomical structure of the petiole is not that of a stem, but of the usual kind in petioles, having a horse-shoe like section of the fibro-vascular bundles with two extra cords above on either side of the superior groove. The leaves had been shortened, and the abnormal buds grew out as a consequence from the axils of the leaflets. The inflorescence appears to terminate in a leaf with an axillary bud, but this latter is really the terminal bud being displaced by the vigour of the leaf. Mr. P. Duchartre was the first to describe proliferous Tomatos. It occurred particularly in the true species, Lycopersicum cerasiforme, *Dun*, less so in L. pyriforme, *Dun*, and only in the hybrid L. esculentum when the leaves had been cut. He says the proliferous state was practically habitual in the yellow variety of the first named species. The new bud arises from the axil of the leaflet, and a vascular connection is made with the upper end of the "horse-shoe;" the cords are very sinuous at first, but soon form a perfect cylinder, of an oval form in section, which then runs up the stem of the new bud.

Hints for Amateurs.

Watering.—Although the spring was not an early one, the recent spell of bright weather has made up for lost time, and things seem in a very satisfactory condition at present. In all the parks, &c., where extensive bedding is practised, there is now a busy scene hurrying the plants into their summer quarters and keeping them watered. This is an item that must on no account be overlooked with such weather as we are experiencing at present. Several times I have spoken about watering, and I feel I must do so again, for proper watering is one of the chief roads to successful cultivation, whether the plants be in pots or have free root room in the open ground. Wherever you go in "Suburbia" during the summer, you may see the regrettable mistake of *sprinkling*, not watering the flower garden with a fine sprayed hose-pipe or a toy watering can. The surface is just moistened and made to look wet, and the hot soil and drying winds quickly carry the fruit of so much labour up into the atmosphere, when its uses to that particular garden to which it was applied is lost. It would not take nearly so much water if it was done properly, for when applied in sufficient quantities it soaks down deeper into the soil and benefits the parching roots, and is not then so easily affected by external influences. Rose trees, &c., planted in narrow borders close to a wall require careful watering. If the trees are in a weak condition, a little stimulant may be used in the water, such as cow or sheep dung, but if there is the least signs of a rampant sappy growth, do not on any account stimulate, or you will have your trees run to useless, thick, soft growth, which does not ripen properly, and scarcely ever produces bloom. Where manure has been used too frequently and the soil is known as muck sick, a thorough watering with lime-water occasionally will greatly improve the condition of the soil and be of great benefit to the trees.

Lime Water.—There seems much misconception amongst amateurs as to what constitutes this oft recommended liquid. I think the idea that is pretty prevalent is that it is something of the consistency of lime wash. Good lime water should be perfectly clear and transparent. It is made by mixing a handful of lime in a pail of water, and then allowing it to stand until it becomes clear. Water can only hold a certain amount of lime in solution. When it is in excess of this amount, it deposits it on the bottom of the vessel, so there is no fear of getting the mixture too strong. When it is quite clear, it should be removed carefully without disturbing the sediment at the bottom. One of the best uses lime water is put to, is that of destroying worms in pots, &c. To do this properly, the soil should be allowed to get moderately dry, but not so dry that the plant will suffer; it should then be given a thorough watering with the lime solution. If the worms are not too exhausted, they will quickly come to the top, but more usually they die in the effort. Worms should always be eradicated from flower pots, &c., or they will soon do much damage to the roots by blocking the drainage. They are invaluable to soil in the garden, and Darwin found enough matter connected with their work to fill a large and interesting volume. They are very well so long as they keep in their proper places, but no one considers it desirable for the welfare of his lawn that it should be turned into a heap of mould by these untiring workers. Such a state of matters would indicate that the soil is too rich in humus, that is, decaying vegetable matter.

Window Boxes.—A word or two again about these may not be out of place. When preparing the soil for a window box, it must be borne in mind that you are going to put many more plants in that small quantity of soil than you would put in the same quantity of soil in a bed, therefore the window box soil must be made richer in accordance with the demands made on it, or it will soon become exhausted, and the plants will lose their vigour in consequence. Be sure they are well drained, for if once they become water logged it means disaster to the plant, for the drainage cannot be regulated so easily in boxes as when in pots. I will not give a list of plants for the boxes, for most amateurs go into the markets and buy just what suits their fancy, and the collection always proves a very varied one. For Geraniums, Souvenir de Charles Turner cannot be beaten, as it is a free grower, very floriferous, and has blooms of a beautiful shape and colour. Always bear this in mind when arranging the plants in the boxes, that they must all be of equal vigour or nearly so, or the result will be that the strong growers will crowd out their weaker sisters, not only above the soil where they can be regulated with the knife, but at the roots where it is impossible to apply any remedy. Some people have a fancy for Ferns; certainly it is a very good choice, providing that the position is a suitable one. Most Ferns like shade, therefore they cannot be expected to thrive in bright hot sunshine; but where they are shaded during the greater part of the day they are easily managed, and nothing gives a more cooling and refreshing aspect to a room than a good window-sill full of healthy Ferns. If the pots are full of roots, an occasional watering with water into which a little soot has been stirred will be a great help to the plants in maintaining a deep colour. For stimulating them into growth, sheep dung and water make a valuable manure. It should be well strained before it is applied, or it will clog the soil. Many of the greenhouse Ferns may be cultivated with success on the window-sill, especially the Pteris family. When Ferns are used they should not be removed from the pots, but be plunged in boxes filled with cocoa-nut fibre. To keep up the succession of flowers in the other boxes, great attention must be given to the removal of old flowers immediately they fade, for if allowed to seed, the plant will throw all its energy into seed production, that being the special aim of the plant, and not to make a show of flowers to be looked at; it seeds as strongly as it can for the reproduction and continuance of its kind.

Lilies.—These fragrant and graceful flowers are often omitted from the amateur's garden because they are considered difficult to manage. This difficulty is all a pure fallacy, for if provided with a few simple conditions there are no plants more easily managed, and none more suitable for town gardens, as they are down in the winter when many other plants are above ground and suffer from the frequent smoke laden fogs. Lilies do not like too much shade, but one condition must be supplied if success is to be gained, and that is shade for their roots, for unless these are kept moist and cool, the plant soon assumes a sickly condition and refuses to grow. Lilies too, are very impatient of manure at the base of the bulb. If manure is given it should be lightly pricked in at the surface, for there are two classes of roots emitted by Lily bulbs, those from the base which are more or less fleshy and permanent, and those from the base of the stem which are annual and die with the stem in the autumn. These surface roots are gross feeders and must not be robbed by being planted among other plants with surface roots. An ideal position for them is in a Rhododendron bed, where, if the soil is good, they can remain for years and produce an abundance of flowers with no more attention than that required in staking and tying them and an occasional supply of water and a mulching of old stable dung during the winter. Lilium auratum and L. tigrinum do splendidly in such positions and are not injured by the severest winters.

Roses.—June is known as the month of Roses and is well named too, for there is not a more popular flower in the whole garden than this national emblem. The season so far has been an ideal one; late spring frosts kept off and allowed the young shoots free development from the start, although the start was a little late in the season. Rain has also been in moderation, and if in some places it has caused trouble by keeping off, it is a trouble that is more easily circumvented than when there is an excess. The trees will be greatly benefited by syringing them occasionally, especially if a little quassia extract is used in the water, as its bitter taste keeps off the attacks of insects. Wherever the growth is crowded, if it cannot be equalised by training out, it should be cut back with the knife, or the dreaded mildew will get such a hold that it will be difficult to eradicate it. Prevention is always better than cure, and if the growth is so distributed that the air can pass amongst the foliage freely there is not much fear of it making its appearance in sufficient quantities to cause alarm. If it is noticed immediately, mix a handful of flowers of sulphur in a pail of soapy water and apply to the affected parts, as nothing proves to be a better antidote for all diseases of a fungoid nature than sulphur. While spraying the Rose trees it would be advisable to give the Tomatos an application, also the Grape Vine if on a wall, as both prove a desirable matrix for fungus spores. Many Roses become browned by the sun, which should be prevented if possible by shading them during the hottest part of the day by some means. I have often seen old umbrellas, etc., utilised for this purpose.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Clematis Dying.—*Rink*: What the absolute cause of this peculiarity, which Clematis has of suddenly dying off, we cannot say, but in many cases it is caused by the action of the sun on the roots, which cannot stand heat. Try how your plants succeed when their roots are shaded. Do not shade the plant.

Cucumbers not Swelling.—*Frame*: Many things may cause this, but the two most frequently met with are crowding and overcropping. If the foliage is too crowded, it must be thinned out. If this does not produce the desired effect, try thinning the fruit. Always keep an even temperature, avoiding sudden changes, as that will also cause trouble. The marks on the leaves are evidently caused by colonies of red spider, a very minute insect which is scarcely visible to the naked eye. It is caused by having a too dry atmosphere. If the plants are well syringed with clean water it will destroy them. See that the water is not lower in temperature than the atmosphere of the frame.

Insects on Azaleas.—*Greenhouse*: The insect you describe is undoubtedly the troublesome little black Thrips. Take immediate steps to clear them off, or they will do a large amount of damage in an incredibly short time. If fumigating will not destroy them, they must be syringed off with some insecticide used several times in succession. They generally put in an appearance when the atmosphere is too dry. Moisture is as distasteful to them as it is to red spider.

Rockery.—*P. R.*: The name of the plant which you send is Sedum stoloniferum, a pretty, but common plant on poor soils. It is a native of British Columbia. It may be used for rockery work, but when once established it requires careful watching or it becomes an encroaching weed. It holds on to life with a wonderful tenacity, and will exist and flourish on ground on which other plants would starve.

Saxifragas.—*P. R.*: The culture of most of the species of these typical rockwork plants is very easy. They all require about the same treatment as other rockwork plants, only they prefer a soil that has been pressed firm, but still has good drainage. A look through a hardy plant nursery or into a good catalogue will satisfy you better than any list we can give you.

Ramondia pyrenaica.—*Stebbins*: It is useless for you to try and grow this pretty little plant unless you can grow it on the north side of a shady rockery. It does best when planted in a vertical position in a peaty soil between the rocks.

Monk's Hood.—*P. T.*: They may be propagated by division of the root and by seeds. If the root is cut up, the pieces not again planted should all be carefully gathered and destroyed, as they are extremely poisonous. They should never be grown close to the kitchen garden, as the roots have been mistaken for those of Horse Radish, and many cases are on record of fatal results from the roots being mistaken. They thrive well in any good garden soil, and are invaluable for growing beneath the shade of trees. They should be left undisturbed for several years, when they produce fine clumps.

Greenfly.—*Puzzled*: The question you ask is one very often heard. The reason they appear spontaneously on a plant that has hitherto been free from

them, is because the eggs have been laid in the buds the previous autumn, and as spring comes round and the buds unfold, the eggs are hatched. When once they put in an appearance they multiply amazingly. This is accounted for by their peculiar mode of reproduction. They are all females during the spring and summer. These differ from most other insects by having power to produce young parthenogenetically, that is, without copulation. The males appear in the autumn, after which eggs are deposited in buds that are to remain dormant during the coming winter.

Spiraeas.—*P. P.*: The majority of Spiraeas are water-loving plants, and do well planted by the side of a pool or stream. They are perfectly hardy, and if you wish to make a pretty picture round your pool, the free use of Spiraeas will give great assistance. They are best planted in the spring before they start to grow. They are generally propagated by division, by which means a large stock may be secured in a very short time.

GARDENING FOR BEGINNERS.*

One more practical gardening book has been added to the list that has recently seen the light. This is intended for the beginner who may or may not be an amateur, though it seems from Miss Jekyll's preface, that it is intended for the assistance of those who love gardens and gardening for their own sakes, and who desire to learn how to grow the plants in which they take delight. "The best of all gardening," she says, "is always the simplest."

The beginner and would-be learner must not be alarmed with the bulk of the book for it runs to 495 pages, inclusive of the index. Books on gardening are not meant to be read from end to end nor to be thoroughly digested before putting their precepts into practice as that might seem a difficult or insurmountable task. On the other hand, a small portion about one subject may be read and re-read until it is thoroughly mastered, after which the learner should put his or her hand to the spade or knife as the case may be, and carefully follow out every precept of the instructions. That is the best method of committing the rules and secrets of gardening to memory, and in such a way as never to be forgotten, particularly if the beginner gardens with full intention to succeed. The contents show what the book contains and the method of its arrangement, the first nine headings being, groups of garden flowers, the the mixed border, hardy flowers from seed, increasing hardy plants by cuttings, annual flowers, summer bedding, hardy climbing plants, bulbous flowers, and the rock garden. There are also chapters on Roses, the greenhouse, Chrysanthemum, Orchids, trees and shrubs, Ferns, fruit, vegetables, town gardening, a monthly calendar, &c. The range of gardening in which most amateurs would engage is thus pretty well covered. The groups of plants contain cultural and other instructions concerning Michaelmas Daisies, Auriculas, Canterbury Bells, Foxgloves, Hollyhocks, Irises, perennial Larkspurs, tree and herbaceous Paeonies, Pansies, Pentstemons, Phloxes, Pinks, Poppies, Primroses, Polyanthuses, Sunflowers, &c.

The mixed border is a phase of gardening that has much to recommend it, seeing that a lively and varied effect can be produced over the spring, summer, and autumn months by the use of hardy annual and perennial flowers that may be reared mostly or entirely in the open air in this country. The taller plants may even consist of flowering shrubs if the border is wide enough to accommodate the same without overcrowding or encroaching upon the herbaceous subjects grown there. The principal wants of such borders is good, well tilled soil, enriched with some kind of manure, if need be; also shelter from sweeping winds, plenty of light at all times, and water when necessary, though in the case of perennials this is scarcely necessary unless the soil be thin and hungry, sandy or gravelly. A suitable soil for such mixed borders is here delineated; and where the natural staple is deficient in any respect the best way of permanently ameliorating the same is fully detailed in the text. The choice of plants and the method of arranging the colours are matters upon which there may be great differences of taste, or no taste at all, for the latter is a highly cultured accomplishment, and, besides a love for the same, requires a great deal of practice and experience to make any material advance in so complicated a subject. One of the hints here given is that while brilliant contrasts may be permissible and desirable in certain parts of the garden it is necessary that the rich and brilliant harmony should be approached by more delicate colouring so as to avoid gairish vulgarity. Plants of the same colouring should be intergrouped so that a colony of red flowered plants should be succeeded by others that flower later on the same ground all through the season, so that the original harmony of the arrangement may be preserved. The main or essential feature of these mixed borders is that the plants should not be dotted about singly, but massed together in patches or clumps of a colour or kind so that an idea of a rich profusion of flowers is maintained. Effects are lost when one plant is succeeded by another of a different kind and all at equal distances apart. The groups or clumps of a kind should also be of irregular outline and fit in with one another in that informal fashion.

The fascination of seed raising is also dealt with in its various aspects, and the joy the raiser may feel in being able to find, it may be, only one really superior variety in a large batch of seedlings. The pleasures of anticipation are even greater when the raiser has been cross-breeding or hybridising certain plants with the view of getting something new or sufficiently meritorious to be worthy of preservation and extended cultivation. The kind of summer bedbing here proposed is of the mixed style, such as is largely adopted in the leading London parks at the present day. Of the taller growing plants Abutilons, Acacias, Solanums, Begonias, Lobelia cardinalis, L. fulgens, Agathea coelestis, and similar subjects are recommended. Dwarfer subjects for small beds are Begonia worthiana, Celosias, Cineraria maritima, &c., which should be planted sufficiently far apart to allow of a carpeting of such things as Mesembryanthemum cordifolium variegatum, Begonia Lafayette, &c. For large beds bold plants of Plumbago capensis, Hydrangea paniculata grandiflora, Araucaria excelsa, and Ficus elastica are recommended to be planted in small groups by themselves with appropriate edgings, borders, and appendages of smaller plants. Caanations and Picotees for summer bedding and border decoration come in for a large share of attention, in view of the large hold they have on public attention.

The chapter on hardy climbing plants also shows very forcibly what an unbounded choice of plants is at the disposal of the planter or collector—Clematises, Bignonia, Ampelopsis or Vitis in great variety, Berberidopsis corallina, Jasmines, Everlasting Pea, Honeysuckles, Passionflowers, Solanums, Tropaeolums, Wistarias, the recently introduced Polygonum baldschuanicum, and many others. Under the heading of useful hints a great deal of information is given upon subjects that frequently confront the gardener, whether amateur or otherwise. Some of these are care of old trees, cleansing plants, bulbs after flowering, garden plants that will bear flooding, flowering trees and shrubs for windy places, garden tools, greenhouse fires, gumming, and the way to avoid the same.

The illustrations are very numerous, and quite a feature of the book, all the leading ones, representing flowers, gardens, and landscape scenery being full page figures printed on separate sheets of stout, smooth, rolled paper. They are reproductions of photographs, and great care has been taken to print them to the best advantage. There are contributions of these pictures from Munstead, Kew, Ealing, Edenside, Ireland, and various other places, Kew contributing largely. The Iris garden from the

The Garland Rose at Munstead.

* Gardening for Beginners. A Handbook for the Garden. By E. T. Cook. Published by "Country Life," 20, Tavistock Street, Covent Garden, W.C. George Newnes, Ltd., 7—12, Southampton Street, Covent Garden, W.C. Price 10s. 6d. net.

latter makes a charming picture with its background of trees and shrubs. No flowers could be much more profuse than the Michaelmas Daisies facing p. 3. The Tree Paeony bush shows how floriferous this may be where it succeeds. A picture of Birch trees is excellently executed, and shows how ornamental these trees may be. The double white Sweet Rocket (Hesperis matronalis alba plena) shows what a grand border plant it makes where it succeeds. In northern gardens the joints of the stem are shorter, so that the spikes make an excellent substitute for East Lothian Stocks in spring. In moist, cool situations it ought to succeed well in the sunny south, where a little shade or a northern exposure should help it greatly. The accompanying illustration of the Garland Rose at Munstead, facing p. 132, was kindly placed at our disposal by Messrs. Geo. Newnes, Ltd. Other pictures that come out well are the mixed border at Kew, a bed of Nicotiana sylvestris, hardy Water Lilies in a tank, Eremurus himalaicus, Rose Reine Olga de Wurtemberg, hybrid Cineraria Lady Thistleton-Dyer, the Amelanchier or Snowy Mespilus, a variety of Erica mediterranea, the Snowdrop Tree, a Rhododendron dell, and many others. The illustrations representing garden tools, methods of propagation, glasshouses, methods of pruning, &c., are smaller and intercalated with the text. Printing and paper are good, so that altogether the reader will have good value for his or her money.

RISE AND PROGRESS OF THE STUDY OF PLANTS.

SKETCH I.

SINCE man's first appearance on the scene of creation, doubtless, plants, fruits, and perhaps flowers, must have to some considerable extent attracted his attention. The products of the vegetable world, must have partly, if not entirely in the infancy of our race, constituted the chief source of subsistence. In consequence, man was in a sense compelled by the law of necessity to devote more than ordinary attention to the vegetable productions, which on every hand surrounded him. His wants and tastes in a short time would no doubt enable him to discriminate between the species of plants, and fruits which were good for food, and those which were not.

His experience of the uncertainty of a uniformity of natural production in due course would also undoubtedly lead to attempts, rude as they must have been, to cultivate them in order to supply his wants. In the favoured parts of the world where nature is lavish in her production of food supplies, the necessity for toil was at a discount, and, possibly, the first attempts to raise produce for food were first essayed in countries having a comparatively temperate climate. Man, in whatever stage of civilisation he is found, labours only to gain his bread, and inferring from this well-known fact, it is pretty certain that the inhabitants of an equatorial region where food stuffs must have at all times been produced in abundance would not labour when they found themselves, as it were, born aristocrats.

Though we know absolutely nothing certain respecting the earliest attempts to cultivate plants, excepting what we derive from the "Scriptures," still there is every reason for presuming that the art was at a very early period practised. Wherever there was civilisation there was necessarily more or less attention bestowed on the study of the vegetable kingdom. Indeed, some hold, and with good reason, that the study of the latter was the inevitable precursor of the former.

The Chinese, we learn, were engaged in the cultivation of the Mulberry ages before Greece or Rome had an existence, and when, no doubt, our forefathers were little else than painted savages running wild in the European forests. Babylonian civilisation appears to have been at an advanced stage, at least two thousand years before Christ. The civilisation of Egypt is computed to date back to the enormous antiquity of four thousand years before Christ!

It is quite legitimate to infer that the study of plants was in a fair state of proficiency in all those nations of antiquity. We do not think there need be any doubt that plants were originally studied for food, their other properties must have only engaged attention at a later stage of man's history, for we are scarcely justified in supposing that the quality of beauty could be discovered apart from a certain degree of civilisation. At all events we know that even in our own favoured age beauty is only properly discerned, but by the few, and that favoured few, are always among the highest developed intellects.

The first authentic knowledge we get of the origin of the study of plants is, as we have already said, from the Scriptures (Gen. 1.-29) (*apud* 4004 A.C.), possibly very much more. Nature seems to have produced, under the conditions in which our venerable ancestor was placed in charge of Eden, the best possible results. This circumstance evidently left no room for the application of the art of man to interpose very much in the matter. The fact does not, however, imply that the study of plants was not closely attended to. As soon as those conditions ceased man was destined to provide by his ingenuity and art what nature hitherto had accomplished for him. The art of gardening was evidently early afterwards elaborated into agriculture: for we find the hoary gardener's son "A tiller of the ground." We find Noah a little more than a thousand years after, not only a husbandman, but the planter of a vineyard, and a maker of wine, a state of matters which serves to indicate considerable progress over his ancestors.

The Egyptians must have had acquired considerable knowledge of the properties of plants at a very early period, for we find that, as early as the time when Joseph was carried captive to the slave market at Egypt, by the Ishmaelitish merchants, these were engaged in the trading of spices, etc., between Gilead and Egypt. The inference to be deduced from the fact is that undoubtedly Egypt was the cradle of civilisation, and at this time probably past its zenith, had given more than general attention to the study of the vegetable kingdom. Sacred and other history shed no light on this important period, and in consequence all that can be said in favour of the development of the study of plants, is simply that it very probably held then a prominent place among the studies of the Egyptians.—*Antiquus.*

To be continued.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 4th inst.

Orchid Committee.

ODONTOGLOSSUM LOOCHRISTIENSE LORD MILNER.—The flowers of this natural hybrid variety are of large size and handsome. The sepals are richly marked with large chestnut blotches. The petals have smaller blotches of a similar hue on a paler yellow ground colour, becoming nearly white when fully developed. The lip is white with a large, chestnut brown blotch in front of the crest, one or two at the sides, and many small spots in a cluster on each side of the base. (Award of Merit.) A plant bearing a long and vigorous spike was exhibited by Thos. Baxter, Esq. (gardener, Mr. R. Roberts), Oakfield, Morecambe.

ODONTOGLOSSUM CRISPUM PUNCTATUM ROSSLYN VAR.—The flowers of this showy variety are of large size and of a soft silvery rose, thickly marked with numerous deep rose or purple spots at the base of the petals; the sepals have much fewer spots. The white lip has several chestnut blotches around the frontal area of the disc. The typical O. c. punctatum appeared many years ago and is partly forgotten. (Award of Merit.) H. T. Pitt, Esq. (gardener, Mr. W. Thurgood), Rosslyn, Stamford Hill.

CATTLEYA MOSSIAE MRS. F. W. ASHTON.—The sepals, petals and tube of the lip of this delicately chaste and beautiful variety are pure white. The lamina is faintly tinted with lilac, with a light orange blotch in the throat. (Award of Merit.) Messrs. Stanley, Ashton & Co., Southgate, N.

Floral Committee.

ROSA RUGOSA (HYBRIDA) CONRAD FERDINAND MEYER.—The leaves of this garden Rose have large, round leaflets, but they are relatively smooth and show little or no influence of R. rugosa. The flowers are of large size, spread out widely when fully developed and are of a silvery-pink hue. They are very freely produced at every joint along the stems. (Award of Merit.) Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton.

MECONOPSIS HETEROPHYLLA.—The leaves of this species are pinnatisect, and occasionally the two lowest pinnae are much longer than all the rest. The flowers are very pretty and equally distinct from most other species occasionally seen in cultivation. The flowers are orange and have a blackish-maroon blotch at the base of each petal. When grown in a mass this species must be very pretty, as well as in the cut state for indoor decoration. Being an annual it would be necessary to sow seeds every year. (Award of Merit.) Mr. M. Prichard, Christchurch, Hants.

PAPAVER ORIENTALE MRS. MARSH.—The flowers of this strikingly distinct variety are longitudinally striped with silvery white on a scarlet ground. Some of the flowers have a belt of silvery white across the centre of them. (Award of Merit.) Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill.

ACER PICTUM AUREUM.—There are several varieties of A. pictum better known in gardens as A. colchicum. That under notice has the young leaves of a distinct yellow hue. No doubt the leaves will by and by change to green, but should show beautiful yellow tints again in autumn when the second growth is being made. (Award of Merit.) Messrs. T. Cripps & Son, Tunbridge Wells.

TREE PAEONY ELSIE PERRY.—The flowers of this variety are of large size, perfectly single, dark crimson-maroon, and have the petals slightly jagged at the ends. (Award of Merit.) Mr. Amos Perry.

CANNA GROSSHERZOG ERNEST LUDWIG VON HESSEN.—The blooms of this variety are of great size, with dark crimson and very broad petals. The foliage is also dark, making this altogether one of the finest of the modern race of Cannas. (Award of Merit.) Messrs. H. Cannell & Sons, Swanley, Kent.

CANNA JEAN TISSOT.—In general aspect this resembles the preceding but the flowers are somewhat smaller and paler in colour, though still making a good variety. (Award of Merit.) Messrs. H. Cannell & Sons.

CANNA OSCAR DANNECKER.—The petals of this variety are smaller than either of the above varieties, but show a rather uncommon arrangement of colours, being orange with broad yellow margins. (Award of Merit.) Messrs. H. Cannell & Sons.

CANNA INDICA ELIZABETH HOSS.—The large flowers of this variety are thickly spotted with scarlet all over an orange-yellow ground, and are very handsome. (Award of Merit.) Messrs. H. Cannell & Sons.

LEWISIA TWEEDIEI.—Like L. rediviva, this plant is of very dwarf habit, and if sufficiently hardy should prove an interesting subject for dry and sunny spots on the rockery. The leaves are short, spathulate and spring up from the root stock. (Award of Merit.) Messrs. Barr and Sons, King Street, Covent Garden.

PELARGONIUM MRS. W. H. MARTIN.—The semi-double flowers of this Ivy-leaved variety are light rose with rich purple veins on the upper petals. (Award of Merit.) Mr. H. B. May, Dyson's Lane Nursery, Upper Redmonton.

PELARGONIUM LEOPARD.—Here again we have an Ivy-leaved variety with semi-double flowers of large and handsome proportions, the petals being rose, with a prominent dark purple blotch on the upper petals. (Award of Merit.) Mr. H. B. May.

Fruit and Vegetable Committee.

PEACH DUCHESS OF CORNWALL.—The fruits of this early variety are creamy, marked with reddish stripes and of moderate size. The flavour is stated to be very good. (Award of Merit.) Messrs. T. Rivers and Son, Sawbridgeworth.

MELON EXCELSIOR.—We hope that a reversion is being made to fruits of smaller size than has prevailed for some time, as we may expect an improvement in flavour. The sample of this variety that was cut at the committee table soon disappeared so that it must have been good. The fruits are of small size with a yellow rind and light scarlet flesh. (Award of Merit.) Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, Surrey.

London Trees.—A contemporary says it is a fact that London is better off for trees than any other city in Europe.

ONIONS KEPT LATE.

It is very desirable to have a good supply of Onions all the season through. Large bulbs which have been kept in sound condition till midsummer are much valued in the culinary department. By a good selection of varieties, well cultivated and housed where abundance of dry air can reach them all the winter through, it is not a difficult matter to have good, sound bulbs as late as June. At the present time (middle of May), we have a number of bunches hanging, which are as sound as they were in October.

Many fail to keep the bulbs from starting into new growth by reason of improper means of housing them. Close, warm air and bulbs left on floors uncleaned after they are stored is ruinous to the keeping of them, and if they are very large, such as exhibition Onions generally are, the late keeping quality is greatly reduced. By thoroughly ripening them early in autumn and the bulbs placed where air can at all times circulate around them, quite free from damp, late keeping is (under such conditions) certain. The present season is one of the best we have had. The sorts now in best condition are Giant Zittau, Veitch's Selected Globe and Veitch's Maincrop. They are tied neatly to sticks and hung up to the rafters of an outhouse, where air has passed through during the whole of the winter. The culture was on good, strong soil, made thoroughly firm, before the seed was sown at the end of February in drills a foot apart, and fine soil cast over the seed. They were thinned when they could be safely handled to 6 in. and 8 in. apart. Soot was dusted over them during showery weather three or four times during the growing season. A portion of ground which was in fine condition and remained untouched all through the winter was sown, and on this solid land the best keeping bulbs were grown. They were not so bulky as on the space prepared by manuring and digging, but are very handsome and keeping well. A fine supply is had of young Onions from smaller size planted in March.—*M. T., Carron, N B.*

PLANTS AND FLOWERS IN SEASON AT FOREST HILL.

Spring flowers have now given place to early summer blooming subjects in the nursery of Messrs. J. Laing & Sons, Forest Hill, London, S.E., whose establishment we had the pleasure of inspecting recently.

Tuberous Begonias are now largely grown in low, span-roofed houses in which the plants can get a maximum of light. Single and double varieties both meet with favour, and the best varieties receive distinctive names. The beautifully fringed strain seems on the increase and various colour varieties have now been obtained. A large flowered strain of Gloxinias has been gay for weeks past. Their Multiflora strain of Streptocarpus is notable for the great size of the flowers which range from pure white to the darkest blue and violet.

Caladiums, in a great number of varieties, are still the object of special care; but out of the mass we could select only the more attractive that appealed to the eye. Very handsome was the yellow leaved Golden Queen. Other select types were: Louis van Houtte, bronzy-carmine; Emperor Alexander III., carmine, with olive-green margin; Gurapu, cardinal-red, with olive-green border; Barao de Marmore, carmine-red veins on a red ground and red rim; Sir Henry Irving, a soft creamy hue; and John Laing, pink with a broad creamy border. Rose Laing, a very old variety, is still one of the best, when well grown. The large, shield-like leaves are beautifully overlaid with light pink on a creamy ground. Gerard Dow is a warm bronzy-red shaded with silver along the ribs. The Earl of Rosebery is pink, netted with olive green; and Gaspard Crayer, red with a green border and best seen by transmitted light, when it becomes splendid; the petioles are black.

Cappadocia is pink with bright carmine ribs; Illustrious, deep carmine, much netted with yellow; William Marshall, a dwarf growing variety, of a bright rosy-red, bordered with green; and a grand variety of recent origin named Mrs. C. J. Pierpont Morgan, blotched white on a green ground, with carmine ribs and shading. Candidum is still the best of its class for exhibition purposes, the leaves being white and finely netted with green. Garten Inspecteur Katzer is white with dark crimson ribs, and spotted green. The broad leaves and dwarf habit of Triomphe de Comte make it valuable for ordinary decorative work; the leaves are carmine-red with a green margin. Madame Marjolin Scheffer, on the other hand, is white with rosy-red ribs and green edge. It is a strong growing exhibition variety.

A number of Clivias were flowering for the first time. Queen Alexandra has very large open flowers like the Lady Wolverton type, but of a lively orange colour with yellow throat. Lady Audrey Buller is soft yellow and the tips of the petals are tinted orange. It is a widely bell-shaped flower and comes very near being a yellow Clivia. The rich orange-scarlet flowers of Lady Sarah Wilson have a nearly white throat. Harry Laing Improved has bell-shaped orange flowers, shaded salmon or terra-cotta, and the stalks of the individual flowers are longer than in the old type. Kentish Beauty is soft or light salmon, with a white throat, and very large trusses and flowers, making it quite a handsome and conspicuous variety. Sir George White is rich orange-scarlet, with a white throat. The above six new varieties, are in several respects improvements on the old types and different in colour. Variegated Clivias have not hitherto been occupants of glass-houses, but they are now a reality, there being two of them here. Clivia aurea striata is of upright habit, with a broad yellow margin to the leaves, and sometimes bands along the centre. C. variegata aurea is of drooping habit and the leaves variegated with yellow, changing to a silvery shade.

In the stove Lipparis elegantissima was notable for the pretty effect of its leaves, which had a brown-metallic centre and broad, gray margins. An old favourite not very often seen was a fine piece of Medinilla magnifica in bloom. In a cooler house we noted a very good double white Azalea named Bernard Andreas alba: Mdle. Louise de Kerchove, had double salmon-pink flowers, shaded with silvery white. The fernery contained some of the Japanese Davallias in the form of monkeys, flying birds, junks, wreaths, Japanese balls, &c., which were quaint and curious in their way. Other useful foliage plants were Asparagus Sprengeri, and Dracaena Eckhautei, with long, drooping leaves, being more graceful than D. Bruanti and D. rubra. It stands well when used for house decoration. The long, pendent stems of Begonia undulata make it useful for basket work. The flowers are deep salmon, edged white.

Two houses were filled with pot Vines making grand canes. The largest of them consisted of last year's canes cut down, and making vigorous growth. The varieties include the best of the new ones such as Appley Towers, Lady Hutt, Diamond Jubilee, and the better known standard types. Figs in pots included Brown Turkey, Negro Largo, white Ischia and many more. A third house was practically a repetition of the two just named, showing that the demand for this useful class of fruit is still steady and good. Both Vines and Figs here were making excellent growth.

The firm now does a large trade in cut flowers and house decoration, the men being kept busy with the latter branch of the business till a late hour. The stock of plants for this class of work is large, and receives additions from time to time.

A CHEAP HYGROMETER.

In the propagating pit a hygrometer is almost indispensable. It is often difficult to judge the true hygrometric conditions of the house by the sensation experienced when entering. For successful propagating, it is well known that the cuttings should not be allowed to flag; this they will do if the atmosphere is not charged with moisture to saturation point, or nearly so. Saturation point differs in different temperatures; the higher the temperature the higher the saturation point. If the atmosphere is charged to this point, no evaporation can take place from the cuttings, but if below that point it takes place accordingly. A very effectual hygrometer may be constructed by two ordinary thermometers placed side by side on a board. The bulb of one should be covered by a piece of muslin and connected with a tin of water by a piece of cotton lamp-wick; this will keep the bulb constantly wet, and as it evaporates the mercury is cooled, and the one with the dry bulb conseqnently reads the highest. The difference in the registration will register the condition of the atmosphere. The more moisture the air takes up, the nearer the thermometers will register, until when saturation point is reached, they will balance. With fresh taken cuttings they ought to be nearly balanced, and then allow the one to get dryer as they start to grow.

NOTES FROM GLASGOW.

Rhododendrons at the Exhibition.

The great exhibition is the uppermost thought in every person's mind just now. Of course its attractions are many and varied so that he is indeed a fastidious individual if he does not find sufficient scope for an ample indulgence of his tastes. As would be expected, however, a heterogenous collection of this nature can only form in the minds of the majority an impression somewhat similar to that experienced in a dream—a vague impression of a huge picture, having here and there a few outstanding objects sufficiently clear to link the whole together, but devoid in general details. The reason is obvious, the *mens populi* is perhaps never nnanimous except when a matter of *res naturae* is in camera. So when Nature and art are combined together in a happy and pleasing manner to form a bit of nice landscape, the effect never fails to take the attention of all kinds of classes. The environs of the exhibition is specially favoured by Nature, and the superadded art of the landscape gardener has vastly improved the natural beauty. It is marvellous to see how the people with one acclamation intuitively grasp the general effect as observed from the vestibule which opens into the grounds from the great dome. While only a limited few can appreciate the niceties and intricacies of a steam engine; the mysterious generation of electricity; or the terribly destructive properties of our modern sinews of war, all seemingly possess the capacity of appreciating Nature and her floral displays.

Beautiful as the surroundings are still we should have liked to see the exhibits consist of more floral plants than they do. The conventional Holly and all the other class of ornamental shrubs perhaps might be better substituted with attractive plants which flower at some period of the season. Mr. D. W. Thomson of Edinburgh, however, it would appear, had anticipated what would be most appreciated and serviceable in this respect, judging from the fine display of Rhododendrons he has there as an exhibit. At present they are in one sheet of flower with almost every colonr ranging from deep and dark to pure white. Of these there are two large plots, and placed right in front of Messrs. McKillops & McKenzie's restaurants immediately below the shadow of the Alma Mater of the city. One plot consists of medium sized plants with tall trained standards here and there interspersed, and the effect is exceedingly fine. The other plot chiefly consists of large specimen plants formed into the shape of a bank whose sloping side faces the grand restaurants already mentioned, from whose verandahs a most gorgeous view of the flaming display is seen.

It is truly amusing to hear the crowd as they stand outside the railings, express their feelings of admiration. Some for want of appropriate expressions give vent to emphatic adjectives which the compilers of our language have not as yet ventured to include in their lexicons. All the same, though rather inelegantly expressed, we could sympathise with the earnestness and depth of feeling underlying the various centres from which emanated snch excusable terms of forcible admiration, and the circumstances brought at once to our mind a similarly laughable instance where a rustic applied the same expression to an exceedingly beautiful sunset.

The "Rodydandran" like the "Pimerose" and the "Heatherange" has untold charms to the *vulgus populus* of every town and country, not to say the charms it deservedly holds out to all ranks of society. This being so we think the exhibition which Mr. Thomson has been liberal enough to send here deserves very great praise, as indeed it does from everyone. Mr. Thomson has, as everyone knows, a world-wide reputation for this class of ornamental plants, and that he should send so valuable a lot to a place where the atmosphere is most uncongenial for their welfare, we think, says a very great deal indeed.

Our experience of park gardening in this city has taught us to consider the Rhododendron in general among the short-lived species of plants, and even

when they do live their appearance is not very creditable to the gardener. In consideration of this fact greater praise is due to Mr. Thomson for his well-merited action in adding so much beauty to the place, and giving so much pleasure to the citizens and visitors to the great exhibition.—*St. Mungo.*

HARDY FLOWERS AT LONG DITTON.

THE variety of flowers in the nursery of Messrs. Barr & Sons, at Long Ditton, Surrey, is so great that something of interest may be found at any time during which hardy plants may be in bloom; and that now covers the greater portion of the year, presuming that the weather is fairly open in the winter months.

Contemporaneous with the Daffodils were the early Windflowers and the Primulas. About that time we noted the yellow Anemone ranunculoides, the white A trifolia and A. nemerosa fl. pl., and the blue A. n. robinsoniana all in good form. Showy and interesting Primulas were P. viscosa nivalis and P. rosea grandiflora, Muscari conicum, also known as the Heavenly Blue Grape Hyacinth, covered a bank with very fine effect. Aubrietia Royal Purple is a very good dark purple variety.

The early flowering species of Tulip were upholding their merits for spring gardening, including Tulipa Greigi, having huge scarlet flowers ornamented with a black blotch at the base of each. T. triphylla is a smaller type with the outer segments coloured yolk of egg, and the inner ones grey-buff, while some flowers in a batch may be quite yellow. The Irises at the time we speak were heralded by the dwarf Iris pumila and its varieties, I. p. caerulea, with its sky blue flowers being one of the most attractive. The ordinary form of Mertensia virginica has soft sky blue flowers, some of deeper shades and some of the blooms pale red. Some of the North American Erythroniums happened to be dug down, in certain instances, to the depth of 12 in. and they came up more strongly than if planted 3 in. below the surface.

The rockeries on the banks of the stream afford space for a great variety of plants that like water or otherwise. The massive patches of the semi-double Caltha palustris purpurascens were very effective. Great spreading patches of Phlox subulata nivalis attracted the attention of all who passed that way. Another white variety, namely, P. s. The Bride, was characterised by having two small purple spots at the base of the segments. Dusty Miller was applied to a yellow variety of Auricula.

Very handsome was the golden foliage of Sambucus racemosa plumosa foliis aureis, and the double Gorse was doing grandly on the dry top of a mound. Some forty to fifty varieties of the Japanese Quince (Pyrus japonica) have been got together, many of them being quite new. P. j. extus nivalis is notable for the outside of some of the petals being white and the inside red. P. j. macrocarpa has large red flowers; P. j. cardinalis, bright red, and P. j. aurora, soft salmon-red. Several of them kept on flowering till quite recently, one notable variety being P. j. Simoni, with brilliant or fiery-red flowers, the darkest we have seen.

Other plants still flowering more or less are Aubrietia Campbelii Improved, violet; A. Leichtlini, rich rose; Phlox subulata Nelsoni, white with violet spots; P. s. nivalis, white; Iberis sempervirens Little Gem, I. correaefolia, Alyssum saxatile fl. pl., and A. gemonense sulphureum. Pyrethrums are grown in great quantity and variety, and now make a handsome display. German and other Irises, Trollius japonicus, and T. Orange Globe, Primula Sieboldi, in variety, and the large flowered Fortin's Lily of the Valley make a glorious and very varied display. A charming little Tulip is Tulipa undulatifolia, with wavy, glaucous leaves, and scarlet flowers, having a black blotch edged with gold.

Primula Auricula Celtic King is a vigorous yellow variety suitable for the rockery. Arabis albida flore pleno has made splendid growth, and bloomed well both on the rockery and in the open ground. Androsace sarmentosa is a typical plant for rockwork. Other gems for the rockery are Ramondia serbica, with smaller leaves and flowers than the type, but the flowers darker and more freely produced; Gentiana verna, Lychnis alpina, Viola pedata, Dodecatheon Meadia, Phlox divaricata, Cheiranthus mutabilis, Aquilegia glandulosa, and Cypripedium pubescens.

It is too late now to see the late flowering Tulips, but they certainly were grand. They are now classified into three great groups. The "Cottage Tulips" include all those late flowering species or forms of Tulip that are intrinsically beautiful, and suitable for massing or bedding purposes, and which become the glory of the garden when the Daffodils and early Tulips have passed away. The Darwin Tulips are a new seedling race of Tulipa gesneriana, notable for their vigorous growth, usually very large flowers and showy self colours. The English florists' Tulips consist of the breeder, flamed and feathered forms of T. gesneriana.

COTTAGE TULIPS.—The notable feature of these Tulips is that they consist of a great variety of forms and colours, many of them being distinct species or garden forms of them, singled out by reason of their peculiar beauty and utility for bedding. Isabella is a very long, rose-coloured flower, edged with a darker hue. Praecox is a green Tulip, edged yellow, and much larger than T. viridiflora. There are few rectified Tulips in this group, but one of the best is Buenoventura flamed or striped with scarlet and bright yellow. La Panachée comes into the same category as the last named but differs by having the stripes red and white, with a creamy edge to the leaves. La Merveille is a very choice and handsome Tulip of salmon-flesh colour, with very long and sweet scented blooms. Striped Beauty is silvery-rose with scarlet and white flakes, and the large blooms are very handsome. Scarlet Beauty is a bright scarlet flower of prepossessing appearance.

Tulipa billietiana is a species or distinct form having yellow flowers, edged with scarlet below the middle. T. Batalini is a small yellow flower more or less tinted with salmon and very pretty. Another popular late variety usually regarded as a species is T. vitellina with soft yellow flowers. T. retroflexa differs markedly by the segments of the bright yellow flowers being gracefully reflexed at the tips. T. macrospeila is scarlet with a violet blotch at the base surrounded with a yellow line, and very handsome when fully expanded under the influence of sunshine. The variety Mrs. Moon is notable for the size and great length of its yellow blooms. Leghorn Bonnet is yellow, tinted with apricot. Hatfield Pink is pink, shaded with salmon. The above are only a selection from a very large collection of varieties.

DARWIN TULIPS.—For bold and handsome effect, either in beds or borders, or for cut flowers in vases, no section of the Tulip is more suitable than this vigorous strain. A large bunch of them cut with long stems and placed in a vase is simply gorgeous. The varieties are mostly self-colours, disregarding the base, of course, which is the principal thing, in association with vigour of constitution, which separates them from the English florists' Tulip. A huge cerise flower is Bride of Haarlem; The Bride is silvery rose, and equally large; Firebrand, fiery scarlet; May Queen, silvery-pink; Edouard André, purple, with a silvery edge; Marguerite, flesh and deeper internally, mixed with yellow, and handsome; Carminea, carmine, shaded with silver on the back; and Petrus Hondius, deep rose. A very shapely rose flower is that named Loveliness. Strikingly distinct and noticeable is White Queen, the white ground being tinted with flesh. Clara Butt is pink and shaded with rose internally. Other good varieties are Amber, deep maroon; Je Maintiendrai, purple; Susan, flesh and rose internally; Donders, crimson; Rev. Ewebank, lilac; Mrs. Krelage, light rose and silvery edge; Minister Poortvliet, bright scarlet, and Coquette, darker than Mrs. Krelage.

FLORISTS' TULIPS.—To understand the real beauty of these flowers, the would-be cultivator must first understand their various distinctions, and the canons that govern the arrangement of the colours. For general decorative purposes late in May, however, the general public can learn to appreciate their beauty. Some of the finest are Dr. Hardy, flamed fiery scarlet; Colbert, flamed chocolate; George Hayward, feathered crimson; Goldfinder, the scarlet, breeder stage; Sir Joseph Paxton, crimson and maroon flame; and Samuel Barlow, flamed crimson and scarlet, a sort of glorified Dr. Hardy. All of the above have a yellow base, and therefore belong to the bizarre section.

Carbuncle is flamed purple and maroon; Mrs. Jackson, flamed black on white, and one of the most strikingly distinct; and Duchess of Sutherland, maroon and purple. These three belong to the bybloemen section. Annie McGregor, a very fine scarlet in the breeder stage and also in the flamed form, and the same stages of the soft rose coloured Mabel, are Tulips that belong to the rose section, characterised by having crimson, scarlet or rose flowers, and a white base.

IS GARDENING A SCIENCE?

(*Concluded from p. 660.*)

ON the other hand when the flower or fruit is commencing to spring forth the most rapidly, then let the nitrogenous manures prevail, for it is principally cellular tissue then which is being built up.

Now we come to another phase in plant growth, and that is not to grow it at all, I mean the resting of plants. With the majority of plants this is scarcely second in importance to the growth. Has this anything to do with science? you ask. Science has taught us that if a plant is to be flowered and fruited successfully year after year, it must have a season of rest; a storing up of the tissue, a thickening of the cambium layer, can only be brought about by a period of rest. Failing this being achieved by the plant it flowers and fruits imperfectly, because the sap has not had an opportunity of thickening, which is so necessary for the production of flowers and fruit.

Now to explain or to understand more fully how important this is for the well being of plants let me give you one illustration, and that is our Apple trees. It has been proved that by taking our Apple trees into warmer and evener climates, that they will grow into magnificent foliage trees, scarcely producing a fruit. Therefore the necessity of a resting period for all plants for productiveness of flower and fruit.

In Nature this rest is accomplished in two ways. In the temperate regions of the world it is effected by the lowering of the temperature, while in the tropical parts of the world it is brought about by the dry season. Then where is the gardener to look for his information to carry on the operation of not growing his plants at all, successfully?

Is it to art that he has to turn his attention and inquire what he must do in the resting of this plant or that? No.

It is Nature he has to inquire of and see what the conditions are under which this plant and that rests naturally. This he has to imitate to the best of his ability, and fulfil every condition that artificial means will afford. Wherefore I claim that if Nature is the gardener's guide, gardening is a science. So much for the season of rest and growth; and this leads us to the diurnal resting of plants which is day and night.

Now in a great many instances cultivated plants are kept at too high a temperature at night. In India, for instance, which is one of the hottest countries of the world, the temperature ranges as much as 78° between day and night on an average throughout the year. These are some of the temperatures given, and as far as I can ascertain I think they are pretty well correct. In April the highest heat by day is 116°, that of night only 65°; in January, 38° by night, while the day rises to 76°; and in the hottest months, when the thermometer goes as high as 115° by day, it falls 40° lower by night, which would give a night temperature of 76°.

Turn to the West Indies and what do we find there? In Jamaica we are told that soon after sunset the air upon the mountains begins to cool down, and owing to its becoming cool and heavy it descends the mountains into the valleys which lifts the warm air up, and thus a constant change is taking place all the night through, and the coolest temperature is reached by the morning. Well, you say, what happens. Just this, that the produce of Jamaica will fetch a higher price in the markets than any other island belonging to the whole group, only through this one fact, the change of temperature between day and night.

The fruits are altogether of better quality, and this is the only reason that can be given for this superior quality in produce on the other islands or many of them which are less mountainous. Of course the temperature does not change nearly so much, consequently there is not that beautiful refreshment of night which is so essential to animals

and plants alike. In all your operations let Dame Nature be your guide, she will never lead you astray. The more closely you follow her so much the better you will understand her, and the best means to be adopted for coaxing her along the road to that perfection of what she is capable of attaining.

This brings us to another scene in our operations in plant culture, and one, perhaps, over which we have not so much control as we have over many other things, and this is plant disease. You are well aware that plant diseases are no new discovery in horticultural history. They visited the ancients hundreds of years ago, aye, and it visits the moderns even to-day.

Perhaps there is nothing in a gardener's experience which brings so much disappointment to him as the diseases of plants. When he has done everything for the well-being of his crop, perhaps at the very eve of harvest time a visitation from one of these mysterious beings puts in its appearance, and hence the disappointment which it brings in its train.

Well, perhaps, there is nothing in human affairs where superstition has been so pertinaciously stuck to as it has to this plant disease. Yes, and even now there are people who believe superstitiously that mildew, blight, and such-like are something very mysterious which is beyond man's duty to try and understand. It appears from historical records that it was not until the year 1866 that any progress was made to arrange and classify those diseases and place them in anything like categorical order; but from that date to 1889 rapid progress was made in grouping and classifying those fungoid parasites and placing them in the families to which they naturally belong. Consequently, through the enormous amount of labour which has been spent upon the defining of those diseases, and the enormous amount of literature which has naturally followed these discoveries, it has placed in the hand of the gardener to-day a weapon which cannot fail to be of inestimable benefit in battling with these diseases.

These are weapons which in former generations they did not possess—but, no doubt, they longed for it; therefore, I say, live up to your *privileges* and act up to your responsibilities, and with all that science and art has done to expedite and facilitate the operation of combating with disease, let us see whether we cannot obtain the victory, especially with garden crops. To-day it is quite a necessity for the gardener to be acquainted with all the little intricate forms of fungoid life, as it is for the doctor to understand anatomy, or the sea captain navigation on going to sea.

Well, then, if all this information is necessary, if it is essential that the gardener should be well versed in these matters, that he should have a knowledge of all these minute plant forms, their manner of growth, their means of propagation, and their manner of attacking the host plant, where is he to go to seek for it? Can Art teach him? Then to whom has he to appeal? Why, to Nature, to Science. She will tell him, for with Nature there are no secrets; she reveals herself to all who carefully seek her.

Then again, on the other hand, you know we must not put all the blame of plant diseases to the visitations of parasitical fungi, or to insect agency. There are many instances where plant ills are brought about through mismanagement or unsuitable surroundings. It may happen in various ways. Any excess carried beyond the limits of endurance will produce disease, and ultimately death. There are cases where disease is brought about by frost, even to hardy plants, when standing on ground which is too retentive of moisture; the fact is, they have in their branches a great excess of water, and by the action of frost they are overcome. Rapid changes of temperature has also its evil effects. Bad soil, poisonous air, and a host of other causes all have a great tendency to produce disease.

Then, what is the gardener's duty if he is going to keep the plants under his care in health, and not only in health, but to keep them productive also? Why, he has to study their natural wants, their natural environment, and try with all the means in his power to produce those conditions in which these plants are known to succeed best under.

But ah, you say, disease will appear under the best conditions. Yes, I agree with you that it will. But never lose sight of the fact, that disease which is caused by disagreeable surroundings can never be cured by any specific in the form of chemicals. You must go to the root of the matter, and convince yourself beyond a doubt that the conditions under which your plant or tree is growing are all that its nature requires for its healthy development.

Well, then, if gardening entails all this research into the natural conditions under which plants exist before they are taken into cultivation, and if all these conditions have to be fulfilled by artificial means, and often under adverse circumstances; then if gardening is not a science, please give me its real *definition*. Dr. Lindley said:—"That every operation in horticulture depends for success upon a correct appreciation of the vitality of plants upon which an operation is performed."

Then the operations of the gardener has to do with plant life. *This is science.*

I have chosen these few operations in connection with gardening to show how gardening is a science. How can it be otherwise? See how intimately connected the whole of gardening operations are with the science of physiology.

Wherefore how often the gardener has disclosed scientific problems in the prosecution of his profession, but has not had the acknowledgment it deserves from the scientific schools, simply because it has been discovered under the *nom-de-plume* of "gardening." Therefore, I claim that as this the oldest profession of the human race is a profession prosecuted upon physiological principles that it is a *science.—R. W. Hodder, Ponsonby, Torquay.*

RECENT DISCOVERIES IN HEREDITY.

A very interesting lecture on the above subject was given by Mr. W. Bateson, M.A., F.R.S., at the last meeting of the Royal Horticultural Society at the Drill Hall, Westminster. He said that a great advance had been made in this study during the past few years, and there is now a considerable body of literature dealing with the subject. The whole matter is only just beginning to be made clear, and we may be said to be now quickly passing out from the vaporous stage. He dwelt strongly on Mendel's Law which has only recently been rediscovered and confirmed. Mendel's discoveries were not recognised during his day, and for years his work was neglected and forgotten, and was only brought to light again during the past year. He was an Augustinian Abbot of the House of Brunn, and carried out his interesting work in the quiet seclusion of his cloistered garden, choosing Peas for his subject.

He discovered that the following law, with very few exceptions, worked out perfectly with a large quantity of plants. That when two species were crossed there was a dominant and recessive form and their relations in the progeny were as follows:—Green and yellow skinned Peas were used. When greens were crossed with yellows the greens proved the recessive form, as the result was three yellows to one green, thus the yellow was known as the dominant form. When the recessive green was fertilised with its own pollen it remained true; one of every three yellows also remained true, the other two, when fertilised by their own pollen, split up into the two originals with the proportion of three yellows to one green. The third yellow remained true. This has been demonstrated recently by other men interested in the subject, of whom the lecturer was the foremost. Professor de Vries, Dr. Correns, and Dr. Tschermak, all independent workers, have been, and are still devoting considerable attention to the subject.

Mr. Bateson has worked out carefully the results obtained from Maize, Lychnis and Atropa, and found that they adhere closely to this law; although the figures when large quantities are concerned are not exact they are approximately correct. The lecturer has not confined his attention to the vegetable kingdom, alone, but has carefully investigated the results with his fowls and found that the same law applies to them. He invited all to take up the interesting subject as there was nowhere a more unexplored field for investigation. Whoever undertook to make observations on the subject he advised them to choose simple plants or they would never succeed, as the working out and separating the results would be too intricate. The Rev. Professor Henslow advised all who wished for a good subject to work on, to take up the Petunias, as when P. nectaginiflora and P. violacea are used the parentage can be so easily traced in them. It is from these two species that we have obtained the majority of our garden hybrids and varieties.

Gardening Miscellany.

SWAINSONIAS.

These beautiful leguminous greenhouse climbers ought to be found in every garden, but, strange to say, there are many large gardens where they cannot be found. It is the same old cause—not new, no matter whether it is beautiful or not with many fanatical gardeners of the present day, if it is not of recent introduction it must go to the wall. For grace and beauty there are few climbers to beat the Swainsonias. They nearly all hail from Australia and New Zealand. Many of them make very effective bedding plants for summer work, especially if mixed with Plumbago capensis. They strike readily from young cuttings or may be raised easily from seed. If propagation by cuttings is resorted to, they should be inserted in sand and placed under a bell glass in a greenhouse and not put into heat.

IXIAS.

For making an attractive display in the cool houses at this time of the year, there are not many bulbous plants that can surpass these graceful and beautifully coloured flowers. They are very easy to cultivate and last a long time in bloom, even when cut. They are either raised from seed or by offsets. The latter is preferable, as plants raised from seed require several years to develop before they produce flowers. They should be potted firmly in a light, sandy compost in the autumn, and the pots plunged in ashes in a cool frame. They require plenty of air and as much light as possible. In very favourable positions they may be successfully grown in a sunny border. They will not stand forcing as they do not like much heat. Ixia viridiflora is a unique species having greenish flowers. Green flowers are not usually pretty, but this is an exception to the rule. It was introduced in 1780 and figured in the *Botanical Magazine* 549, under the name of I. maculata viridis.

CLIVIAS

Belong to the Amaryllideae. In many establishments they are better known under the name of Imantophyllums. They are ornamenting many conservatories at this time of the year with their umbels of brightly coloured flowers. They do not require potting very frequently as the roots are large and fleshy and easily damaged. A few crushed bones in the soil are a good manure for them. They should be well fed when making their growth, and not allowed to seed, as this weakens them considerably. They should be rested in winter by diminishing the water supply.

POISON PLANTS.

At a recent meeting of the Linnean Society of London, a report on the poisoning of several parrots from eating Parsley was presented by Mr. J. E. Harting, who took occasion to review other instances of plants poisonous to domestic animals and not to man, and *vice versa*. Larks, starlings, and finches eat the berries of the Mountain Ash (Pyrus Aucuparia), but they are poisonous to man [we doubt this latter statement.—Ed]; goats eat Oak twigs without any bad results; while deer and cows are fatally poisoned. Goats appear to be very resistent against poisonous plants; in a case of poisoning from goat milk, investigations showed that the animal from which the milk had been taken had been feeding on leaves of Colchicum.

SCUTELLARIA INDICA JAPONICA.

With few exceptions Scutellarias are hardy herbaceous perennials and may be grown in any ordinary garden soil. The above beautiful variety is now making some pretty pictures in various parts of the country where plant lovers have recognised its good qualities. When once seen in bloom it recommends itself by its free production of beautiful racemes of blue flowers which prove very attractive. It succeeds well as a rockery plant and may be

easily raised from seeds, which it produces in abundance.

CAMPANULA PORTENSCHLAGIANA.

This pretty, little Campanula is now at its best in many gardens. When once established in a moist position on the rockery it romps away amazingly, and very small plants quickly form showy clumps, which bloom profusely throughout the summer.

ANTIRRHINUM SEMPERVIRENS.

Of all the beautiful plants in this family there are none to surpass the above named species for delicacy of colour and beauty of its flowers. Like many other beautiful plants it is difficult somewhat to manage, and in this principle differs from the remainder of the family, excepting A. glutinosum, which has much the same habit. Both plants require a dry, sunny position with a rich, light soil, and always protected from excessive moisture. They should be propagated by cuttings taken in the spring and struck in a very gentle heat. They will not often come true from seeds, as they are well adapted for cross-fertilisation, and are generally crossed by insects if there are other varieties near.

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. T. S. Dick, Castlemilk, Lockerbie, for his article on "Brugmansias," p. 654.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

Photographs of Plants.—The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in The Gardening World. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "The Editor," 4, Dorset Buildings, Salisbury Square, Fleet Street, E.C. *Timely notes or notices about interesting matters, or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Gathering Gooseberries for Use in the Green State.—*W. B.*: It is bad policy to gather all the fruits from certain bushes, while you allow the whole of the fruits to hang on others till they reach maturity. A better plan would be to thin out all the smaller ones for present use, leaving the larger and more shapely berries to hang till they ripen. The process of thinning will greatly encourage increased size in those that are left, and will greatly improve their appearance for table use. It may take longer time to fill the punnets with green berries by doing the work carefully so as to leave the best, but your reward will come in the quality of those left to mature. The best variety to plant for the earliest picking is Whitham's Industry.

Forsythia suspensa growing too Rampantly.—*J. T. M.*: If this is taking up too much space you should prune it into form at once. The best time to have done this was when the plant passed out of bloom; because you could have cut it back rather severely, still leaving time for the plant to recuperate and produce shoots that would flower freely next year. Your object, therefore, should be to remove some of the more rampant stems entirely, but leaving sufficient of the smaller and younger twigs so as to prevent the bushes from having a naked appearance for weeks after you cut them back. The work will have to be done with the knife, not the shears.

Black Fly on Cherries.—*A. D. H.*: There is no danger of the trees being attacked with the Black Fly that attacks Beans. Both the latter and Cherry trees have their respective aphides, and the flies from the one kind will not attack the host plant of the other. The few black aphides you notice upon the Cherry trees belong to the same, and are rather hard to kill. Your best plan, therefore, will be to prepare a strong insecticide by steeping about 1 lb. of coarse shag tobacco in 4 gallons of water. After straining out the tobacco from the liquid, dissolve 2 oz. of soft soap in the latter, and stir up the whole thoroughly. During the evening, or before leaving off work, if the sun is not too strong, syringe the affected trees with this liquid. If you have no regular sprayer, use a nozzle on the syringe that will make a very fine spray. The object is to wet the whole surface of the foliage without using so much liquid that it falls on the ground below and thus gets lost. Apply it rather forcibly, so as to make it play in amongst the leaves lying close to the wall. Next morning get the garden engine or something that will apply clean water rather forcibly. The tobacco and soap applied the previous evening will have sickened the aphides, so that in forcibly washing the trees with clean water, you will dislodge and drive down the insects, while at the same time washing their excrement from the foliage.

Large Brown Moth on Currant Bushes.—*A. L.*: The moth you send is not likely to do you any harm, at least, to the Currant bushes, as the caterpillars do not feed upon them but on Poplars, and possibly Willows and Birches. It is the Poplar Hawk Moth (Smerinthus Populi), and the moth had merely been resting during the day upon the Currant bushes. In the neighbourhood of the Black, Lombardy or Trembling Poplar, or Aspen, you will be likely to find more of the same species, though they do not seem to be very abundant at any time. One caterpillar, however, is able to do a deal of damage, so that if you have any choice trees of the species above named you may destroy the moths to prevent their laying their eggs upon the trees, as this is the season for that operation.

Time to sow Garden Polyanthuses.—*T. B.*: The most natural time to sow the seeds is about the time the seed ripens on the plants. The seedlings then have time to make fair sized plants before autumn; and if the autumn and winter are fairly open the plants keep increasing in size, so that by March or April they form fairly respectable flowering plants. Should you have any of last year's seed, however, you should sow it at once in boxes and stand the latter in a cold frame which should be shaded if facing the south. In any case, whichever the direction it faces the lights should be kept close till germination has been accomplished after which the seedlings should gradually be inured to more air and light. When the seedlings have made a few rough leaves they should be transplanted into a frame or a well prepared piece of ground on a cool and rather moist northern aspect. Mix the soil with a good quantity of leaf mould, and soil from beneath the potting benches if you have any. This will encourage the plants to make good growth before autumn. The plants will, in fact, be larger than those raised from seeds, sown later on. They will also commence flowering earlier, some of them even in autumn, if the weather is mild and open about that time.

The Foliage of Rhododendrons Flagging.—*W. Reid*: You should first give the ground a good hoeing all over the surface with the Dutch hoe, so as to leave a good layer of loose soil on the surface. Then mulch the ground with something that will serve to keep it cool. The readiest and cheapest article, perhaps, at your command would be the grass cut by the mowing machine. It is not of much service, especially during dry weather, so that you could cover the ground all over beneath the Rhododendrons with a good, thick layer of it. If this is done while the grass is fresh it will settle down and form a compact layer not likely to be blown about by the wind, and not very liable to be scattered by birds. As soon as this has been accomplished give the ground a good watering with the hose, or whatever you may have handiest. The mulching will serve to retain the water thus supplied.

Flower from a Garden near Bristol.—*E. Harris*: The specimen, of which you sent a piece, was the Feather Hyacinth (Muscari comosum monstrosum) in fine condition. It is a bulbous plant as you suspect, quite hardy and usually proves of easy cultivation. Plant the bulbs about 3 ins. below the surface in rather light or sandy but fertile soil in a fairly sheltered border of your garden. This might be done any time during September or October when the bulbs are at rest. Should the soil of your garden be in any way heavy you might take out a hole about 18ins. deep, putting some rough material in the bottom and over this a compost of loam and leaf mould lightened with plenty of sand. Tread down the soil rather firmly before planting. During the first winter you might lay some litter over the top, but after the plant has become established we do not anticipate that you will have any trouble with it.

Rose Leaves Curled.—*North*: The specimens sent had their leaves very much punctured. The puncturing must have been partly done by aphides while yet in their early stages of growth. The rolled leaves contained some caterpillars of a very small moth, most probably one of the Tineina. Roses are very subject to attacks of this kind during May and June when the leaves are young and tender. Spraying with an insecticide would have little effect upon them as the caterpillars are so sheltered and concealed by the rolling of the leaves. Your best plan will be to hand pick all the worst of them on your more choice or special Roses at least. See that the caterpillars do not drop out when you disturb the bushes as they are very liable to let themselves down by a thread and to return after danger is past. The caterpillars may disfigure the foliage but they do not kill the plants.

Names of Plants.—*Bright Spade*: Staphylea colchica.—*G. C.*: The orange-flowered climber is Eccremocarpus scaber; the rose flowered tree is Cercis Siliquastrum (Judas Tree); 3, Celsia arcturus. No numbers were attached to the first two.—*X.*: The seed of Afzelia cuanzensis from the Zanzibar Coast and other parts of East Africa.—*A. H. D.*: 1, Oncidium concolor; 2, Oncidium divaricatum; 3, Cypripedium bellatulum.—*W. M.*: 1, Campanula glomerata; 2, Campanula pumila alba; 3, Doronicum Pardalianches; 4, Veronica parviflora angustifolia; 5, Saxifraga Aizoon.—*A. R. N.*: 1, Rosa lutea; 2, Clematis montana; 3, Spiraea hypericifolia; 4, Berberis stenophylla; 5, Rubus deliciosus; 6, Ledum palustre.—*T. B.*: 1 Erica vagans; 2, Erica australis; 3, Iris sibirica; 4, Iris variegata; 5 Iris xiphion; 6, Pernettya mucronata. *A. S.*: 1 Viburnum plicatum; 2, Viburnum Opulus sterilis; 3 Laburnum alpinum; 4, Rubus arcticus. —*North*: The blue flower is Scilla nutans, the English Bluebell.

Communications Received.—G. W.—T. M.—R. A.—A. Anderson.—G. W. D.—E. T. C.—T. W. D.—E. Harris.—A. J. B.—R. M.—A. B.—Hudson & Kearn.—George Newnes, Ltd.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

June.

18.—R.H.S. Committees.
19.—Oxfordshire Horticultural Exhibition.
20.—Linnean Society Meeting; Royal Botanical Society Meeting.
26.—N.R.S. and Richmond Horticultural.
29.—Windsor and Eaton Rose Show in Eaton College Grounds; Canterbury Rose.

July.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days); Hereford Rose.
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show; Farningham Rose and Horticultural Society Show.
4.—N.R.S., Metropolitan; Norwich Rose Show.
6.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting; Maidstone Rose; Sutton Rose.
8.—United Horticultural Benevolent and Providential Society Committees' Meeting
9.—Wolverhampton Floral Fete (3 days); Gloucester Rose; Harrow Rose.
0.—Formby Rose; Stambridge Rose; Worthing Rose.
11.—Bath Floral Fete and Rose Show; Brentwood Rose; Eltham Rose; Helensburgh Rose; Woodbridge Rose.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S, Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting; Halifax Rose.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days); Tibshelf Rose.
24.—Strathbane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Prescot Exhibition; Selby Exhibition; National Sweet Pea Society (2 days).
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts. Exhibition.

August.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldcarn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley; Beddington, Carshalton and Wallington.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, JUNE 22nd, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.**, where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, June 26th.—National Rose Society and Richmond Horticultural Society, at Richmond, Surrey.
SATURDAY, June 29th.—Windsor and Eton Rose Show, in Eton College Grounds; Canterbury Rose Show.

FIELD STUDIES IN NATURAL HISTORY.—As in various other phases of modern life, so in the teaching of natural history, whether it relates to plants or animals, any innovation is sure to meet with strenuous opposition, or by adverse criticism in the daily papers or otherwise. Something of this nature took place in some of the London dailies recently when it became known that the Technical Instruction Committee of the Essex County Council had resolved to continue the special series of Saturday afternoon demonstrations on field botany, which were well attended by the teachers of the county last year. The alarm about the safety of our wild plants seemed to be caused more particularly by the proposed intention of taking a party of teachers to the New Forest during August next, for the purpose of studying plants in their natural habitats and other phases of natural history. In such a wide field as the New Forest, and at such a distance from the great hives of human industry the need for alarm seems groundless.

There are other causes at work nearer home which seem to call for the special attention of the local authorities for the preservation of wild plants, rare or otherwise. Where a large, resident population exists, the wild plants are disappearing at an alarming rate. Old and young children collect large handfuls of plants quite irrespective of their being rare or common, and throw them away, perhaps, before they have gone many hundred yards, after the supposed pleasure of pulling them up has given place to a sense of trouble in carrying them. No doubt much of this is done thoughtlessly and in ignorance of curtailing the pleasure of looking at them in after life. Here then is a real reason why the education of the masses in infancy would be a real benefit to the community at large; and as time goes on this will become more urgently necessary. Nature study has now been recognised by the Board of Education as a subject for the intellectual training of children in rural elementary schools, and none too soon we think, for those who are educated or come to have a real knowledge of plants come to love and respect them, rather than to pull them up thoughtlessly.

In the neighbourhood of large towns it does happen that the open spaces get more or less denuded of vegetation owing to the excessive traffic upon them, the games played upon them for the purpose of recreation, and owing to the deleterious substances deposited upon the same by a filthy, smoky atmosphere, and the proximity to chemical works and other industries. Under these circumstances it becomes necessary to break up the surface and endeavour to re-establish a fresh sward. There are large stretches of commons, however, where the natural vegetation is disappearing owing to the improvements effected on the surface by levelling and otherwise in order to fit them as places of recreation where games of various kinds may be carried on. Worse than that a large amount of rubbish, road sweepings and scrapings, mud, &c., has to be got rid of and all this foreign material gets dumped upon some of the pieces of common land for the purpose of levelling it probably. The result is that all the native vegetation disappears and bad weeds such as Wall Barley, Docks, various species of Atriplex, Chenopodium, and other things take the place of interesting wild plants which become extinct, probably never to re-appear on the same ground, because its constitution has been altered.

Verily the field studies above mentioned ought to be of far more reaching service to the community at large than to teachers and gardeners. The latter, we opine, would derive benefit from the scheme if it were generally adopted so as to give them a knowledge of plants, however elementary, in the earlier stages of their school days. In order to carry this out it would be necessary to commence educating the young teachers first so that a knowledge of the subject could be more generally disseminated over the land. A knowledge and love for plants, their associations and relations to birds, beasts and insects could not fail to be of service to gardeners in after life, whether engaged in a public or private capacity or commercially. A liberal education in these matters need not prevent the student in after life from being a good workman, gardener or nurseryman. We have evidence to the contrary in people who have been successful in these various capacities, and who have been close students of nature all their days from childhood onwards. All things considered we think that a widely diffused knowledge of plant life, with proper instruction to the rising generation, would tend to the preservation not merely of rare plants, but of those that are yet relatively common.

As to the criticism to which we referred above it seems to have been merely the echo of a cry or hasty and needless alarm, from Leeds to London and from London to Leeds. Professor L. C. Miall, of the Yorkshire College, Leeds, wrote a letter to the Editor of *The Times*, in which he says, "One leading feature is a vacation course of ten days in the New Forest. The teachers are to be accompanied by local guides, and their attention is particularly directed to the rarest species, which are specially named, as well as the places in which they are known to grow." Further on he says, "It seems to me lamentable that teachers should be advised to study natural history by schedules, and to gather plants merely in order to name and dry them. I imagine that they will be worse and not better for working through so dry and barren a course." We are very much surprised that the professor should discount this method of gaining information, for we consider properly dried and preserved specimens a perpetual object lesson and a means whereby the student can get familiarised with the intricacies of plant forms which the overburdened memory would forget in the course of a single day's ramble. He seems to object to the students acquiring a knowledge of common plants as well as rare when he ridicules the idea of their paying "particular attention to the difficult and uncertain sub-species of the common Bramble." As to its being a dry and barren study, we have never learned that Linnaeus considered it so, and from his day to the present there is ample evidence that his disciples and admirers have followed the pursuit with a zeal and enthusiasm that afford ample testimony to the contrary. In reference to the hurrying and uprooting of rare specimens the professor has evidently not read the programme carefully, for as E. M. Buxton, Esq., Chairman of Committee for Technical Instruction in Essex, points out, the following words are printed in conspicuous leaded type:—"Members of the party will, of course, refrain from uprooting 'rare' or 'scarce' specimens." Furthermore, we learn that the Rev. J. E. Kelsall, the local representative of the "Selborne Society," who is a staunch advocate for the preservation of plant and bird life in the New Forest, is to extend his hospitality to the party and accompany them on several of their rambles, and this after full assurance that none of the rarer specimens were to be disturbed. The professor's arguments fall to the ground in the light of these declarations.

A leader writer in *The Times* on June 5th said, "In other countries—in Switzerland particularly—legislative measures have been adopted to protect the native flora against extirpation by *unthinking toursits*." The italics are ours, and we agree with the statement entirely. Plants, indeed, require protection against the unthinking and uneducated raiders of the same, who are never satisfied unless they are pulling up something, whether they really require it or not. As to the "study of natural history by schedules" we consider it a very proper thing to do. The very aim and object of a teacher is or should be to direct the student, who might otherwise waddle through the course aimlessly and without an object in view. The object aimed at in the schedule is "an insight into the way in which plants grow, especially in their relations with their environment—the influence of external conditions, such as light, heat, and moisture, upon their form, the mutual relationships between plants and animals, and the influence of one organism upon another." No raiding of rare plants is necessary to accomplish this. The plants may be quite common in the districts visited, dependent upon the geological formation of the same and their environment. The raiding of rare plants with this object in view is quite unnecessary. Plant, bird, beast, insect and other object may be studied in their native homes, without being disturbed or materially injured in any way and left there, the desired information being committed to the flouted schedules and brought away in the pocket. Again, the programme in specialising the lines of study shows that though plant life is to be the main object of study it creates a need for calling in the aid of the sister sciences, such as physical geography, geology, entomology, fungology, zoology and every other science which has a bearing the one upon the other directly or indirectly. Some criticism was also passed upon the intimation that the services of local guides were to be requisitioned. The names and addresses of the guides in question referred to the Saturday afternoon rambles in Essex, and not to the New Forest, Hampshire, at all. The duplicates of plants to be used for special fascicles also referred to the rambles in Essex; and the suggestion was that rural teachers might collect the plants of their own districts for the purpose of school instruction. These plants might represent cornfield weeds, meadow plants, &c., and provide object lessons showing the difference between useful and useless plants of cultivated land or meadow pastures, which we should consider a very useful study in rural districts.

PHENOLOGICAL OBSERVATIONS.—We merely return to the subject of our remarks in last week's issue in order to state that

our suggestions, in reference to the necessity of exactness and uniformity in the making of observations for scientific purposes, had been anticipated and provided for by Edward Mawley, Esq., F.R. Met. Soc., F.R.H.S., Rosebank, Berkhamstead, Herts, who is phenological recorder to the Royal Meteorological Society. He has now sent us a copy of the "observation forms" as supplied to the observers in various parts of Great Britain and Ireland, from which we note that he has given instructions not only what to observe but how to do it correctly and on the one uniform plan which Mr. Mawley adopted twelve years ago when he took over this phenological work on behalf of the Royal Meteorological Society. He also sends a copy of a pamphlet he wrote some years ago as an instruction book for the benefit of new observers. In this he explains more fully how to be precise in the taking of observations, as well as their aim and object. At the commencement he explains the high-sounding title of "phenological observations," which we should think had been a *pons asinorum* at first sight to many would-be observers. We were aware that the first word of the title did not occur in English dictionaries even of a high order of merit, but that it was derived from the Greek *phainomai*, to appear, and *logos*, a science. The subject is known to the select few, he explains, as "phenology," or the science of appearances. The object which the observers have in view is "to endeavour to trace the relative earliness or lateness of the seasons in the locality in which they reside; in other words, the influence of the weather upon the natural objects which surround them." He believes this to be a less circuitous route in getting at the truth of the matter than by meteorological data, which, though perfectly accurate, must be dry as dust and unconvincing to most amateur observers.

In last week's issue we pointed out some of the errors into which observers would be likely to fall; but from the pamphlet supplied we learn that the author of the annual reports had made ample provision in this respect to guard against inaccurate information arising from a possible and most likely occurrence of different observers taking their own lines of procedure, particularly in the case of recruits. Mr. Mawley insists upon uniformity of observation, and shows how easily it can be done. The thirteen plants upon which the observations have to be taken are familiar plants common to the British Isles, and we note that all of them are wild with the exception of the Horse Chestnut, which, however, answers the purpose, seeing that it is so universally planted. With regard to the question of uniformity, the instructions given are well exemplified in the following sentence:—"The same individual trees and shrubs must be observed every year, and in the case of herbaceous plants those growing in the same spots." The plants selected for observation extend over the whole season in succession, so that only one of them need be under observation at the same time. The work is thus greatly simplified and by no means exacting for any one whose spare time for such work is limited. When once the plants have been selected and marked for observation a child of tender years could make the notes, and under the supervision of one of more mature age, for a time at least, the young observer could be trained to habits of accuracy in observation, and the object lesson could hardly fail to be of service in after life.

The best of the Paris Pears are sent over packed carefully in one-layer baskets.

The May Hiring Fairs showed that there is a growing scarcity of agricultural labourers.

Glasgow International Exhibition. — Although when the exhibition was opened the exhibits in the Agricultural Hall were far from being complete, they are now properly filled up and form a very interesting feature, especially the manurial section.

Exterminating Rooks. — If people would only take up the extermination of sparrows in agricultural districts with the same persistency as the people of a certain northern estate persecute the rooks in the district, denuded cornfields would soon be a thing of the past. In a recent raid on the rookeries they killed 25,000 of them, besides destroying an enormous number of eggs. Such campaigns as this ought soon to make the troublesome rook a rare bird, and it does not require a very vivid imagination to picture in the near future, ornithologists appealing to enthusiastic collectors to spare the fast disappearing rook which once graced our parks.

Prehistoric?—According to an article in a daily contemporary, a most remarkable growth of vegetation is to be seen on the dried up bed of the river Dee at Llangollen. Owing to the prolonged spell of hot weather, the river at this point has dried up, so that pedestrians can pass over dry shod, and picnics are being held on ground which the oldest inhabitants have not seen dry before. So far, the article is very good, but the writer commits himself when he describes the plants that have sprung up on the river bed. He speaks of a luxuriance of Ferns on a piece of ground that has only been dry for a few weeks at the most. Except in the case of well established roots, it is impossible even in the course of several years for such a vegetation to spring up.

Flowers in Rooms.—We can scarcely agree with a writer in a daily contemporary when he ridicules the idea of the scents from flowers being injurious. Certainly there is a lot of imagination as regards their effects, but, nevertheless, there are numerous cases on record of persons suffering from the effects of inhaling air that is laden with the scents of flowers for too long a time. An inquiry at some big Lily of the Valley packing shed will, we think, bear out our testimony as to their effects on the bunchers, many of whom are quickly made sick. Green foliage while in active life on a plant collects and makes up into organic matter the dangerous gas, carbon-dioxide, which forms the greater part of their food, but flowers act the reverse way, and instead of collecting they exhale this noxious gas, along with various volatile oils. The quantity though is so imperceptible when only referring to a few individual blooms that its baneful influence may be discounted.

Provisional Nomenclature for Forms of Life.—At a meeting of the Linnean Society of London on June 6th, the adjourned debate was resumed on Mr. H. M. Bernard's paper "On the necessity for a Provisional Nomenclature for those Forms of Life which cannot be at once arranged in a Natural System." The following resolutions were proposed by Mr. Bernard:—(1) That the Linnean method of naming is well adapted for indicating affinity, and should be used for that purpose. (2) That allied forms whose affinities are not clear should be designated by some provisional method of naming. (3) That the method proposed by the author appears to promise enough to justify its temporary application to the Anthozoa. A discussion followed, in which Messrs. A. O. Walker, H. J. Elwes, Clement Reid, H. Groves, Jeffery Bell, P. L. Sclater, Sir George King, W. M. Webb, and E. R. Sykes took part. Mr. H. Groves moved as an amendment to the first resolution to omit all after the word "naming," and to substitute "is adequate for the present needs of zoology and botany." This was seconded by Dr. P. L. Sclater. Before this was put to the meeting Mr. H. W. Monckton raised a technical objection to a vote being taken on the merits of resolutions which were in effect a part of a paper submitted to the society. He thought the taking of such a vote could neither be said to be authorised by the charter or bye-laws nor sanctioned by the custom of the society. He suggested that the matter be referred back to the council to consider the point. The discussion was continued in order to elicit the views of those present on the resolutions proposed by Mr. Bernard, but no vote was taken. The meeting then terminated.

Paeonies are in great demand in America for Decoration Day. One firm alone sold 4,600 doz., and could have doubled it if they had had the stock.

Rose Sunrise. — The American florists are enthusiastic over the good qualities of the Rose Sunrise, which has been seen and admired so much of late on our English show boards.

Correction.—My article on Eucharis (p. 655) should read thus:—"The best crops of flowers appear during the spring months and they cease to bloom at intervals throughout the year." In your paper it is "if" they cease to bloom at intervals throughout the year. Will you please to correct it in your next issue.—*G. F. Mills.*

[We have examined the copy supplied and find that the contraction for the word "and" was mistaken for "if"; hence the origin of the mistake.—Ed.]

National Rose Society.—The great Rose show hitherto held at the Crystal Palace, will this year be held in the Temple Gardens, Thames Embankment, E.C., by the kind permission of the treasurer and Benchers of the Inner Temple, on Thursday, July 4th, 1901. This will be the most magnificent Rose show ever held in London. There will be Roses from all parts of the country—exhibition Roses, garden and decorative Roses, Tea Roses, climbing Roses, button-hole Roses, the newest Roses, tables, bowls, and vases decorated with Roses, and many other novel exhibits of Roses. Three Fifty-Guinea Champion Challenge Trophies will be competed for, also numerous other Cups and Pieces of Plate, and money prizes to the value of £250. The band of his Majesty's Royal Horse Guards will play. Tea and other light refreshments will be served in the gardens during the afternoon. The admission from noon to 4 p.m. (private view) will be 5s.; from 4 to 5.30 p.m., 2s. 6d.; from 5.30 to 7.30 p.m., 1s.

The Devon and Exeter Gardeners' Association.—The annual summer outing will take place on Wednesday, 17th July next. Arrangements have now been concluded for an excursion which will no doubt be as interesting and enjoyable as any that have preceded it. The G.W. Railway Co. have kindly arranged for a special train to Weston-super-Mare, leaving St. David's Station at 7.5 a.m., arriving there about 9. A special steamer will leave Weston Pier at 10 a.m (sharp) for Cardiff. On the return journey the steamer will leave Cardiff at 4.30 p.m., and another steamer at 6.30 p.m. for Weston. The train home for Exeter will leave Weston Station at 8.20, due to arrive at St. David's at 10.25. By permission received from Sir Wm. T. Lewis, Bart., agent to the Most Hon. the Marquess of Bute, the party will be admitted to Cardiff Castle and the Castle gardens, where they will have the benefit of the guidance of Mr. Pettigrew, head gardener. At 3 o'clock the party will proceed to the Sophia Gardens, where the Cardiff and County Horticultural Society are holding a two days' show, that being the opening day. Through the courtesy of the chairman and committee and the secretary (Mr. Gillett) the party are to be admitted free to the exhibition. During the afternoon a demonstration is to be given of the process of drying or evaporating fruit by the new "Ryder" and "Waas" machines. There will also be a competitive exhibition of paintings and photographs of floral subjects on view. Arrangements have been made with Mrs. Barry, Barry's Hotel, St. Mary Street, Cardiff, to provide a substantial meal, consisting of cold roast beef, ham, tongue, veal and ham pie, chops or steaks, cheese and salad, with beer or aerated waters, at an inclusive overhead charge of 2s. each. This meal will be served at 2 o'clock sharp. Barry's Hotel is recommended for any other refreshments which the party may require. As far as time will allow, the public parks will be visited, and those leaving by the last steamer (6.30 sharp), may find time to run out by omnibus to Llandaff Cathedral, a magnificent pile well worth visiting. Tickets, including rail and steamer fares, pier dues, and other expenses (but not including dinner or other refreshments), to members, 6s.; to non-members, 8s. 6d. No tickets will be sold after Friday, 12th July, as the exact number must be given in to the Steamer Co., and our Cardiff friends on the following morning. This rule will be strictly enforced.—*Andrew Hope, hon. sec., 38 Prospect Park, Exeter.*

Carnations.—At last it has come, we always expected something of the sort, and now we learn from our American contemporaries that the Carnation is being advocated as the National Flower with President McKinley much in its favour. Certainly they could not have chosen a better flower, nor one that is more popular in America, where the Carnation craze has almost reached to that stage when it may be designated a mania.

Lawn Weeds.—We hear of many strange things growing on lawns, but the complaint of a correspondent who is seeking advice from a well known paper is far ahead as regards the undesirability of certain plants. His lawn has become infested with no less a plant than Apium graveolens (wild Celery). If this is really true he has not taken much pains with his lawn, as this is one of the rankest of our ditch weeds, and ought not to trouble lawn owners by spoiling the verdant carpet of their tennis court.

Forestry in Sweden.—Nearly one-half of the total area of Sweden is under forests. The area of the country is under 100,000,000 acres, and of these no fewer than 47,000,000 acres are planted with trees. Over one-third of these Swedish forest lands belongs to the State, to certain communities or to public institutions. The desire to increase the public forests in the country has led the Swedish Reiksday to devote a large sum of money annually to the purchase of land, in order to establish new forests, or, as they are called, Crown parks. This is one of the many instances in which our Government at home might profitably take a leaf out of the foreigner's book.

Table Decorations — The American *Florists Review* often publishes articles and photographs of extraordinary things which are carried out at American dinner parties, and has again in the issue for June 6th, a photograph of the table arrangement at the Chicago Club on the occasion of a banquet given in honour of the visit of the French Ambassador. The table was in the form of a hollow square with the lights, which were alternately red and white, arranged along the inner edge. The centre of the square gradually sloped down to a fountain in the centre, whose edge was covered by a circle of closely packed yellow Parrot Tulips. The slopes were composed of Ferns, and at either corner was a flag composed of red and white Carnations and blue Cornflowers. Two French and two American flags were represented. The tables were traced with Asparagus Sprengeri and Apple blossom while overhead was an immense canopy of nothing but trusses of Lilac. Imagine the perfume, and then imagine having a meal amongst it.
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Cricket at Kew Gardens.—Although during the time a gardener is at Kew he has plenty to do, he finds time somehow to indulge in the national game of cricket. It always proves a severe contest between the outside and the inside men. The first match between the two parties took place last week, and resulted in a win for the outside by a large figure; they made 108 for 9 wickets, and then declared, while the inside only made 47. The inside men were in a rather unfortunate position, as there has been a general exodus from the inside to the outside, with the result that, as far as cricket is concerned, the inside has had the worst of the exchange. In several instances they have given up one of their best men for a non-cricketer, and then to emphasise the mortification which the inside must feel, Whytock, who was last year their leading wicket taker, bowled against them this season, and by way of showing his good fellowship towards his old comrades, performed the hat trick with their wickets. Some of the inside men did not shine much. Probably they have had a deal of their energy melted out of them during the past few weeks. Anyhow, out of 47 runs Ball made 25, and Sillitoe 20, so it does not leave a very big score for the other nine. They have the herbaceous department to thank for this ignominious defeat, for two of the men from that department secured the whole of the wickets, Eavis taking six and Whytock four. Pride is sure to fall, and it did with these victors, for they played Windsor Royal Gardeners on the following Saturday, and had their combs cut by being defeated by 17. Perhaps after their previous brilliant victory, they ran a bit wild and got out of training.

Tobacco Consumption.—There is a brighter outlook for the culture of the Nicotiana than ever, for women are now becoming quite devoted to the fragrant weed in almost every country. In Russia they indulge in this little luxury to such an extent that the railway companies are providing extra smoking carriages for women where they can travel and enjoy their "bacca" without disturbing the peace of non-smokers, as in this country.

The Vinegar Plant.—The so-called Vinegar plant is a very simple organism—a fungoid growth named Penicillium glaucum crustaceum. It forms a web of a tough, leathery nature, floating on the top of decaying fluids, the fermentation of which it greatly assists. It is sometimes found in the dregs of wine left in old bottles, brownish in colour, and semi-gelatinous. It is a variety of the common blue mould which one sometimes finds on the top of jam. The latter mould also causes changes in the surface layer of jam, making it become sour instead of sweet.

Boston Public Gardens, U.S.A.—From a photograph of the above gardens reproduced in the *American Florists' Exchange* the gardens do not seem furnished so well as they ought to be; they look far too bleak and open, with nothing but walks and flower beds. With such a supply of water available as they possess the gardens might be made far more artistic and more shady than what they look at present The ground is a reclaimed swamp and, according to the description of it before taken in hand by the Council, was much the same as that on which Battersea Park has been laid out, but the landscape effects which we have in Battersea Park are wanting in its American contemporary.

National Chrysanthemum Society's Annual Picnic.—The annual picnic and outing will, by the kind permission of Alfred Tate, Esq., take the form of a visit to Downside, Leatherhead, when the gardens and grounds will be open to inspection. The date fixed for the picnic is Monday, July 8th, in order to see the Rose garden at its best, and the cost, inclusive of railway fare, conveyance to and from Downside, with use of the conveyances during the day, dinner and tea, will be nine shillings and sixpence. Ladies are specially invited The company will be conveyed to Leatherhead Station by the London, Brighton and South Coast Railway, from Victoria, London Bridge, and Addison Road, at the times set forth on the annexed programme. Dinner will be provided at the "Swan Hotel," Leatherhead, and tea on the grounds at Downside. Members and friends joining the party at Leatherhead, but not using railway tickets, will be charged seven shillings and sixpence. Those intending to join should communicate with Mr. Richard Dean, V.M.H., Ranelagh Road, Ealing, London, W., and let him know by Monday, July 1st, how many tickets they require for themselves and friends, so that the necessary railway and other arrangements may be made. It is particularly requested that those applying for railway tickets will say whether they will travel from London Bridge, Victoria, or Addison Road, in order that adequate railway accommodation may be provided. Parties wishing to sit together at dinner must give the secretary notice to that effect. The following is the programme for Monday, July 8th, 1901:—10.20 a.m., assemble at Victoria Station; 10.35 a.m., train leaves for Leatherhead. Change at Epsom; 10.15 a.m., train leaves Addison Road, Kensington, change at Clapham Junction; 10.45 a.m., train leaves London Bridge; 11.47 a.m., train reaches Leatherhead. Conveyances will meet the train at Leatherhead Station and drive to the "Swan Inn," and from thence there will be drives to Cherkley Court or in the neighbourhood until dinner. There is a pleasant walk of a mile and a half to Cherkley Court across the fields; 1.15 p.m. sharp, dine at the "Swan Inn"; 2.30 p.m., conveyances will take the party to Downside, and during the afternoon there will be an inspection of the gardens, cricket, lawn tennis, croquet, and bowls can also be engaged in; 5 15 p.m., tea will be provided at Downside. After tea the conveyances will be available for drives in the neighbourhood; 8 32 p.m., train leaves for London Bridge, reaching there at 9.42 p.m.; 8.44 p.m., train leaves for Victoria, reaching there at 9.48 p.m; 9 50 p.m., train leaves Clapham Junction for Addison Road.

Irish Fruit Prospects.—A severe storm swept over the South of Ireland during the latter end of May. The trees were loaded with fruit, and promised a good harvest, but it has now been almost completely destroyed.

FREE BEARING APPLES AS LATE KEEPERS.

To have Apples fit for culinary use as late as the month of June necessitates the cultivation of sorts especially suitable for that purpose. But localities differ for Apple culture as well as for other fruits, and some that succeed well in some gardens do not in others. The nature of the soil, altitude and latitude has much to do with success. I have proved this frequently, and when forming a selection eighteen years ago, suitable to a low lying wet soil, I planted sorts of trees by the half dozen, and some specially useful and free bearing by the dozen. A few which found greatest favour were the Codlin classes. Keswick never fails; Stirling Castle is one of the best in every respect from early in September to the end of the year. Lord Grosvenor is loaded with large fruit every season, and is a robust grower not subject to disease of any sort. Lord Suffield is one of the best but (along with Cellini) had to be discarded by reason of its cankering proclivity. Seaton House is in excellent condition from September till May, and is sound and in good condition at the middle of May. Golden Spire is an early Apple but keeps well to January and never fails to bear abundantly. Bramley's Seedling is an abundant bearer and keeps well till March or April. Northern Greening does better in England than Scotland, but it is a free bearer and keeps to late in April. Sandringham is a free bearer and keeps well till May. Yorkshire Greening is our latest and keeps well till June. These are by far the most useful culinary Apples we have grown in the north, and their hardiness renders them very valuable. Among dessert sorts the best have proved to be Irish Peach, Devonshire Quarrenden, Red Astrachan, Worcester Pearmain, King of Pippins, Kerry Pippin, Golden Pippin, and Fearn's Pippin. In this locality the most of dessert Apples ripen badly, and do not keep well. This small list bears well and ripens nearly as well in the north as in the south. Many Apples are wasted by allowing a current of air to pass through them. We keep them dark—and with three or four layers of fruit on each shelf—and the latest have paper laid over them. They do not shrivel, loss is nominal, and they retain their flavour well.—*M. T., Carron, N.B.*

GARDEN CROPS IN WEST LOTHIAN.

This season has caused me to slightly alter my ideas regarding well-ripened wood as a necessity for plants to produce abundance of bloom. I have always clung to the opinion (held by the majority of gardeners, I believe), that only well ripened wood could produce heavy crops. As everyone must remember, last season was the most sunless, wet autumn experienced for many years. With what result? In this locality the flowering shrubs have never carried finer crops of flowers Hybrid Rhododendrons are magnificent, the Hawthorn is literally covered with bloom, while Lilacs, Geans, and others are also over the average.

Turning to the kitchen garden, Strawberries are (with the exception of Royal Sovereign) heavy crops, Red Currants the same. Black Currants showed well, but the heavy gales we had recently have done much damage to this crop, also to the Gooseberries, which showed a fair average crop. Raspberries are very late, but promise fair. Cherries when in flower caught some bitterly cold winds, which caused them to set only moderate crops. Plums, on the other hand, set a splendid crop; while the few Apples grown have also set better than ever before here. They showed a great amount of blossom, and the weather proved propitious for once.

Among vegetables, Peas and Potatos never looked better; Onions, Beet, and Kidney Beans, too, look well; while the Brassica tribe are not so promising except early Cabbages. All other things are a good average for the season. Tomatos (under glass, of course) never set better, and are fully as forward as usual. Roses are healthy, but late, and bedding stuff generally is doing well. We have had a very cold spell since June 9th, and little appearance of more genial weather yet, June 17th. Rain,

too, is badly wanted, as the surface is quite parched. On the whole, however, we have little to complain of as regards either weather or crops.—*Black Watch*.

ASPIDISTRAS.

THESE excellent room plants, or "parlour Palms," are deservedly popular. Their fine foliage being of a coriaceous texture enables them to withstand the deleterious effects of gas-lit rooms, draughts, dust, fluctuations in temperature, and other evils incident to such positions as they usually occupy.

Aspidistras, therefore, are of the utmost value for the decoration of windows, passages, fire stoves, and such-like places. Moreover, they seem to be practically immune from insect pests, while their culture is of the simplest order. Their leaves, however, require to be sponged occasionally with tepid water, or—as a lady once informed me—"with milk and water; it is so nourishing, you know."

I have been led to these remarks by the splendid condition of some plants in the possession of Mr. Launder, of Leppoc Road, Clapham; but whether he favours the tepid water or the other greasy mixture, I omitted to enquire. At any rate, his plants presented an unusually bright and burnished appearance, otherwise this note would never have been written.

A particularly fine plant, or plants, is always worthy of recognition. Mr. Launder, however, is not content with the commonly accepted species, viz., A. lurida (and its variegated variety), or as it is now called in the jumble of new names, A. elatior. He also grows two other interesting forms, viz., A. punctulata and A. angustata. The former is somewhat similar to A. elatior in size and foliaceousness, but each leaf is distinctly though irregularly punctulate, *i.e.*, marked with small white spots. The latter, as the name implies, is narrow leaved, and is much smaller than the other species. Mr. Launder also possesses a variegated form of this pretty, little species, if species it is, as I can find no reference to such a plant in Nicholson's "Dictionary of Gardening."—*C. B. G., Acton, W.*

RHODODENDRONS AT REGENT'S PARK.

MESSRS. JOHN WATERER & SONS, of the American Nursery, Bagshot, Surrey, are again making an attractive display with a large collection of Rhododendrons in the Royal Botanic Gardens, Regent's Park. Words form too inadequate a medium wherewith to describe the beauty of the scene. The Rhododendrons must be seen to be fully appreciated. They are arranged in an ideal position, being in a dell, and are protected from the effects of the weather by a canvas awning. They are arranged in a most attractive manner, forming recesses, banks, and mounds, in which the colours are most delightfully harmonised. It is difficult to believe that the plants have only recently been lifted from the nursery beds at Bagshot and transplanted to their present positions. They have the appearance of old established plants, and afford striking testimony to the readiness with which the plant lends itself to removal.

The collection exhibited is a representative one of most of the best hardy varieties, and includes many handsome forms. The first to attract our attention on entering the dell were some small plants of a variety bearing the name of Gomer Waterer. The enormous trusses in which the flowers are borne make the plant a conspicuous one, and the colour of the flowers in addition to this feature makes it also an extremely handsome variety; they are white, slightly blushed towards the margins. It is difficult to make a selection of the best when all are of such excellence. Some of the most striking and general favourites with the visitors are Roseum elegans, a true rose colour; James Mason, a light centre, gradually increasing in depth until at the margins it is a bright scarlet; Alexander Adie, a brilliant rose-scarlet; Countess of Tankerville, a light rose; Mrs. W. Agnew, a light rose with lemon centre; Concessum, a light centre with deep rose margin; and Mrs. Tom Agnew, a pure white with faint yellow blotches on the upper petals.

Mum is one of the best of the white varieties, and has a pretty lemon eye. Odoratum is a pretty, dwarf variety, very much resembling the Azalea, and is delightfully scented. Kate Waterer is a rich crimson with a large yellow eye; William Whitworth, a deep crimson variety, heavily spotted on all the petals; Mdme. H. Croux, a very good white, deeply spotted; Sir Henry Mildmay, a rosy crimson; Michael Waterer, one of the brightest crimson scarlets. Gloriosum is a general favourite, being a large flowering variety with pinkish, white flowers, whose beauty is greatly enhanced by the wavy margins of the petals. Profusion has pretty curled stamens; J. M. Brookes is scarlet with a bronze eye. Canon Furze is a very distinct fine rose variety, with an extra dark eye; Mrs. John Clutton, pure white; Cynthia, rich crimson; and Duchess of Connaught, a white, with pale lemon markings. Mrs. Alford is a very uncommon colour in Rhododendrons, being salmon crimson; Butlerianum, a white tinged with pink; Lady Hillingdon, a pure white; and Album elegans is also a very good white. A batch of Kalmia latifolia is making a very pretty picture at present, and focuses the attention of every one who passes round that side of the dell. There are also numerous Conifers, &c., dotted about. When the visitor sees the exhibition in Regent's Park, he can judge for himself the picture they present in the nurseries at Bagshot, where there are sixty acres of them. The exhibition is to last throughout June.

PAEONIES FROM LANGPORT.

JUNE brings a great variety of flowers in its train, and not the least conspicuous of hardy flowers are the Chinese Paeonies, so called, which have been largely developed in this country and on the Continent from the old Siberian Paeonia albiflora, a species with white flowers, and in the spring time, rich red leaves and stems. The improvements effected consist in the doubling of the flowers and in putting a great deal of colour into many of them, the colours now ranging from pure white to dark purple, red and crimson.

A boxful of named varieties has reached us from Messrs. Kelway and Son, Langport, Somerset. The double varieties in this consignment were the most numerous, but some of the singles were also represented. Many of the varieties of these herbaceous Paeonies are decidedly scented, some of them being more grateful than others in this respect. This odour is strong upon opening a box of blooms, but scented individuals can also be detected. Most gardeners are aware of their beauty for garden decoration in June, but bold and massive as the flowers are they are valuable for cutting, being seen to best advantage when cut with long stems and placed in large vases in dwelling or other rooms where the fragrance of a bunch of flowers permeates the place.

None of the double varieties was entirely white, though there were several very pale and choice varieties. All the centre of Blanche Fitzmaurice was white, consisting of narrow petals, surrounded by a double row of broader and larger blush coloured ones. That named Portia is a very handsome one, and though slightly tinted with pink on the outer petals it would at a short distance away be regarded as pure white, and for all practical purposes it is. The flower is very regular and full, the petals being broad right to the centre of the bloom. One of the most deliciously and distinctly fragrant is Lady Alexandra Macduff, a blush white variety with broad petals and very full flowers, the petals being arranged round a single centre and crimped at the edges. A somewhat different flower is Christine Shand, almost of a uniform silvery blush from the broad outer petals to the centre. All the central ones are moderately cut, slightly crimped and of average width. A very differently formed flower was Lilla Mayo, the stem of which carried three fully expanded flowers. The central one was the largest, and though not quite full in the centre this was hidden by the great length and breadth of the petals, the whole making a silvery blush flower of great massiveness and beauty. The side blooms were much smaller but shapely.

The foliage of all was good, but that of Lady Romilly particularly so. The stem, though only 15 in. long or less, carried four large, rich green leaves, without a blemish. The flower is a uniform silvery pink and very double, so that a bed or bold clump of it would be a conspicuous ornament to the garden or pleasure grounds. The darkest of all sent us was a new one named General Buller, having rather shortly stalked but healthy foliage, and a large carmine-rose flower more or less flushed with a silvery tint at the tips of the central petals. Dolabra is also a very full flower of a rosy-purple hue, clouded with silver at the tips of the petals. Limosel differs from all the above in the curious formation of the flower. The outer petals are very broad and stand out boldly from the rest of the flower. These are followed by short and narrow petals, deeply fimbriated at the apex; then comes a series of petals of varying width, some entire and some of them deeply fringed, filling up the centre of the flower. On the whole, the bloom of this variety is very massive and conspicuous, so that it might please those who object to the formality of a regularly formed flower. Another strikingly distinct flower is that named Agnes Mary Kelly, moderate in size and consisting of three rows of broad silvery-pink petals forming a guard to a great zone of closely packed and short yellow petals, surrounding a central knot of purple ones. All of the above are excellent varieties for planting extensively in beds upon the grass.

Three single varieties represented a class favoured by many growers who prefer single to double flowers. The widely expanded flowers of Doris have rosy-carmine petals, fading to a silvery cast at the edges. Countess Cadogan is notable for its large silvery pink flowers, with a great brush of yellow stamens in the centre as in the case of Doris. Sir Angus Holden is a less expanded flower than the other two, but distinguished by the dark crimson-red colour of its cup-shaped, single blossoms.

MULE PINKS.

THIS beautiful section of the Dianthus family receives far less attention than their merits deserve. I would like to induce everyone to grow them, as they are not only most useful for cutting, but make a gorgeous display in the garden for a considerable period. The variety D. hybridus grandiflorus planted in a bed and edged with one of the small white Pinks, would take some beating. It is rosy pink in colour, and a most profuse flowerer. It makes the best display the second and third years after planting. It is easily propagated by cuttings taken in autumn. I prefer about the beginning of September for inserting the cuttings. Select nice clean growths, dibble into sandy soil in boxes, and place them in a cold frame, keeping close for a fortnight. Thereafter, treatment similar to Calceolarias suits them admirably. Plant in permanent quarters early in April in any good garden soil, and that is about all the attention they require. Full exposure to the sun, I may add, seems to suit them best, although they are by no means particular as to situation. I refer principally, of course, to D. hybridus grandiflorus, which is the strongest grower and most profuse bloomer. Other grand sorts are Lady Campbell, pink; Napoleon III, bright crimson; and Marie Pere, white. The latter is much more difficult to root than the others, and the cuttings might with advantage be inserted in pots and placed on a shelf in a cool greenhouse, where they would secure more careful and constant attention than if placed in a frame.—*C. Blair, Binny, Uphall.*

CHRYSANTHEMUM POTTING.

MOST Chrysanthemums are now in their flowering pots; but some growers may have preferred to postpone the work of potting till later, but it would not be wise to hold them back any longer, as the roots will get too thick and will not have room to thrive in the small pots. Both standards and bush plants can be potted in the same sized pot, namely 8 in. Thoroughly wash these inside and out before using, and see that they are quite sound, also take great care as to the drainage, for this means a great deal in the life of a Chrysanthemum. If the pots are insufficiently crocked, the roots will either become too dry or on the other hand get saturated with sour water. A good sized stopper should be placed with hollow downwards over the drainage hole at the bottom of the pot and slightly smaller ones put round this, likewise with hollow downwards, and finally some little bits of crock thrown on the top (avoid crock dust). A little Mushroom bed dung can be placed over the drainage prior to the plants being potted. Compost should be composed of six parts good loam to two of old Mushroom manure and half a part of bone meal with a little addition of river sand. Leave three sturdy top growths on the standards and remove all

the root stems. Bush varieties can do with all their stem growth but must have every root stem removed. —*G. W. Dickson, W. Hampstead.*

CUCUMBERS FOR FRAMES.

A ONE-LIGHT frame will be large enough to raise the seedlings in, which should be sown in 60-sized pots, with one crock and two seeds in each pot, one inch deep, in equal parts loam and leafsoil. Do not water for a day or two. When the third rough leaf appears pot off singly in similar pots. While the young plants are growing, stable manure and leaves may be got together well mixing it for the rank steam to work off. The materials should be well shaken and turned three or four times. Build the bed four feet at the back, one foot less at the front, and a foot wider and longer than the actual size of the frame and place towards the south. Make the bed moderately firm, put on the frame, wait until the rank steam has worked off, then place a mound of soil under each light, consisting of decayed turfs broken up, leafsoil and rotten stable manure well mixed together. The plants may be planted out when the internal heat does not exceed 85°. Shade for a few days if the sun is hot; give air according to the condition of the weather, never allowing the inside to fall below 70°. After making two leaves, pinch out the point and the stem will produce two lateral shoots; again pinch out the top, and stop after every fruit. The soil should be the same temperature as the frame before planting.—*G.B.*

HEUCHERA SANGUINEA.

ALTHOUGH this is not grown nearly so largely as it deserves to be, yet it is one of our very best early flowering summer perennials, and when well grown, I doubt if there is any plant in the hardy flower border that for brilliancy of colour and general appearance and usefulness can compare with it. It can be grown from seed, but seedlings cannot be relied upon to come true, and by far the best mode of propagation is by practising division of the roots every two years, which assists them to flower much more freely. A bed planted here two years ago in some light loam with plenty of road sand added, has been a very beautiful sight for more than a month past, throwing up spikes, 15 in. to 18 in. in height, and it still continues to flower profusely. For decorative purposes in a cut state it is very useful, lasting a long time in water and making a very bright display. It seems to prefer partial shade, and plenty of water in the growing season. Heuchera micrantha is another very pleasing variety with white flowers produced in great freedom on a pyramidal spike. It is not so useful for cut flower as H. sanguinea, but a large mass in the borders is a beautiful sight. It should be treated in the same way as advised for sanguinea.—*A. Thatcher, Aldenham Elstree.*

CHRYSANTHEMUM NOTES.

THE plants should now have their final potting. A good many growers of note prefer to pot their plants much earlier, although there is not much gained by it as a rule. As regards the size of the pot, 10 in. inside measurement is generally large enough, although robust growing varieties require larger pots than spare growing ones. A good compost for the final potting consists of 3 parts of good, sweet loam, 1 leaf mould, and 1 part fresh horse droppings; some lime rubble should also be broken up, and the dust sifted from it to make it porous; some quarter-inch bones, and also charcoal may be added, whilst a sprinkling of soot will also be beneficial. After they are potted the plants should be stood outdoors in the open, fully exposed to the sun and air; and they do best when placed in lines. We stand ours in rows about 5 ft. apart, running north to south on a bed of cinder ashes; it is a good plan to place a piece of slate under each to keep out worms. Each plant should have a stake, which should be kept well to the outside of the pot. The stakes should be fastened to a couple of wires strained from upright posts at either end of the rows. Secure the centre shoot to the stake, and the side ones to light canes fastened to the wires. Syringe overhead in the afternoons of all bright days.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

THE FLOWER GARDEN.

BEDDING OUT is about completed now in most districts and the over-worked gardener has now a little more time to devote to minor details which he has been forced through pressure of work to neglect during the past week or two. A gardener's work is never done, and wherever he looks he will always find something to do, and generally there are more things requiring attention at one time than what he can spare the time to attend to.

WALKS.—During the bedding season these are very liable to suffer, for not only is the season trying for them, but there is an excess of traffic over them in connection with the transference of the plants from one part of the garden to another. Even the walks in our large parks and botanic gardens seem to have been neglected this year owing to the lateness of the season and the consequent rush of work when warm weather did come to stay. Nothing is more disparaging to a well kept garden than broken walks, the attention of the visitor is forcibly attracted from the flower beds and borders to the state of the walks, for nothing causes much more annoyance than loose gravel to tread on. This being so, it ought to be the object of every gardener to keep his walks in as perfect and firm a state as possible. A good walk round a garden is analagous to a good frame round a picture; it makes it more attractive. In no case does the old truism "Prevention is better than cure" apply better than in this case, for when once they are allowed to get broken at the surface in the summer it is a difficult matter to make them bind down firmly again. They will well repay the time and labour expended on them in watering and rolling, and advantage ought to be taken of every shower to give them a good pressing down. It is loose uncomfortable walks which induce many owners to resort to concrete, etc.; and with the advent of such walks as these the garden at once loses its characteristic freedom of outline, and no matter how it may be arranged, so long as these hard formal walks remain, the garden will be tainted with formality, a thing greatly out of favour with every lover of grace and beauty

One of the best walks I have had the pleasure of walking on in a garden was a grass one; of course, such a walk was not fit for much traffic and entailed a large amount of labour in keeping in the "verdant green carpet" state. Nevertheless it is a walk I should recommend for traversing that part of the garden which is devoted to floriculture and does not get the constant wear of a frequented thoroughfare. One great advantage of this class of walk is that it does not necessitate the use of edgings, thus greatly adding to the beauty of the borders. Never permit weeds to flower on or in the vicinity of walks or there will be always trouble with them. This is an item, which, although so simple, is too often overlooked. The Poet Laureate, Alfred Austin, grasped the true idea of gardening when he wrote, in "The Garden that I Love," the oft-repeated words, "Doing things in good time is the main secret of successful gardening," and this axiom ought to be strenuously followed out, no matter to what part it may apply.

One of the chief requirements in the garden during this season is watering and tying, especially the former, for although many parts of the country have been visited by welcome rains, there are many districts from which they have been withheld. No part of the garden is more liable to suffer than the rockery. Many of the plants are structurally adapted to withstand long periods of drought, but many of them quickly suffer if they lack sufficient root moisture.

PHLOXES.—Speaking of the rockery brings to my mind pictures of patches of bloom made by that typical rockery plant, the dwarf Phlox. They may be had in an endless variety and are most easy to propagate. Cuttings will strike at almost any season of the year if given a gentle heat, seeds germinate quickly in light sandy soil or they may be readily divided in spring by division of the old plants. It would almost be safe to say that there is no other family of rockery plants that are capable of making such a show of colour as these and in such brilliant hues; their name alludes to their bright colours, *phlox* being the Greek word for flame. With very few exceptions, they are perfectly hardy, as they are natives of North America and Russian Asia They will thrive in any good garden soil if given plenty of room and light. Their colours have a wide range which starts with white and includes numerous shades of red and blue. The red shades seem to predominate and give the plant a warm appearance in the early part of the year. The tall growing perennials are not nearly so often grown as they deserve, as they are invaluable in the autumn for making a bright patch of colour in the borders. They succeed best in a soil that is inclined to be a bit heavy. They should have a heavy top-dressing of good dung in the winter and not disturbed for several years. Like the dwarf species they are very easy to propagate. They form a big family, over thirty distinct species being known.

One of the best species for the rockery is Phlox subulata, very often known under the synonym of P. setacea. It is a very elegant plant and a most profuse flowerer. It was introduced into English gardens in 1786 from North America, where it ranges from South New York to Florida, and figured in the *Bot. Mag.* 411 and 415. There are several white forms of it, the commonest being Nelsoni, aristata and nivalis.—*P. R.*

Kitchen Garden Calendar.

WATERING will form one of the chief requirements in this department for a few weeks, the same as in its neighbour, the flower garden.

PEAS must be frequently watered or the pods will not fill properly. It is not too late yet to make another sowing for late autumn use, but some quick growing variety must be used and the soil well prepared for it in the way of rich manure. To grow late Peas successfully, they require a large amount of attention and much time in watering.

DWARF BEANS.—A final sowing should now be made without delay to carry on a succession until frost comes. It is not too late yet to put in another batch of Runner Beans.

ASPARAGUS.—It is time now that this was left to grow freely, especially in the south, where it ought never to be cut after the middle of the month if the beds are to be kept in a good condition. A dressing of salt, or a good soaking with manure water will prove very beneficial at this period and enable the plants to grow vigorously, and thus be able to store up a large supply of nutriment in the fleshy roots for use during the following spring. If the beds are in a position where the stems are likely to be blown down by the gales, they should have stakes and cords passed across the beds at intervals to hold up the plants, for if the stem is broken the food cannot be deposited properly, and a weak growth during next season will be the result.

LETTUCE.—These should be planted out wherever space will allow, and another sowing made which will produce a supply when the main crops have become exhausted. The large Cos variety is best for this purpose.

CAULIFLOWERS.—Those that are planted out now will require frequent waterings until they are well established; unless this is properly carried out, failure is inevitable. If possible, choose showery weather for planting.

CABBAGE.—If a good sowing is made now, they will come in handy to occupy the ground as it is cleared of summer crops.

ENDIVE.—This is not in great demand at the present, as whenever possible Lettuces are used instead; but a sowing made now in a light soil and thinned out when large enough, will produce a batch of plants to follow on after the Lettuce season is past. Although they delight in a light soil, they by no means require a poor one, and the richer it is the better the plants will be, especially if they are well supplied with water.

ONIONS should be carefully thinned wherever they require it, and every help offered to produce a well ripened moderately large sized bulb.

TURNIPS.—The ground for these should always be of a rich nature, so that the plants are hurried over the small stage, and thus escape the attacks of the troublesome Turnip fly. If the soil is not rich, a sprinkling of artificial manure in the drills will prove a great assistance to the young plants to get quickly over the stage when the fly is most troublesome.

MUSHROOM BEDS may now receive attention, and the necessary dung accumulated for them. As soon as sufficient is obtained to make a bed, it ought to be prepared and spawned to provide the first crop.

Hints for Amateurs.

JUNE being the month of Roses, a few remarks and hints in a concise form may not be out of place. Much has been written on this emblematic flower of England, but much remains to be learnt and discovered. Although the Rose is known to us as the Queen of Flowers and chosen as a national flower, it by no means grows to the highest perfection in Great Britain where it so often has to struggle for existence under lead-coloured skies and against all sorts of sudden climatic changes. To grow Roses to the highest perfection in Britain, they have to be provided with shelter from the changeable weather, and a uniform temperature maintained. I hope my readers will not judge me as being unpatriotic when I say that the ideal place for Roses is in the South of France. It is there that they can be produced in unrestricted luxuriance owing to the genial climate. It is not that they are better cultivators of Roses in France than we are in Britain, but simply because they are favoured with better conditions. If they could only have a few seasons such as are often experienced in this country, with late spring frosts, heavy hailstorms and wet seasons we doubt if they would be able to produce blooms to compare with those seen on our show boards during this month. Space will not allow of many details of culture to be gone into, and a botanical treatise is not required, so I will give a few brief hints and reminders on the principal features bearing on the subject.

Position.—In the amateur's garden, which is usually not a very pretentious one, there is not much room for choice of position, but still, if the planter knows what a Rose requires, he can select the best position the piece of ground at his disposal offers. The Rose, to do well, requires an open position, but not an exposed one, and plenty of light. It is useless to expect Roses to thrive in a shady position, or under the drip of trees, or in a place where they do not receive a free circulation of air. Smoke of course is one of the greatest evils to militate against success, and one that cannot be mitigated. The only remedy is to choose varieties with a vigorous habit and best adapted to growing in smoky towns. If the position is a very cold one they should be encouraged to keep dwarf or given the shelter of a wall. Many of the most handsome of the varieties are so tender as to require protection under glass to withstand the rigours of our winter and the treachery of our lamblike(?) spring. If the position is a low one they are very liable to suffer freely, after growth has commenced, from frost.

Soil.—The roots of Roses are not usually of a very rambling nature and if the soil proves too unsuitable it would not be much trouble to put in some fresh, or mix some matter with the old soil to improve it. The great fault with many soils in which it is desired to plant Rose trees is that it is too light and open. What they want to root in is a good mellow loam enriched with a few broken bones. Light humic soils may often be improved by thoroughly mixing powdered clay with them. Gravelly soils also are of little use for their successful culture, but may be greatly improved by the addition of some heavy soil. A thing that must be insisted on is perfect drainage, for if stagnant moisture is allowed to remain in the vicinity of their roots the result will be disastrous. On the other hand great care and watchfulness must be exercised to make sure that they do not suffer in the least from drought or the buds will be deformed, or cast off altogether. The tree will soon assume a wretched appearance, and having lost its vigour will soon fall a prey to the numerous enemies with which it is surrounded, some of which I will speak of later if space will allow.

Manures.—These should be applied very cautiously, or the trees will rush off into a rank, sappy growth. If the trees are growing strongly, no manure need be applied, but as soon as they show signs of failing vigour, an application of liquid manure should be given. One of the best substances for this purpose is pig manure, but this is not always procurable. Sheep or cow manure or nightsoil and powdered charcoal make excellent substitutes. If the soil is in good condition and a few crushed bones have been added as recommended, it ought not to require any stimulant for some considerable time. A very good way to feed Roses is to mulch their roots with old stable dung; this serves two purposes, it protects the roots from cold in the winter and from heat in the summer, in addition to the mechanical action which it has of retaining moisture and preventing excessive evaporation, which would be the result if the surface of the soil was exposed to the influence of the hot drying winds.

Pruning.—The object of pruning is to ensure a uniformity of growth and an open bush through which air can pass freely. Too often the amateur is afraid to sacrifice the shoots, which results in his trees becoming a dense bush, all growth and no flowers, besides being infested with all sorts of diseases and insects. All gross, sappy wood should be removed, also weak and diseased shoots. Pruning cannot be taught verbally, but requires a practical demonstration, such as may be seen in parks and gardens in the autumn and spring. The same applies to budding and grafting.

Cuttings of many of the hardier sorts strike freely in the open ground if taken in the autumn about September. Well ripened shoots should be selected, preferably those that have not borne blooms. They should be taken off with a heel of old wood and trimmed to about 8 in. or 1 ft. in length, and firmly inserted in a sheltered place in the garden, giving them rich soil to strike in. They should not be transplanted until the following autumn, so when putting them in, room should be allowed for growth during the following season.

Diseases.—The Rose family is very susceptible to the attacks of parasitic fungi, for the majority of which no effectual remedy has yet been found. About the only one that can be successfully coped with is Mildew. The remedy for this is flowers of sulphur or a weak solution of sulphide of potassium. The other diseases are only effectually checked by removing all affected parts and burning them; do not by any means consign them to the rubbish heap, for that will not destroy the fungus spores, and often proves an easy method of distribution for them. As soon as any part of the tree or foliage shows signs of a fungoid disease, it should be severed immediately and destroyed; by this means it may often be completely eradicated. If the tree has a good constitution it is not so liable to fall a prey to insect and fungus attacks, especially if it is kept well open so that the branches are well ripened. Insect pests may be kept in check by frequent applications of some insecticide, such as extract of quassia or some of the petroleum compounds. When it can be done without injuring the bloom, a thorough syringing with rain or pond water every evening will prove a great help to the trees, and will keep the foliage fresh and green.

Climbing Roses.—These generally find great favour with the amateur as they can be grown to great perfection on the sunny side of the house. The three best varieties for this work are the well known Marechal Niel, Gloire de Dijon, and William Allen Richardson. They are all three of them easy to grow, of a vigorous habit and very free bloomers. The Banksian Roses are great favourites with some people and are becoming very popular. They require very little pruning, only the gross and the weak shoots need be cut out. Of course they require thinning, but this is quite different to pruning, they must on no account be allowed to get crowded or they will not ripen their shoots properly, and will bear very few flowers in consequence. Probably no Rose has such a penetrating scent as the Banksians. It is often known as the violet-scented Rose, and perfumes the air for a great distance when in bloom, which, when in a favourable position, lasts for the greater part of the summer.

Pillar Roses.—This is another favourite way of growing them. They may be grown on straight pillars or over arches, but whichever way they are grown they are very effective. No varieties are more suitable and make a better display when climbing on a pillar than the single Roses. Too much cannot be said in their praise, especially the variety known as Carmine Pillar, the flowers are produced in profusion and are of an extra large size, and as the name denotes a bright carmine colour. As the pillar and wall Roses have more to support than the others they should have a little more nourishment, but not sufficient to produce a rank growth. No description of Roses, as given by a pen, can be adequate enough to convey to the mind their various distinctive features, therefore instead of giving a list of names I will again recommend intending Rose planters to either choose the varieties for themselves as seen in the public gardens or visit a Rose nursery at this time of the year.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Slugs.—*S. S.*: If you have tried soot and lime and that is not effectual, you must contrive to catch these unwelcome visitors. This may be done in various ways, but we think that none are more effectual and simple than the following: Place some slates or tiles at intervals where they are the most troublesome, and on these put a spoonful of oatmeal and cover it by a large inverted flower pot slightly tilted to allow them to get under. The oatmeal proves a very tempting morsel for them, and they soon find it, and in a great many instances also take a fancy to the flower pot for a refuge during the daytime. The beds should also be gone over in the evening with a lantern, especially after they have been watered or there has been a shower of rain. Large quantities can be captured in this manner, and if followed up persistently for a few nights the pests ought to have their depredations effectually checked.

Strawberries unfruitful—*Beds*: This may be from a variety of causes. You do not state whether your plants have ever borne fruit. Some Strawberries have a tendency to grow into what is known in common garden jargon as "males," that is, they produce leaves in abundance but no fruit. This peculiarity is hereditary, and runners taken from these plants will also be unfruitful. If this is the case with your plants, the best thing you can do with them under the circumstances is to throw them away and get in a new stock of young plants during the coming autumn. If your plants have become unfruitful through age, we should recommend you to peg down as many runners as you require and cut off the remainder. These should be planted out during the autumn into ground that has been deeply dug and thoroughly enriched with rotten dung. After the third year's bearing Strawberries are past their best and require renewing. It is a capital plan to renew one third every year, thus preventing any break.

Rhododendrons flagging.—*Cooper*: You do not say whether your bushes have been recently planted, but we should judge from their condition that they have. Always remember when watering them, that peat is very treacherous stuff, and often proves more thirsty than one would think, soaking up enormous quantities of water and yet only wetting the surface layer. On the other hand the top layer may appear dry while the bottom is saturated. If you have not given them a *thorough* watering we should advise you to do so at once or they will not produce buds for next year's flowers. At one time it was the belief of nearly everybody that they could not be grown without peat, but we have seen remarkably fine trusses of bloom on the exhibition table which have been cut from plants growing in loam.

Deodorising Manure.—*G. D.*: The manurial value of the substance is often greatly increased if it is properly deodorised. One of the most effective and cheapest substances we know of is powdered charcoal. It increase the value of the manure considerably, as instead of the ammonia being given off and wasted, as well as causing annoyance, it is collected and retained in the pores of the charcoal. Wherever ammonia is escaping from a manure heap it should be prevented in this way, no matter whether it is causing an offence or not, as when the ammonia has gone from the manure, in the majority of cases there is not much left of any great value to plants.

Moss on Walks.—*Garden*: The reason that this grows on your walks so plentifully is because they are damp and shaded. It is labour in vain to try and prevent it until the cause is removed. One of the best plans under the circumstances would be to

thoroughly drain the walk and mix plenty of lime in the soil underneath it

Plants for Growing under Trees.—*P. R.*: Two of the best subjects for such a position as you wish to cover are Periwinkle and the Christmas Rose, or if these do not suit, try Ivy, Aucubas, Butcher's Broom and the large-flowered St. John's Wort (Hypericum calycinum).

PTERIS ALBO-LINEATA ALEXANDRAE.

Few of the Ferns are better adapted for table and sitting-room decorations generally than some of the species and varieties of Pteris, particularly Pteris cretica, P. c. albo-lineata, P. c. Mayi, P. Wimsetti, P. nobilis, P. tremula, and various others. Other forms are equally handsome, though not so largely grown. The new form being put into commerce bids fair to be extensively grown in a few years. It has all the grace and elegance of the best forms of P. cretica which have yet appeared in cultivation, but the variegation is more extensive and better defined, if anything. The broad pinnae are pearly white and margined with bright green, while they terminate in large, round crests which aid their drooping habit, especially in the case of the fertile fronds. The barren ones are naturally broader and of drooping habit. Mr. H. B. May, of Dyson's Lane Nurseries, Upper Edmonton, who is putting this handsome Fern into commerce, states that it "may be correctly described as the finest variegated Fern ever introduced; it is of robust growth and stately habit." He exhibited it in his fine group of Ferns and foliage plants at the Temple show. The accompanying illustration of it is from *The Gardener*, by permission of Messrs. Cassell & Co. It shows the habit and elegant contour of a plant of the fullest size usually grown for market purposes.

Pteris albo-lineata Alexandrae.

BOTHWELL CASTLE, LANARKSHIRE.

Bothwell Castle, one of the residences of the Earl of Home, is in many respects the most notable place in the West of Scotland. Its lords and earls from an early period have performed an important part in the great drama of Scottish history. The precincts, as well as the entire *entourage*, are hallowed by their associations with Scotland's greatest heroes —Wallace, the Bruce, and the Douglas. The old castle, now in ruins, stands upon the banks of the river Clyde, surrounded by scenery that can scarcely be equalled. The ruinous castle, perhaps, is peerless as far as Scotland is concerned, for it is one of the most palatial monuments of antiquity we possess. In many parts the masonry is almost entire, though the date of its foundation is uncertain. It flourished, however, in the days of Wallace and Bruce, and possibly may have been an important stronghold in the days of the Celtic kings, perhaps, indeed, one of their seats, for two of the Alexanders occupied the neighbouring Castle of Cadzow.

It has been singularly unfortunate in its frequent change of proprietors, as we shall see. Early in the 14th century Bruce made a grant of the castle and possessions to Sir Andrew Murray, who was married to his sister, Christian Bruce. This Murray was afterwards regent of Scotland. At this period of Scottish history, the times were extremely turbulent, not to say disastrous to the nation, by the constant oppression of the "Hammer of Scotland," the "*Edwardus Malleus Longus Scotorum.*" And he having on one of these expeditions reduced the castle, made a grant of it to Sir Aymer de Valance, Duke of Pembroke, whom he also made governor of Scotland. Pembroke, however, does not seem to have held possession very long, for shortly afterwards when Bruce restored Scottish affairs to something like harmony, Murray returned from exile and had his possessions of Bothwell restored to him. The heiress of Murray having espoused Sir Archibald Earl of Douglas, the possessions were conveyed to that noble house, and remained in the family for nearly two centuries, when the downfall of the Douglases in the reign of James II. incurred forfeiture. The Crichtons, a family of some influence at the time, whose residence was in Edinburgh county, came into possession of Bothwell Castle on the downfall of the Douglases. They also forfeited it, and James III. granted it to a favourite, John Ramsey, who, too, forfeited it. It went then in turn to the Moneypennys, the Hepburns, the Stewarts, the Scotts of Buccleugh and Roxburgh, the Earl of Angus, the Earl of Forfar, who rebuilt the modern mansion, and then to the Douglases again after a lapse of many centuries. Edward III. is said to have lived a month in this castle.

Of the Hepburn dynasty, it is noteworthy to refer to the flagitious James Earl of Bothwell, so well known to readers of the history of our ill fated Queen Mary Stewart. This Earl was the instigator of the scandalous murder of Lord Darnley, the Queen's Consort. The marriage and the subsequent events connected therewith are too well known to be repeated. The Earl died in banishment a dejected and miserable wretch—a just punishment for the contumely he had brought upon the character of the too susceptible Mary Stewart.

Both the ruin and the modern mansion of Bothwell are enclosed in an extensive park, through which flows the river Clyde. The mansion is a spacious but plain building, and was rebuilt by the Earl of Forfar, who afterwards was killed in the battle of Dunblane, better known in some parts of Scotland as the battle of Sheriffmuir. The mansion is beautifully situated in a comparatively level part of the wide tracts of lawns or parks which on every side surround it, and is but a very short distance from the ruin of the castle. The lawns are well dotted over with very old specimen Oaks and other forest trees, which, along with the ponderous appearance of the ruin, is a prospect grand in the extreme.

Though the immediate proximity of the mansion is so very fine in prospect, the real grandeur of the place is in the vicinity of the old castle. As we already observed, the river flows near to the castle, and in its course forms an extremely exquisite valley, varied in features from bold rocky cliffs to low, mossy, and reedy banks. This serpentine valley is covered with wood of Nature's own planting, which gives a massiveness of no common kind to the landscape, and, as seen from the summit of the Douglas tower, whose staircase *en passant* is almost entire throughout, the view on every hand is supreme. Deep down in the valley, fearfully far below, flows the waters of the river, here and there broken in foam by outcropping rocks, is a sight, we opine, which is not without its influence of terror and admiration combined. And as a temporary relief from the strong power of such a prospect, one withdraws his range of vision to a closer inspection of the gigantic edifice on which he partly stands; his amazement is truly not much lessened. Here he sees walls of stone and mortar, varying in thickness from 15 ft. to 60 ft., and there beautifully traced windows indicative of the superior handicraft of our early ancestors, over the workmanship of the average builder of the present day. And in consideration of the excellence of the prospect which the summit of the tower affords, one can scarcely help thinking that not only were our ancestors wise in their generation in the selection of suitable places for the erection of fortifications, but were also alive to the beauties of nature.

Much valuable information has been acquired regarding the original outline and extent of the castle from recent excavations carried out by the Earl under the able superintendence of his land steward and gardener, Mr. Archibald. These earlier foundations have been traced and left exposed to the view, and would lead one to suppose that this fortalice was at least double the size it now is. And as the vestiges of two towers were discovered the inference may well be deduced that the building in its original state was a quadrangular block fortified with a tower at each angle.

En tout cas one thing is very evident. Whatever the form may have been, or the period when built, that much wealth was possessed by the founder, for unlike the general run of our ancient buildings, this castle in its exterior parts is finished with polished sandstone. On the opposite side of the river, situated upon a precipitous cliff, stands the ruin of an old abbey whose foundation probably may have been coeval with the castle itself.

It is remarkable to observe the tenacity of the Oak here. A line of these hardy veterans is to be seen through the parks and lawns, and they are supposed to mark the line of the ancient approach to the castle. It is truly impossible for any one possessing a degree of imaginary powers to look upon these struggling heroes, without feeling a pang of sorrow tempered with admiration. Gigantic ruins of past centuries, in their dotage, as it were, unwilling to die, linger year after year, like noble sentinels, guarding with jealous eye their original commission, but which, alas! has long ceased to exist.

I need scarcely mention that the valley along the course of the river is laid out with pleasure

walks, which, in their course, traverse some of the choicest bits of scenery one could desire to see. In passing through one feels inclined to consider the ever-changing scene a combination of the gardenesque and picturesque. Clothed here with an underwood of flaming Rhododendrons, there with spacious masses of Daffodils, Primroses, Wood Anemones, Wood Hyacinths, Ferns, Luzulas, grasses and mosses, as their respective seasons come round, and the whole shaded with a canopy of the foliage of the more majestic inhabitant of the forest, is a treat few could fail to appreciate. Even in the cheerless days of winter this scene has much to make it attractive. Though leafless and bare are the trees of the forest, yet if their wide-spreading arms are laden with snow with the strong contrast afforded by the waters of the river and the bold effect presented by the mammoth ruin, the prospect is indeed one not devoid of grandeur. Perhaps, however, the autumn months would be the time that the prospect would be most impressive, with its glowing tints, the nameless shades ranging from green to yellow, from yellow to scarlet and brown, from brown to decay, and subsequently death, so indicative of the consummation and dissolution *omnium rerum*. In the midst of all this ever-changing scene stands the proud castle, with a rugged, defiant stolidness that almost voices out a derisive contempt for this round of mutations. And though it has seen "Many a vanished year and age, and tempests' breath and rage," it alone appears amid all this to bid defiance to the subtle laws of change.

In the vicinity of such a scene as we here endeavour to depict it is but natural that the divine powers of the imagination of a spectator should be called into operation to assist in thoroughly imbibing all the associated charms present and past. And if we uncurb those unique faculties and allow them to soar in freedom into one of those magnificent flights that almost makes one unconscious of one's being, and scene after scene is unfolded upwards and onwards through the dim mists of antiquity, does it not indeed add a charm to the place and a strength to our being that makes us as a race feel deeply grateful and proud of our crowning position, the very keystone of creation? But enough for visions of a pageantry of equestrian knights parading the long shady avenues, and vizor armed warriors peopling each point of vantage, each tower and battlement, and lady fair careering in state amid the gorgeous splendour of the palatial domains, are things which are too fleeting for our modern, too practical modes of thought.

The flower and kitchen gardens are very fine and maintained in the highest state of perfection by the able management of Mr. Archibald. As would be expected, the glass department occupies an important part here, and includes all the special and general divisions incidental to modern gardening. However, it is impossible for us in this paper to enter into the matter particularly; perhaps we may have an opportunity of doing so afterwards, and it will suffice meanwhile to say that everywhere, in whichever department of the estates, the prudent management and professional abilities of Mr. Archibald cannot be too highly admired. He may be said to be the pioneer in this locality of the introduction of the single stem system of training of wall fruit trees, and as might be expected his success over the ordinary conventionalities of the hosts of other styles, as a rule more ornamented than useful, have fully been rewarded with most gratifying results. All the offices, including men's accommodation and bothies, are amply represented, convenient and comfortable. Mr. Archibald's own house is yet another instance of the accommodation which every good garden should have attached to it. It contains every modern convenience, is commodious, and above all is well situated, in fact, it is in every respect the ideal of "Loudon's" gardener's house *vide* "Suburban Hort." par. 523. Of all this and much more is Mr. Archibald worthy for his courteous demeanour towards all ranks and classes who visit those famous grounds, is always of the most respectful character. An able land steward who wisely and intelligently carries on the management of the high charge with which he is entrusted, fully enjoys the esteem of all and the confidence of his noble employer, with whom he has now served for many years.—*D.C.*

JOHN CLAUDIUS LOUDON.

(Continued from p. 609.)

For about five years, namely, from 1833 to the middle of the summer of 1838, Loudon laboured most diligently and strenuously in order to get his great work, *The Arboretum et Fruticetum Britannicum*, completed. It was his most earnest desire that all the drawings of trees and shrubs should be made directly from nature. He rose early every morning, breakfasted at 7 a.m., and from that time till he returned to dinner at 8 p.m. he was frequently with his artists in the open air. At this laborious undertaking he had seven artists in continuous employment. When so employed, he never even halted for refreshment nor to sit down. The literary part of the work was resumed in the evening after dinner, Loudon dictating to his wife, as amanuensis, till 2 or 3 a.m. before retiring to rest. The fatigue was enormous, but his extraordinary enthusiasm and his strong constitution carried him through it.

About this time he had four monthly publications all running at the same time, yet in 1836 he added yet another, namely, *The Suburban Gardener*. His health was so impaired about this time that he soon found the management of five monthlies and the *Arboretum* more than he was able to attend to properly, so he sold *The Magazine of Natural History* to Mr. Charlesworth; and in 1838 he also disposed of *The Architectural Magazine*. Midsummer saw the completion of the *Arboretum*, at which he had been labouring so assiduously. The circumstances under which he found himself at this period was anything but enviable, and would have discouraged anyone with less courage and enthusiasm than himself. He was suffering from an enormous swelling in his right knee, which some of the most eminent London doctors of that day believed to be due to a diseased bone. Something supposed to be a liver complaint also troubled him greatly. From a financial point of view, he was also in sore straits, for, besides the large sum of ready money he had paid his artists from time to time, he owed his printer, stationer, and wood-engraver a round sum of £10,000. They did not press him for the money, however, but consented to wait for payment till the sale of the *Arboretum* should enable him to settle their claims. The agreement stipulated that the latter work together with *Cottage Architecture*, should be placed in the hands of Messrs. Longmans till the creditors were paid.

Undaunted by bodily ailments, no sooner was his *magnum opus* completed than he prepared and published the *Hortus Lignosus Londinensis*, and in the last number of *The Suburban Gardener* announced to the public that he intended to resume his former work as landscape gardener, and go out for that purpose when required or give advice at home on any plan that might be sent him. From this increased exertion his wife and friends tried to dissuade him in consideration of the state of his health. Mrs. Loudon, during her eight years' experience as his amanuensis amongst plants and gardens, had picked up a good deal of information on those subjects and began to write books on the subject herself. Mr. Loudon's sisters, or two of them, learnt the art of wood engraving. He himself became so ill that his most intimate relations began to despair of his recovery. After placing himself under the care of Dr. William Lawrence, an eminent surgeon of those days, he rapidly recovered, as the result of a different view of his complaint conceived by the doctor, and the consequent different treatment to which he subjected the patient.

Land for an arboretum was very generously presented to the town of Derby by the late Joseph Strutt, Esq., and in 1839 Loudon began to lay it out. He also published his edition of *Repton's Landscape Gardening* in that year; and added a *Second Additional Supplement to the Hortus Britannicus*. In 1840 he undertook the editorial management of *The Gardener's Gazette*, but only retained it for a twelvemonth.

Apparently the *Jardin des Plantes*, at Paris, was notable for its collection of Crataegus amongst other trees, and as Loudon was anxious to identify some of the species he conceived the idea of visiting that city. Accordingly he, his wife and little daughter set out for Paris in 1840. His health being again on the decline furnished an additional excuse. They travelled by way of Brighton, Dieppe and Rouen, staying altogether about two months in France.

In 1841 Loudon made up his mind to pay a visit to Scotland, which he had left so hurriedly ten years previously, with the promise that he would return the following year. Soon after publishing a *Supplement to the Encyclopaedia of Plants* he went from London to Derby, taking his wife and daughter Agnes with him. They stayed a few days with their staunch friend Joseph Strutt, Esq., and then proceeded by way of Leeds to Manchester. When they arrived at Leeds it was raining heavily, but his old determination had again laid hold of Loudon, and to the gardens they went in the midst of a terrible thunderstorm, which continued all the time they remained in the Botanic Garden. Soaked to the skin on their arrival at the station they found the last train for Manchester that night ready to start, but Loudon could brook no delay, and thither they went without changing their clothes. Next morning the rain still descended heavily, and though unwell he insisted upon visiting the Botanic Garden, where he so aggravated his cold that he was obliged to go to bed on his return to the inn.

Sufficient energy returned on the following morning to urge him on his career, as he was bent on seeing the Botanic Gardens at Liverpool, and thither he went, but on arrival was unable to get out of the coach and had to send his wife to look at some plants he desired to examine. He sailed for Scotland that night but was very ill during the voyage, so much so that when he landed at Greenock he was in a state of high fever. From there he persisted in proceeding to Paisley by rail, and from thence to Crosslee Cottage, the residence of Mr. and Mrs. Woodhouse, with whom he had promised to spend a few days. Directly on his arrival he was obliged to go to bed. A doctor, having been summoned, determined his ailment to be bilious fever.

He never left his bed for a period of six weeks, and for some time his life appeared in great danger. His eagerness to start work again returned as soon as he was able to sit up. Taking leave of their friends, Loudon and his family commenced a tour through the south of Scotland, visiting every garden of any importance on their route and noting down everything of interest. His energy was unabated, notwithstanding the weak bodily condition to which he had been reduced, and neither fatigue nor wet weather could restrain him from visiting any and every garden in which he heard of anything worthy of his inspection. After a fortnight's travel and work of this nature the party reached Edinburgh, but Loudon stayed only one night; and leaving his family there he set out alone for Glasgow on August 13th on his way to Stranraer, to lay out gardens for the Earl of Stair, at Castle Kennedy.

On September 1st, he returned to Edinburgh and spent a fortnight taking particular delight in showing his wife all the places familiar to him when a boy when he resided in the city about thirty-seven years previous to that time, but by this time vastly altered. On September 13th, he hired a carriage for the purpose of taking his family home by land. On reaching Newcastle they halted two or three days with their friends Mr. and Mrs. Sopwith; and Loudon was immensely pleased with the admirable order of arrangement which prevailed in Mr. Sopwith's library. From Newcastle they journeyed to Chester-le-Street, and thence to Durham. Loudon was more delighted, perhaps, with Raby Castle, than with any other garden inspected while making the detour of the county. The next stage of the journey was Darlington, from whence they travelled by rail to York, the inspection of which occupied three or four days. This completed the tour by road, for they travelled thence by rail to London.

CHARCOAL.

Charcoal is often used as a manure, but in itself it is useless to plants, as they can only absorb matter either in a liquid or gaseous form, and charcoal is one of the most indestructible substances. The real use of charcoal in the soil is the remarkable power it has of absorbing and retaining gases in its pores, many of which are highly nutritive to plants. According to an authority on chemical analysis, charcoal can absorb 90 times its own volume of ammonia, 85 hydrochloric acid, 81 sulphuretted hydrogen, 35 carbonic acid, 9·25 oxygen, 7·5 nitrogen, and 1·75 hydrogen. When roots have a tendency to cling round pieces of charcoal in the soil, it is not the solid carbon they are after, but the

gases which it contains. Powdered charcoal is an effectual deodoriser of manures, and is far better than quick lime, as instead of driving off the ammonia it stores it.

COOMBE WOOD NURSERY.

WHOEVER loves hardy trees and shrubs could not fail to be interested by a visit of inspection to the Coombe Wood Nursery, Kingston-on-Thames, of Messrs. J. Veitch & Sons, Ltd. It is situated on Kingston Hill, and is easily reached from Norbiton or Kingston stations, the former being the nearer.

The entrance to the nursery is from the main road over the hill from Kingston to London. That part of the grounds is level, and occupied with various kinds of nursery stock. As soon as the visitor reaches the southern slope of the hill, he looks down into a valley, the opposite slopes of which are occupied by Coombe Wood, which at this season of the year is very attractive. The nearer slopes and all the level ground is occupied with flowering trees and shrubs, and Conifers in great variety. From early spring onwards, something or other may be found in bloom, while the foliage subjects are interesting at all times, from their varied tints at the time of expansion to the glories of the fading and falling leafage.

By the side of a walk not far from the offices is a handsome specimen of Acer palmatum, about 25 ft. high and as far through. This, we should think, is one of the finest trees of this Japanese Maple in the country. Genista praecox, grown in the form of standards, makes a very interesting subject, and nseful for conservatory work when in bloom. The sombre tints of the Japanese evergreen Oak (Quercus acuta) are striking by contrast with the light green of the Maple just mentioned and other subjects. Solannm crispum is usually trained upon a wall, but here it stands in the open, though more or less sheltered by some trees. Its mauve coloured flowers are produced over a long period. The May flowering Genista purgans is also grown in the form of standards, and its golden yellow flowers are very effective. Two other Japanese Maples arrested our attention, namely, the finely cut Acer palmatum palmatifidum, and the purple leaved A. p. dissectum purpureum. These Maples are hardier than they usually get credit for. Certainly one of the best of the ornamental Brambles is Rubus deliciosus with its large white flowers. Many people consider it the best. Maule's Quince (Pyrus Maulei) is handsome when its orange-salmon flowers are open, and highly interesting in fruit. A fine bush of the Japanese Dogwood (Cornus macrophylla) stands 25 ft. high. Equally fine in its way is Magnolia stellata rosea, 8 ft. high, and producing its rosy flowers during March and April, earlier or later according to the state of the weather.

In the way of fine foliage plants, we might mention the cut-leaved form of the scarlet-fruited Elder, Sambucus racemosa serratifolia. The opening tints of the golden variety of it (S. r. s. foliis aureis) were also very fine. Very dwarf and suitable for various purposes, such as the front of shrubberies, or for planting on exposed parts of the rockery, is Ribes pumilum aureum. Very distinct in its way is Cerasus Laurocerasus schipkensis, a small leaved variety of the Cherry Laurel from the Schipka Pass. Acer palmatum roseo-marginatum has coppery-yellow leaves when opening, edged with rose. The yellow hue of A. p. flavescens is also attractive. The palmately divided leaves of A. japonicum vitifolium are also very handsome; the tree of it is 10 ft. high and very handsome. Strictly speaking, Daphniphyllum glancescens is a foliage plant, the large leaves being not nnlike those of some of the larger Himalayan Rhododendrons. The flowers of the female plant are inconspicuous, but those of the male are very numerons, the red anthers being rather striking in the mass.

The Japanese Cherry, Prunus Psendo-cerasus, is now much used for spring forcing. There are several varieties of it in cultivation, some of which are finding their way into British establishments. The darkest flowered of all we have seen is P. P. James H. Veitch, which received a First-class Certificate from the Royal Horticultural Society on May 16th, 1899. Pavia macrostachya forms a bush rather than a tree, and produces its racemes of white flowers much later in the season than the better known species of Horse Chestnut. Pretty and interesting is the hybrid Escallonia langleyensis, with its pink flowers, not yet open, however. An idea exists that Eucryphia pinnatifolia is not quite hardy, but the original tree here has now reached a height of 14 ft., and flowers grandly every year. The winter flowering Hamamelis arborea stands 10 ft. high; Cornus brachypoda, 25 ft. high; and the rare Stuartia Pseudo-camellia, 15 ft. high, and the latter will presently be in full bloom. The light yellow flowered Abelia serrata stood out all the winter, and commenced blooming in May. A very dwarf Almond suitable for small gardens is Amygdalus nana, with small leaves and pink flowers. The Hawthorn scented Escallonia phillipiana, one of the parents of E. langleyensis, also does well here.

In the bottom of the valley where the soil is deeper, richer and presumably moister during the winter months, quantities of the more common and useful trees for planting in streets, parks, and pleasure grounds are grown. Some of these to which we refer are Limes, Planes, Willows, Poplars, and Crab Apples. Salix vitellina britzensis is notable for the peculiar red shade of the smooth and shining surface of the bark of last year's shoots. The London Plane is grown as standards with 6 ft. of clear stem, and the trees range from 10 ft. to 15 ft. in height. The variegated Negunda aceroides variegatum is also grown in the form of standards. The myriads of flowers produced by Pyrus Malus floribunda range from pink to white when fully expanded, though the buds are darker. The variety P. M. f. atrosangninea is rosy crimson and white, and when grown in proximity to the type the contrast is great. P. M. Scheideckerii has semi-double flowers, with crimson buds, changing to rosy-white when fully expanded. It is a handsome tree and as it blooms late it forms a succession to P. M. floribunda. The beauty and utility of these Crab Apples in the pleasure grounds can hardly be overrated. They have two seasons or periods of beauty, namely, in May, when the trees bloom, and again in autumn when the fruits assume their bright colours, which they retain till Christmas at least, if left hanging on the trees.

Standard Rhododendrons are also grown in the valley bottom, and the soil seems to suit them admirably, judging from the quantity of blossom they produce. At the time of our visit some Bamboos were growing here also, but the intention was to plant a Bamboo garden with all the hardy varieties of which there is an admirable collection at the Coombe Wood Nursery in tubs. The Umbrella Pine (Sciadopitys verticillata) is grown in considerable numbers, in trees ranging from 2 ft. to 6 ft. in height. The purple tinted flowers of Magnolia soulangeana are fairly well known, but we noted another form with much darker flowers, namely, M. S. nigra, having long, dark purple petals. Another very handsome and comparatively new Magnolia is M. Watsoni with pure white flowers. A fine specimen 8 ft. high should now be in full bloom. A beautiful tree of the rare Acer carpinifolium stands 12 ft. high, and is clothed with leaves more like those of a Hornbeam than a Maple, as they are plaited and serrate, but otherwise undivided. Carpinus cordata is a Hornbeam with heart-shaped leaves, and serrated bracts. Two species of Styrax from Japan are still rare in this country, namely, S. Obassia, with large leaves, and S. japonica, with small leaves. The former stands 15 ft. high, and the latter 12 ft., which should testify to their hardiness. Both of the species blossom handsomely every year and one can scarcely help wondering why these free flowering subjects with their bell-shaped white flowers like Snowdrops are not represented in every garden of any size. Two uncommon Dogwoods are Cornus brachypoda variegata, and C. florida pendula, the latter having their small flowers surrounded by large white bracts which the casual observer would take to be the flowers.

Trochodendron aralioides belongs to the Magnolia family and is remarkable for the flowers being without petals, or sepals, so that the stamens appear in tiers upon the floral axis. The obovate leaves are evergreen. A plant of Aralia crassifolia, usually grown in the greenhouse, stood out all winter, the stem being 4 ft. high, and the drooping, leathery, undivided leaves 12 in. to 18 in. long. Viburnum tomentosum Mariesii has plaited leaves and rayed trusses of blossom like the British Guelder Rose. Another uncommon Japanese shrub is Caesalpinia japonica treated as a sort of climber, being trained upon a trellis in the open. Its panicles of yellow flowers are very freely produced. The hardy Orange Citrus trifoliata was in full bloom about a month ago.

The Lilacs are now out of bloom, but we noted a number of splendid varieties, all of them quite in the front rank of the best modern types. The flowers of Dr. Masters are soft lilac, double and produced in large upright trusses. Arthur W. Paul is also double, but the flowers are crimson in bud and deep purple when fully expanded. Those of Leon Simon are double mauve; Michael Buchner, pink in bud, changing to mauve, the double flowers being produced in huge trusses. Very choice is Madame Casimir Perier with double white flowers. The buds of Congo are red but as the blooms expand they change to rosy purple. Thongh a single variety it is distinct and handsome. The double lilac flowers of Doyen Keteleer are produced in a dense pyramidal truss, and like most of the above, it may be described as blooming later than the old early varieties with small trusses. The improvements in colour, size of truss and flower have been great.

COLOUR IN THE FLOWER GARDEN.

IT is the gardener's aim to devote his attention not merely to practical and mechanical work, but also to scientific study. The one is indispensable to the other in the ultimate mastery of the subject. This is but a natnral conclusion when one considers what a glorious art gardening is, and the strides it has made during the long reign of our late beloved Queen Victoria, who, as everyone knows, evinced a great love for flowers.

Plants have been discovered year after year, different varieties of a plant "sported," until at last almost every colour imaginable can now be exhibited in bloom or foliage. Every young gardener's ambition should be to attain the higher grade of the art, and stndy not only the mechanical but also the aesthetic side.

Walking in either country or town one frequently sees an inharmonious distribution of colour in the flower gardens and borders. The clashing of colour upon colour is enough to disgust the most casual eye.

If a musician were to hear a succession of discords struck on the piano or any other instrument, he would naturally experience a very unenviable sensation; so it is with the gardener (worthy of the name), whose eye is blinded, as it were, by the confused mass of ill-blending colours.

Few people pay due attention to colour harmony, or are imbued with the natural gift of discernment; let them learn by observing Nature, who is a good colourist, and if we trust to her guidance, we cannot be led far astray—her laws are the best. One never finds wrong colouring in wood, meadow or mountain.

My intention in this little article is to put before the reader, in the simplest form possible, the right and wrong way to use colour in the flower garden. The most beautiful part of a garden is a well placed and well arranged mixed border. Its general appearance should be rongh and *natural*, with no nniformity or exactness whatever. Harmony rather than contrast should be aimed at as a rule.

A progression of colour in a mixed border might begin with strong blues (light and dark) mingled with white and pale yellow and blending into pink, which will start the warm colours, viz., rose, crimson, strongest scarlet and brown, and these can harmonise into orange and bright yellow. A paler yellow followed by white would distinctly combine the warm colours with purple and lilac, and a colder white would blend them pleasantly with low growing plants and cool-coloured leaves. All these lovely colours can be thrown into relief by a background of shrubs.

The following are a few of the hardy and half-hardy annuals, biennials and perennials most preferable for a mixed or herbaceous border:—Adonis (aestivalis), dark scarlet, 1 ft.; China Asters, various, 2 ft.; Convolvulus minor, various, 1 ft.; Helianthus stella, golden yellow, 4 ft.; Impatiens Sultani, rose scarlet, 2 ft.; Canterbury Bells, various, 2 ft.; Larkspur, various, 3 ft.; Godetia Duchess of Albany, white, 1 ft.; Petunias, various, 1½ ft.; Lupines, various, 2 ft.; Phlox Drummondii, varions, 1 ft.; and Poppy Mikado, red and white, 1½ ft. Shrubs and Ferns would look well dotted here and there, to remove the monotony of ceaseless bloom.

There are also many kinds of creepers grown for their bloom alone, these would be very effective climbers for the wall at the back of the border. Two excellent varieties of the climbing Tropaeolum or Nasturtium are: Tropaeolum canariense which is commonly called Canary Creeper, and is delightful for its yellow blooms which are exhibited in great abundance. It flowers from July to October and enjoys a well shaded and cool position. Tropaeolum speciosum is much after the same style only it has deep scarlet flowers instead of yellow. This lovely species is often seen climbing over the roof of many a Welsh and Scottish cottage.

Another great feature of the garden is a designed bed. These geometrical looking objects are more suited to parks and estates than to country and small gardens. A few kinds of colour in broad masses would give far more effect in these beds than any mixture.

If the gardener requires a number of flowers to be placed together on a lawn in small beds, and the bright colours are all to be used in a limited space, then some of them can be separated by a screen of tall-growing foliage plants. The following combination will perhaps give some idea as to how coloured beds may be placed together on a lawn:—First bed.—Mauve Ageratum, with gold Pyrethrum edging. Second bed.—Pink Pelargonium, with silver Centaurea edging. Third bed.—Rich blood-red Pelargonium or tuberous Begonia of the same colour with gold leaf Pelargonium or golden Thyme edging. Fourth bed.—Screen of foliage plants, Castor oil, white Tobaccos, Virgin Thistles, purple Beet, Gladioli and Echeverias. Fifth bed.—Scarlet Pelargonium or Lobelia cardinalis, with silver leaf Pelargonium or Cerastium edging. Sixth bed.—Blue and white Lobelia, with gold Mesembryanthemum edging. Seventh bed.—Palms kept in the house during the winter such as Chamaerops Fortunel, or Privets (shrub). Eighth bed.—Yellow Calceolaria with deep border of brown Calceoloria, and grey Sempervivum edging. Ninth bed.—Purple Beet, with deep border of white Marguerites or Geranium cinereum which has white flowers with hardly perceptible pink veins, and Mesembryanthemum edging. Tenth bed.—Red tuberous Begonias with a border of Ageratum, and Centaurea edging. The above screens of foliage are used to shut off one colour so as one can enjoy the next.

A greenhouse well filled with plants and climbers is a very beautiful sight both in summer and winter. Indoor gardening is most useful and interesting and in the higher stages most complicating. In the summer more interest is naturally taken in out of door study, for it is then that all nature's work is exhibited.

In winter the open air flower garden is rather dull and monotonous and then it is that the gardener takes a real interest in getting his conservatory at the highest pitch of perfection with all the flowers that are too delicate to stand the cold winds and frosts which will inevitably occur. The reader must not think that houses look their best in winter; his experience will most likely tell him differently.

Oh, what a lovely sight it is to see the glasshouse rafters well covered with the famous Lapageria rosea or L.r. alba with their waxy bell-shaped flowers banging in profusion and blending with the gay masses below, staged up to exhibit their glory amongst Maidenhair and Pteris Ferns. Also a house well stocked with the lovely fibrous tuberous Begonia Gloire de Lorraine, which throws forth masses of bloom from November to January, will indeed prove a glorious spectacle when mingled with Panicum variegatum, which is a very beautiful creeping grass. For overhanging baskets and draping staging there is no equal. White stripes with tints of pale pink give it a very glorious appearance when the full view of the sun is upon it.—*G. W. D.*

SOCIETIES.

GRAND YORKSHIRE GALA.—*June 12th, 13th, and 14th.*

ALTHOUGH this big floral exhibition was slightly below par last year it made up for the deficiency this year. The exhibits were very numerous and of a high standard of excellence. A visit to a flower show year after year is very instructive in the different phases of gardening. Not many years ago the Fuchsias were a feature of this show, now they take a modest background and are scarcely represented; Calceolarias also seem to have had their day, and Gloxinias fill their places on the show boards. Roses, of course, still hold the paramount position in everybody's estimation, but they are now finding a pair of keen rivals for the supremacy in the Chinese Paeony and the Carnation. Englishmen seem to be catching the enthusiasm which the Americans are rocked with for the Carnation, and the vast strides in improvements that have taken place during the past few years and the multiplication of varieties is amazing, and show with what zeal our hybridists are working. Orchids also hold their own in the public's estimation, and are likely to continue to do so as there are none to compete with their fascinating forms. It is rather early in the season yet to expect much fruit, but in spite of this there was a big display.

Seven hundred and fifty pounds were awarded in prizes—£300 for Orchids, stove and greenhouse plants; £200 for Carnations, Pelargoniums, Begonias, &c.; £150 for Roses, cut flowers, &c.; and £100 for fruit and vegetables. This is the forty-third year since the society held their first show, and starting in a very modest way it has become one of the first shows in the country. It is under the distinguished patronage of the King and the principal personages of the country. Space will not allow of a detailed report, but the principal of the prize-winners are given below.

GROUPS.—There was keen competition in the class for groups of miscellaneous plants arranged for effect. The prize-winners were, first, Mr. E. Beckett Faber, Harrogate; second, Mr. J. S. Sharpe, Huddersfield; third, Mr. W. Vause, Leamington. For twelve stove or greenhouse plants in bloom (Orchids excluded), first, Mr. J. Cypher, Cheltenham; second, Mr. W. Vause; third, Colonel Harrison-Broadley, Welton. For six ornamental fine foliage plants, first, Mr. J. Cypher; second, Mr. W. Vause; third, Messrs. R. Simpson & Son. For a specimen Croton, first, Messrs. R. Simpson & Son; second, Mr. E. Beckett Faber; third, Mr. W. Vause. Good prizes were offered for twenty alpine and herbaceous plants, yet there was only one prize awarded in this section; it went to Mr. S. Hardcastle, Bishop Wilton.

FERNS.—There was better competition for six exotic Ferns, first, Rev. G. Yeats, York; second, Messrs. Simpson & Son. The order for ten hardy Ferns was, first, Mr. T. Nicholson, York; second, Messrs. R. Simpson & Son; third, Mr. J. Jackson.

CARNATIONS.—For a group of Carnations, first, Mr. A. Wilson, Hull; second, Mr. F. B. Grotrian, Wetherby; third, Messrs. Walshaw & Sons, Scarborough; fourth, Mr. E. Beckett Faber. This section was one of the features of the show, and some idea of the extent may be gathered when the lowest number of plants in a group was limited to fifty.

TABLE PLANTS.—For eight plants suitable for dinner table decoration, pots not to exceed 6 in., first, Sir J. W. Pease (gardener, Mr. J. McIndoe), Hutton Hall, Guisborough; second, J. B. Oldham, Esq., Easingwold; third, Messrs. W. Artindale & Son, Sheffield.

GLOXINIAS.—Good prizes for tastefully arranged groups of Gloxinias in bloom were offered, and the order, first, Messrs. R. Simpson & Sons; second, Rev. G. Yeats; third, Mr. W. T. Owbridge.

ORCHIDS.—For a table of Orchids 12 ft. by 5 ft. arranged for effect the lead was taken by Mr. J. Cypher; second, Mr. John Robson. The awards for ten distinct Orchids were, first, Mr. J. Cypher; second, Mr. John Robson; third, Mr. W. P. Burkinshaw. The display of these floral aristocrats was very striking and came in for a deal of admiration and eulogistic description, but although flattering, it was often far from botanical.

ROSES.—These were well represented and filled the tent in which they were grouped with a delightful fragrance which was as gratifying to the olfactory organs as the form was to the eyes. For a group of Roses in pots Mr. J. D. Hutchison, Kirbymoorside, was first; Mr. H. Pybus, second, and Messrs. W. Jackson & Co., third.

GREENHOUSE PLANTS.—For a group of Begonias and foliage plants arranged for effect Mr. W. T. Owbridge was first; Messrs. R. Simpson & Son, second; and Miss Warton, York, third. Miss Warton was first for six distinct Fuchsias, and Mr. J. W. Clark second. In the class for a group of Calceolarias arranged with foliage Mr. W. T. Owbridge was first; Mr. T. M. Lambert, York, second; and Miss Lloyd and G. Cottam, equal thirds. For six Liliums in pots Messrs. R. Wallace & Co., Colchester, was awarded first; Mr. A. Wilson came a good second; and Mrs. Tetley, third.

CUT FLOWERS.—There was some very keen competition in this section, and all the classes were well represented. Roses were a conspicuous feature and of very good quality. For six dozen single blooms of Roses, in not less than thirty-six varieties, Messrs. B. R. Cant & Sons, Colchester, was first; Messrs. Harkness & Son, Bedale, second; Mr. Geo. Mount, Canterbury, third. For forty-eight distinct varieties, first, Messrs. B. R. Cant & Sons; second, Messrs. Harkness & Son; third, Messrs. Townsend & Sons, Worcester. For thirty-six distinct varieties Mr. G. Prince, Oxford, was first with a magnificent collection; Messrs. B. R. Cant & Sons, second; Messrs. J. Townsend & Sons, third. For twenty-four distinct varieties the prizes were awarded to Messrs. Prince, Cant, and Townsend in the same rotation as in the class for thirty-six varieties. For eighteen distinct varieties Messrs. B. R. Cant & Sons were again a close second to Mr. G. Prince; and Messrs. George Cooling & Sons, Bath, came in third. For a stand of white and yellow Roses, first, Mr. G. Prince; second, Messrs. B. R. Cant & Sons; third, Messrs. Harkness & Son.

For twelve varieties of Carnations, first, Sir J. W. Pease, Bart., M.P.; second, Mr. W. H. Battie Wrightson, Doncaster. This class proved very attractive, as the blooms were arranged as cut, with the buds and foliage, and not set off like a dog's head in a certain familiar performance, with a paper collar. For twelve bunches of stove and greenhouse cut bloom, distinct, Sir J. W. Pease, Bart., was first; second, Mr. W. H. Battie Wrightson; third, Mr. J. D. Ellis, Worksop. For twelve bunches with Orchids excluded, the prizes followed the same rotation.

For eighteen bunches of hardy flowers in nine varieties, first, Messrs. Harkness & Son; second, Messrs. G. Gibson & Co., Leaming Bar; third, Sir J. W. Pease, Bart. For twelve bunches, Messrs. Harkness & Son were again first; Sir J. W. Pease, Bart., second; and Messrs. Gibson & Co. third. For a collection of hardy cut flowers, Messrs. Harkness & Son, first; Messrs. G. Gibson & Co., second; Mr. W. Hutchinson, Kirbymoorside, third.

In all the classes for Pansies, Mr. J. Smellie, Busby, Glasgow, was first; and Mr. Ramsden, Halifax, second.

FRUIT AND VEGETABLES.—For a decorated table of ripe fruit, Sir J. W. Pease, Bart., was first; Mr. C. E. Simpson, second; Mr. J. Sinclair, York, third. This class seems hard on those who have not a Pine stove, and very few have, for a Pine can receive ten points in the judging, which is more than any other fruit, which have a maximum of six, eight, and nine points. Sir J. W. Pease, Bart., was also first for a collection of eight kinds. Even in a collection of four kinds Pines were included. All the prizes in this class went to aristocratic recipients, the first going to Lord Barnard, the second to the Earl of Derby, and the third to Sir. J. W. Pease, Bart.

For the best Pineapple, the Executors of Mr. J. Corbett, of Droitwitch were first; and Lord Barnard second.

For three bunches of Black Hamburgh Grapes, first, Mr. A. Wilson; second, Earl of Londesborough; third, Lord Barnard. For three bunches of White Grapes, first, Lady Beaumont; second, Lord Barnard; third, Sir J. W. Pease, Bart. For six Peaches, first, Earl of Feversham; second, Mr. J. D. Ellis; third, Mr. W. Sheepshanks. For six Nectarines, first, the Earl of Derby; second, Mr. J. Summers; third, Sir G. Meyrick, Bart.

For a scarlet-fleshed Melon, first, Earl of Londesborough; second, Lord St. Oswald; third, Earl of Derby. For a green-fleshed Melon, first, Earl of Londesborough; second, Col. F. Gascoigne; third, Col. Harrison Broadley. For a white-fleshed Melon, first, Mr. J. Summers; second, Mr. H. Tellusson; third, Earl of Londesborough. The order for six Figs was, first, Mr. A. Wilson; second, Marquis of Ripon; third, Earl of Feversham.

In the class for a dish of Cherries, no first was awarded; second, Earl of Londesborough. For a dish of Strawberries, first, Earl of

Derby; second, Mr. H. Tellusson; third, Mr. R. Stead. For twelve Tomatos, first, Mr. W. Battie-Wrightson; second, Earl of Londesborough; third, Mrs. Upjohn.

Messrs. Sutton & Sons, Reading, offered a prize for the best collection of six vegetables. The first prize in this class, like innumerable other first prizes for vegetables, went to Mr E. Beckett, gardener to Lord Aldenham, Aldenham House, Elstree; second went to Sir J. W. Pease, Bart, and third to the Earl of Lathom.

The first of the prizes offered by Messrs. Webb & Sons for a collection of six vegetables also went to Lord Aldenham; the second to Sir J. W. Pease, Bart.; and the third to the Earl of Lathom.

FLORAL DECORATIONS.—For the best exhibit of floral designs, first, Messrs. Perkins & Sons, Coventry; second, Mr. E. E. Simpson, Scarborough; third, Mr. John Summers, Sunderland. For a hand basket of cut flowers, first, Messrs. W. Artindale & Son; second, Messrs. Perkins & Sons; third, Mr. W. Vause. Two bridal bouquets, first, Messrs. Perkins & Sons; second, Messrs. W. Artindale & Son; third, Mr. J. Summers.

MISCELLANEOUS EXHIBITS.—As usual there were many fine collections of plants and flowers from the trade. Messrs. W. Cutbush & Son, Highgate, London, exhibited a group of stove and greenhouse plants which contained some beautiful Carnations, Heaths, and other stove and greenhouse plants. (Gold Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, London, made a striking exhibit with their Gloxinias and Kalanchoes, the latter being the object of much interest, as the Kalanchoe flammea, which they staged so well, is a new addition to exhibition plants, and to cultivation. (Gold Medal)

Messrs. R. Smith & Sons exhibited a striking group of decorative plants and cut flowers. (Gold Medal.)

Messrs. T. S. Rivers & Sons, Sawbridgeworth, exhibited several of their well known fruit tree specialities in pots, in splendid condition. (Gold Medal.)

Messrs. J. Peed & Son, Norwood, London, made a magnificent display with their Gloxinias, the best of which we noted in our last issue.

The gala part of the programme was run on the usual lines and was a source of much enjoyment.

ROYAL HORTICULTURAL.—*June 18th.*

MIDSUMMER hardy flowers were most conspicuous at the Drill Hall meeting on Tuesday last, Roses, Paeonies, and hardy plants generally being particularly conspicuous. Gloxinias, Streptocarpi, Violas, Fuchsias, Sweet Peas, and hardy trees and shrubs were also well represented and made up a good general display. Orchids were rather quiet, few of them being now in season, though hybrids augment the number that used to exist.

Orchid Committee.

J. Gurney Fowler, Esq. (gardener, Mr. J. Davis), Glebelands, South Woodford, exhibited a well-flowered piece of Cypripedium callosum Sanderae A. H. Smee, Esq., The Grange, Hackbridge (gardener, Mr. Humphreys), exhibited Pholidota obovata. Mr. A. J. Keeling, High View Nursery, Cottingley, Bingley, staged a few Orchids, including Miltonia stellata, Laelia tenebrosa, Masdevallia falcata, and Dendrobium Victoriae Reginae.

Fred. Hardy, Esq. (gardener, Mr. Thos. Stafford), Tyntesfield, Ashton-on-Mersey, exhibited well-grown pieces of Cypripedium gowerianum magnificum, C. g. superbum, C. lawrenceanum nigrum, Sophrocattleya George Hardy, and S. George Hardy Tyntesfield var. C. J. Lucas, Esq. (gardener, Mr. Duncan), Warnham Court, Horsham, staged Odontoglossum lucasianum, allied to O. Hallii. Reginald Young, Esq., Sefton Park, Liverpool, exhibited cut flowers of Odontoglossum gloriosum album, Cypripedium Ganymedes, C. carnusianum, and C. Kerchoveanum. J. Bradshaw, Esq. (gardener, Mr. Geo. G. Whitelegge), The Grange, Southgate, showed Laeliocattleya C. G. Roebling, having a handsome crimson-purple lip, edged with white.

Messrs. B. S. Williams & Son, Upper Holloway, London, N., exhibited a group of Orchids, prominent amongst which were Laelia grandis tenebrosa, L. cinnabarina, Laeliocattleya Hippolyta, Lc. canhamiana, Lc. Edouard André, Anguloa Clowesii, Dendrobium dalhousieanum luteum, Cypripedium superbiens, and Oncidium curtum. This was the largest group of Orchids shown on this occasion. (Silver Banksian Medal)

Floral Committee.

Messrs. J. Veitch & Sons, Ltd., Chelsea, brought a group of a wonderfully attractive hybrid climbing Rose Electra, a hybrid between multiflora simplex and W. A. Richardson; the foliage is almost as beautiful as the flowers, being of extra good substance and produced in profusion. It is also very floriferous, and is all round one of the best climbers we have seen.

Messrs. T S. Ware, Ltd., Feltham, London, as usual exhibited a large quantity of herbaceous and alpine plants, amongst which we noted the brilliant Lychnis haageana and a handsome double Campanula, named C. persicifolia Moerheimi. (Silver Banksian.)

Mr. H. J. Jones, Ryecroft Nurseries, Hither Green, exhibited a large assortment of double Begonias and Pelargoniums, the latter including some excellent varieties, Mr. W. Wright, blush white, with very dark eye; Snowflake, white, with carmine mark; Lord Kitchener, one of the best grown, is a brilliant scarlet with almost black upper petals. Amongst the Begonias we noticed Mrs. W. H. Webb, a deep salmon, an extra fine form; Maréchal Niel, canary yellow; Arthur Wainwright, rich crimson; Mr. W. Finen, an extra deep crimson. The singles were also very fine, Diamond, a very rich crimson, was 6 in. across; Apple Blossom was a very good representation of the colour of Apple blossom; Mrs. W. Logan, sulphur; Sylvia, pure white; May Manser, a very striking variety, received much attention, being an extra good carmine and white flower. We noticed in this exhibit a pretty tendency of the blooms to become fimbriated, especially in last year's seedlings; several of the cristata variety were also to be seen. (Silver Gilt Banksian Medal.)

Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood, London, exhibited a pretty group of rockery plants and herbaceous cut blooms, Inula glandulosa being in very good form. (Silver Banksian Medal.)

Messrs. G. Jackman & Sons, Woking, exhibited a large collection of Tea and H.P. Roses; also some very fine single ones. L'Ideal was of exceptionally deep colour, and as seen in this stand ought to add considerably to the popularity of this already favourite Rose. Other pretty varieties were Queen Mab, Ma Capucine, Perle d'Or, Gustave Regis, Princess Alice de Monaco, Papillon, Cecile Brunner, Mdme. Pierre Cochet, Marie Van Houtte, Catherine Mermet, Antoine Rivoire, Marquis of Salisbury, Bardon Job, Mdme. Lambard, Marquis de Litta, Lady Mary Fitzwilliam, Souv. de S. A. Prince, Mrs. W. J. Grant, Sofrano, Thalea, the white Rambler. (Silver Gilt Banksian Medal.)

Dobbie & Co., Rothesay, made a grand exhibit with their Pansies and Violas. They were arranged with their own foliage in bunches of nine, and set up on a black velvet board, but a few were to be seen trying to look happy in paper collars; the Sweet Peas were also shown in good quality. (Silver Flora Medal.)

Messrs. Kelway & Son, Langport, sent up a collection of their famous Paeonies, which filled a whole table, and included all their best varieties; they also exhibited some very good Gaillardias and Delphiniums. (Silver Gilt Flora Medal.)

Messrs. B. R. Cant & Sons, Colchester, exhibited some wonderful blooms of their well known speciality —Roses. Amongst the new ones we noticed Othello, a grand new H.P. of exceptional form; Mrs. R. B. Cant, a seedling Tea; Nancy Christy, a H. Tea; George Schwartz; other exceptionally good forms were Ma Capucine, Mdme. P. Perny, Rainbow, Souv. de M. W. Robinson, Mrs. W. Grant, Souv. Catherine Guillot, Papa Gontier, Bardon Job, Fimbriata and Marquis of Salisbury. (Silver Gilt Flora Medal.)

Messrs. Paul & Son, Cheshunt, exhibited some lovely Roses and a large variety of Paeonies. Their new Rose, Lady Battersea, was much in evidence, and well deserved all the praise that was bestowed upon it. It is an extra good variety for cutting, having a good form in the bud and in the full bloom also; the stalks are long and firm, making it very useful for arranging. Camoens, a H.T.; Dawn, a H.T.; Alister Stella Gray, N.; Gardenia, Jersey Beauty, a new climbing hybrid Rose, received a deal of attention. It was obtained by crossing Crimson Rambler with a seedling Tea, which produced Cleopatra; this was again crossed with Mdme. Charles, and the result is that the progeny has some of the characteristics of all its antecedents. Una, a large white single, is a Rose that ought to be grown in every garden, and it would be safe to say that it will be soon very popular, to judge from the resolutions made by visitors who saw these fine blooms; another good single Rose in this collection was Austrian Copper. (Silver Flora Medal.)

Messrs. Barr & Sons, Covent Garden, put up a large exhibit of Paeonies and Spanish Iris. (Silver Banksian Medal.)

Messrs. J. Veitch & Sons, Chelsea, put up a large group of Paeonies which, with their new Rose, filled all one end of the hall.

Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, exhibited a large and representative collection of the herbaceous plants now in bloom, which also included several handsome Nympheas. (Gold Medal.)

Mr. George Prince, Faringdon, Berks, exhibited a large collection of Roses; in the centre was a stand of Comtesse de Nadaillac in form which would be difficult to equal for substance and colour; other beautiful blooms in this exhibit were Mdme. Chedane, Rubens, Papa Gontier, Papillon, L'Ideal, Gustave Regis, Carmine Pillar, Anna Olivier, Clara Watson, Marquis of Salisbury, Mdme. Eug. Resal, Reve de Or, Bardon Job, Polyantha alba grandiflora, Luciole. (Silver Gilt Flora Medal.)

Lord Aldenham, Elstree (gardener, Mr E. Beckett), exhibited a well flowered group of Streptocarpus. (Silver Flora Medal.)

Messrs. H. Low & Co., Enfield, exhibited a large variety of Carnations, including such beautiful varieties as Princess of Wales, blush, Churchwarden, Sir Evelyn Wood, Sir Chas. Freemantle, Lady Rose, Lord Rosebery (new), Calypso (new), Lord Welby (new), Albion (new). (Silver Banksian Medal.)

Messrs. J. Veitch & Sons, Chelsea, made a grand show with a large exhibit of Gloxinias. The strain shown is a very good one, being of a compact habit, good stout foliage and very floriferous. The background was made up of Solanum, Wendlandii, and Palms. There was also a collection of Streptocarpi joining these, also from the same firm. (Gold Medal.)

Lady Nina Balfour, Newton Don, Kelso, N.B., exhibited three stands of very good Malmaison blooms. (Silver Banksian Medal.)

Messrs. J. Cheal & Sons exhibited again a large variety of variegated trees and shrubs. (Silver Banksian Medal.)

Mr. H. B. May, Upper Edmonton, exhibited a number of handsome varieties of Coleus, several new bedding Geraniums, Statice profusa, and numerous Fuchsias. (Silver Banksian Medal.)

Messrs. W. Paul & Son, Waltham Cross, exhibited a number of new Roses, including two new decorative bedding Roses, Coralina, a rich carmine, and Sulphurea, a sulphur, also a new Tea, Boadicea, a beautiful blush.

Mr. William Spooner, Woking, made a good show with a collection of Noisette and Tea Roses. (Silver Banksian Medal.)

Mr. A. Wade, Colchester, exhibited a collection of hardy herbaceous and bulbous plants.

Messrs. F. Cant & Co., Colchester, exhibited a large variety of Roses of all types. Some of the most attractive varieties were Camoens, Duke of York, Laurette Messimy, Longworth Rambler, Sylph, Bridesmaid, Mdme. E. Boullet, Lady Mary Fitzwilliam, Mrs. W. J. Grant, Mdme. Cochet, Papa Gontier, Mdme. Ravary, Ulster, G. Nabonnand, Blairii, Clara Watson, Mdme. Edouard Helsenbem, Marquis of Salisbury, Rainbow, Carmine Pillar, Queen Mdme Chedane, Guinoisseau, Princess de Sajan, Beauté Inconstante, Harrisoni, Marquis de Vivens, Mosella, Ma Capucine. (Silver Gilt Flora Medal.)

Messrs. Wallace & Co., Colchester, exhibited a very pretty and interesting collection of hardy herbaceous bloom, including Hieracium villosum, Brodiaea multiflora, Lychnis Viscaria, Incarvillea Delavayi, Delphinium nudicaule, numerous Calochortus, Iris, Paeonies, Heucheras, &c. (Silver Flora Medal.)

Messrs. R. Bath, Ltd., Wisbech, brought a large and striking collection of Paeonies, Daphne being exceptionally fine, also Saturnalia and Vulcan, in extra fine colours, being rich crimson. (Silver Flora Medal.)

Messrs. D. Prior & Son, Colchester, exhibited a pretty stand of Roses, for which they were awarded a Silver Flora Medal.

Gardening Miscellany.

PANSIES.

Like many other closely related divisions the line of demarkation between Pansies and Violas has been obliterated and the two are now classed as one by some writers. They are divided into three main sections, known as fancy, show and bedding. Fancies or Belgian Pansies have their colours mixed indiscriminately. The show division is again sub-divided into selfs, white grounds and yellow grounds. The last two have a dark blotch in the centre round the eye, then a ring of white or yellow and an outer band of some other colour. The selfs are of some distinct colour throughout. There is also a bedding division, which has rather smaller flowers but is more floriferous. They are the offspring of Viola cornuta, V. lutea and the Pansy.

SAXIFRAGA UMBROSA SERRATIFOLIA.

There is at the present time several plants of this pretty Saxifraga in bloom at Kew. It differs from the common Saxifraga umbrosa, the London Pride, by having a dwarfer habit and beautifully serrated erect leaves; but it does not differ from it in the matter of bloom production, for it is flowering quite as freely as the old type.

PANAX QUINQUEFOLIA.

The proper name of this plant is Aralia quinquefolia but it is more commonly known under the name of Panax. It is a hardy herbaceous plant with remarkably fine foliage which is its chief feature, as the flowers are not very attractive. It is highly valued as a medicinal plant and was first brought to this country from America in 1740. It was figured in the *Botanical Magazine*, *t.* 1333. It grows to the height of about 2 ft., and does well in a cool rockery bay.

PARENT LARCHES.

It is strange to think that at the early part of last century these hardy subjects were treated as greenhouse trees, and in a book describing the trees and forests of Perthshire there are many interesting notes on old Larches and their history. The notes on two Larches planted near the west end of Dunkeld Cathedral are interesting. They were planted in 1738, and their progress watched with ever increasing interest. In 1831 one was 11 ft. the other 12 ft. in girth at 4 ft. from the ground. One of them when again measured in 1878 was 14 ft. 9 in. at 5 ft. from the base, and when last measured in 1883, it was 18 ft. 9 in at 3 ft. from the ground and over 100 ft. high. They are universally acknowledged as the best two specimens that exist, and even surpass those at Monzie.

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends the *most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words, and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. C. J. G., or his article on "The Destruction of Aphides," p. 670.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

Photographs of Plants.—The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in The Gardening World. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "The Editor," 4, Dorset Buildings, Salisbury Square, Fleet Street, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

XL All Vaporising Fumigator.—*Inquiries*: Will any of your correspondents be good enough to say if they have tried XL All Vaporising Fumigator with Muscat Vines, and what the effect was?

Should Ground be Dug for Broccoli?—*T.W.D.*: This depends upon the nature of your soil very largely, but, as a rule, the ground on which winter Broccoli is to be grown should be as firm as possible, more particularly if it contains much humus or decaying animal and vegetable matter. Light and gravelly soils should also be left undisturbed, but Broccoli usually stands better on soil of this character than where it is richer. Soils of a heavy or clayey nature are apt to cause the destruction of Broccoli, owing to their being so retentive of moisture in winter, so that frost acts more readily and injuriously upon it for that reason. To be successful with the culture of Broccoli you should keep a good look ahead in the preparation of soil by applying plenty of manure to the previous crop, so that when this is taken off the ground may be merely cleared of weeds and the Broccoli planted, even if the soil is so firm that it may require the use of a crowbar to make holes for the insertion of the plants. The autumn rains will serve to bring the plants along rapidly, owing to the warmth of the ground. It may be necessary, however, to give the soil a good watering now and again during dry weather to enable the plants to get established.

Caterpillars on a Hawthorn Hedge.—*W. D.*: From what you say they are evidently the caterpillars of the small Ermine Moth (Hyponomeuta Padellus) which often does great damage to trees as well as hedges of Hawthorn; also to Apple, Pear and Plum trees. Probably it is more destructive to the Hawthorn than to any other. They must be nearly full grown by this time with you, even if they have not reached the pupa stage. You should look over the hedge, however, and collect the webbs that still contain caterpillars, dropping them into a pail containing paraffin and water. Another method you might try is to prune the hedge with the billhook, even if it proves necessary to go over it again next autumn to remove the fresh growths that are made later in the season. The removal of the young shoots willdeprive the remaining caterpillars of the young and tender foliage, while at the same time depriving them of shelter. A third plan would consist in preparing kerosene or paraffin emulsion, and syringing the hedge with it. A mere mixture of paraffin and water might prove dangerous to the foliage, so we advise the use of the emulsion instead.

Ivy broken away from the House Front.—*T.B.*: Examine the stronger stems at the lowest point just where they leave the wall and see whether they are broken. If not broken, nor very much damaged, you may safely go to the trouble of fixing up the Ivy to the wall again. A few broad-headed nails may be well driven into the wall and the stems tied to this by means of tar string. The smaller shoots, or such of them as are necessary to cover the wall may be fastened up with shreds and nails in the usual way. Then cut away all unnecessary shoots, and leave it for the present. The young growths will become attached to the wall in the ordinary way and make the Ivy more secure. All the nails used should be driven well home, so that the heads of the same will not be in the way of the shears when the ivy is being trimmed in succeeding years.

Propagating Alpine Strawberries.—*L.G.*: Some of these do not produce any runners while other varieties do. It is unnecessary, however, to attempt their propagation by layers, whether the old plants produce them or not. The usual and easy method of propagation is to sow seeds, rear young plants in beds and transplant them to make up the new plantation when you can get the vacant ground. Your best plan would be to sow earlier than this so as to give the seedlings all the length of the season in order to make good growth. They will then flower and fruit the following season.

Vine Leaves Discoloured and Injured.—*H.J.*: The leaves are clean and free from insect pests as you state. They are equally free from fungoid parasites such as mildew, &c. They are very thin, however, and if you will examine the underside of them, particularly those that are injured, you will find them covered with small green warts, the result of keeping the house too close and the atmosphere too saturated with moisture during the earlier stage of the growth of the leaves. The warts themselves do not do much harm provided they are not carried to excess, but they indicate that insufficient ventilation was given during the earlier stages of growth. The leaves are thin and easily injured by unsuitable conditions. They are, in fact, merely scalded by the sun. The latter has been more or less irregular in appearance lately, and when a sudden burst of sunshine does break out, especially in the morning or early part of the day when the leaves are moist, the chances are that the latter get scalded. It does not take long to do this if the leaves happen to be in any way tender. We doubt the advantage of there being no side windows or sashes for ventilation. On the contrary we think that a little front air would be beneficial at times in drying up the moisture before the sun is powerful, and in hardening the leaves. Your other question will receive attention next week.

Names of Plants.—*T. S. Dick*: 1, Clematis montana; 2, Geranium ihericum; 3, Sidalcea malvaeflora; 4, Polygonum affine; 5, Lychnis Flos-cuculi flore pleno; 6, Ligustrum ovalifolium aureum.—*E. Harris*: 1, Veronica pinguifolia; 2, Veronica salicornoides; 3, Rosa multiflora var; 4, Rosa lutea Austrian copper; 5, Oenothera platycarpa; 6, Alchemilla alpina conjuncta —*A. Anderson*: 1, Pteris hastata; 2, Pteris longifolia; 3, Asplenium Trichomanes; 4, Selaginella Braunii; 5, Polygonum Bistorta.—*W. T.*: Oenothera caespitosa.—*A. J. B.*: 1, Cypripedium superciliare; 2, Oncidium curtum; 3, Odontoglossum Pescatorei.—*R.M.*: 1, Geranium nodosum; 2, Erodium Manescavii; 3, Fuchsia Riccartoni; 4, Tropaeolum polyphyllum; 5, Achillea Ravennae; 6, Dictamnus albus.—*A. J. B.*: 1, Iris sibirica; 2, Linaria pallida; 3, Linaria hepaticaefolia; 4, Neillia opulifolia, generally known in gardens as Spiraea opulifolia.

Communications Received.—G. W. D.—John Russell.—Barr & Sons.—A. M.—A. T. D.—D. C.—W. M.—G. A.—J. L.—G. T.—R. H.—E. F.—A. M'D. (next week).—J. B.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

June.

26.—N.R.S. and Richmond Horticultural.
29.—Windsor and Eaton Rose Show in Eaton College Grounds; Canterbury Rose.

July.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days); Hereford Rose.
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show; Farningham Rose and Horticultural Society Show.
4.—N.R.S., Metropolitan; Norwich Rose Show.
6.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting; Maidstone Rose; Sutton Rose.
8.—United Horticultural Benefit and Provident Society Committees' Meeting; N.C.S. Annual Outing to Leatherhead.
9.—Wolverhampton Floral Fete (3 days); Gloucester Rose; Harrow Rose.
10.—Formby Rose; Stambridge Rose; Worthing Rose.
11.—Bath Floral Fete and Rose Show; Brentwood Rose; Eltham Rose; Helensburgh Rose; Woodbridge Rose.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S., Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting; Halifax Rose.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days); Tibshelf Rose.
24.—Strathbane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Prescot Exhibition; Selby Exhibition; National Sweet Pea Society (2 days).
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts Exhibition.

August.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldearn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley; Beddington, Carshalton and Wallington.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, JUNE 29th, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.,** where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 2nd.—R H.S. Committees in conjunction with the National Rose Society; Hereford Rose Show.
WEDNESDAY, July 3rd.—Hanley Horticultural Fête (2 days); Croydon Horticultural Society's Show; Farningham Rose and Horticultural Society's Show.
THURSDAY, July 4th.—National Rose Society in the Inner Temple Gardens, London; Norwich Rose Show.
SATURDAY, July 6th.—Royal Botanical Society's Meeting; Société Francaise d'Horticulture de Londres Meeting; Maidstone Rose Show; Sutton Rose Show.

NEW AND OLD STRAWBERRIES.—On Monday last a large party on the invitation of Messrs. Laxton Brothers, Bedford, travelled from St. Pancras Terminus, London, arriving at Bedford by express train within the hour, although the distance is 48 miles. Promptly mounting the conveyances the party was hurried off to the new nurseries of the firm in the Goldington Road, Bedford. Several acres are under Strawberries, which include over 100 of the standard and other varieties in cultivation. Needless to say all the very best are in the collection, including those that have a local reputation only. Along with numbered blocks of seedlings, of which there seems to be hundreds of different sorts under trial, the list totalled 140, but in each block of seedlings were a few each of a great number of sorts raised by the Messrs. Laxton and now being carefully tried so that nothing is put into commerce but what is of decided merit. It was impossible in the time at disposal to examine a tithe of all the varieties on trial, but that is scarcely necessary in the case of old sorts that have been superseded, and time is necessary for many of the seedlings to prove themselves.

Undoubtedly the leading event of this extensive collection of Strawberries is the new variety named The Laxton, which received a First-class Certificate from the Fruit and Vegetable Committee of the Royal Horticultural Society on the 18th inst., as will be seen under "Plants Recently Certificated," on another page. The Laxton is the result of a cross between Royal Sovereign and Sir Joseph Paxton, the progeny inheriting the good qualities of both, and supplying the desideratum that has for years been looked for by the general public, as well as by the painstaking and diligent members of the firm who have been working assiduously for so many years to get it. The fruits are similar in size to those of Royal Sovereign, but more regularly of uniform, bluntly conical outline, even on the surface and of a dark but bright crimson-red. The skin is firm so that it will carry well to market. In this respect as well as in colour it takes after Sir Joseph Paxton but the size has been derived from Sovereign as well as the greatly improved flavour. When just ripe, the flesh is juicy and of fine piquant flavour. It is also a very early variety, another point in its favour, and judging from appearances it will prove an excellent variety for forcing. The plant is of vigorous growth and a great bearer, so that in most of its meritorious points it excels that popular favourite, Royal Sovereign, also raised and put into commerce by Messrs. Laxton. One plantation of it we noted consisted of old plants that had been divided in order to furnish stock. It is very unusual to increase Strawberries in this way, yet the crop in this instance was heavy. The variety originated eight years ago and was then picked out of a batch of seedlings so that the raisers have taken plenty of time to try it and prove its merits before putting it before the public. The accompanying illustration of it (p. 705) was put at our disposal by Messrs. Laxton Bros., and shows the beautiful and regular outline of a massive, noble and handsome looking fruit.

The value of such an extensive trial as this is that all the varieties, new and old, can be compared, the one with the other, both as to earliness or lateness, cropping qualities, flavour, vigour of constitution, and other qualities that go to make a Strawberry of the first order of merit. The ground we may say is a good holding pale red loam, inclined to be heavy, and being recently made into a nursery requires a good deal of working yet to get it into good friable order, by tilth and the application of farmyard manure. At present it is very dry, owing to the long continued drought. The soil seems admirably adapted for the purpose, however, and will, no doubt, presently give a good account of itself. It would be too much to expect that all the varieties of Strawberries will succeed equally well at Bedford, but as a matter of course they do not all succeed anywhere. The trial in any case shows what can be done with certain varieties in that part of England.

Royal Sovereign is growing in close proximity to The Laxton so that their relative differences can readily be compared. The former is pale in colour by comparison, and the fruits, though generally conical, are frequently flattened in the case of the largest berries. The skin is softer so that, popular as it is, it must give way to the new comer. The other parent, Sir Joseph Paxton, also growing in proximity, is a smaller conical fruit than either of the two above mentioned, and the flesh is much firmer, and less luscious. Its chief recommendations are that it fruits regularly and carries well, which made it the popular market variety it is. The greater size and finer appearance, as well as the flavour and weight of crop, of The Laxton and Royal Sovereign should in time greatly reduce the acreage of Sir Joseph Paxton even for market purposes. Another variety of great repute for flavour is Countess, but is not of very vigorous growth, and the crop is, consequently, light. It is most esteemed in private establishments. The plants of Steven's Wonder are fairly vigorous and the crop good, but the berries are often much flattened and very pale in colour. A Strawberry that enjoys some repute on account of its being one of the perpetual bearers is St. Joseph, of French origin. The plants are very dwarf in habit, and bear a fair crop of small, deep red berries, but the flesh is soft and though possessed of a peculiar aroma has not the decided flavour of the British fruits. An attempt has been made to improve it by crossing Royal Sovereign with it. St. Antoine de Padoue is one of the results of this cross, and bears larger berries than St. Joseph and of better flavour, but the flesh is rather soft and watery. It would nevertheless be esteemed by some on account of its continuous bearing character.

The flavour of Lucas is peculiarly aromatic and by some growers is esteemed for this special quality, but the berries are small, round and deep red. Although we made its acquaintance twenty-seven years ago it has never enjoyed very extensive cultivation. The fruits of the less well known Newton Seedling are firm, but not of high flavour, though rather pleasant when fully ripe. John Ruskin produces a small crimson berry, but not of very high flavour in the south, and the plants are small and of weak growth. McMahon is similarly weak in growth but the berries are larger than those of the previously named variety. Crescent Seedling is also a weak grower here, producing small berries. That named Georgier Lesieur also seems worthless for this part of the country at least. On the contrary Sir Harry produces small, dark red berries of good flavour. Moderately early is Mentmore, a popular variety with many growers. It is the result of Noble × British Queen, and is much darker in colour than the latter, and earlier, both qualities being derived from Noble. The flesh is firm until dead ripe, of good flavour and richly aromatic. The variety is also a good cropper. The small, bluntly conical, red berries of Scarlet Queen are of good flavour and pleasantly aromatic. Its parentage was Noble × King of the Earlies, both notable as being the first early varieties that combined good size with their other recommendations. Another of the old varieties coming under our notice about twenty-seven years ago is Sir Charles Napier, not a very vigorous grower, but of excellent flavour, and still esteemed by some cultivators for that quality. The flavour of Leader (Noble × Latest of All) is peculiar though pleasant, and the berries are of a light red hue. It bears well. President is highly esteemed for its rich and pleasant flavour by a great many growers, and though it grows and bears very well it does not keep up a very lengthened supply. For private establishments it enjoys a fairly extended cultivation. Vicomtesse Hericarte de Thury was pointed out as an "old friend" and the rejoinder that it was "a good old friend" found a response from a good few of those present. The late Mr. Robert Thompson, superintendent of the Royal Horticultural Society, was sent to France about forty years ago to pick up the most meritorious of the French varieties then under cultivation, and this was the best he brought back. It produces small, conical, dark crimson-red berries of excellent flavour; while the plant is of dwarf, compact habit with leathery almost evergreen foliage, and fruits evenly and regularly in soils of a light or heavy description. By forcing and retarding, together with the practice of planting it on different aspects in the open air it may be had in fruit all the year round by those who can manage it properly. It may be described as having the same relation to Strawberries generally which Black Hamburgh does to the rest of the Grapes.

It may be of interest to mention some others in this vast collection noted at random during the short time at our disposal. The small round berries of Collin's May Queen are freely produced and possessed of a pleasant though peculiar aroma, but its earliness will hardly compensate for the small size of the fruits. The berries of Kimberley are plentifully produced and the flavour delicious though the pulp is rather soft. Old Pine of Carolina produces fairly large roundish, pale red fruits, of peculiar and rather pleasing aroma, and though the pulp is soft the skin is fairly firm. Eleanor, though formerly enjoying some repute in private gardens, is a very weak grower. Some cultivators have considerable confidence in Auguste Nicaise for forcing purposes, and manage it fairly well. The pulp is rather firm when grown in the open, and possessed of a rather peculiar aroma when dead ripe. That named Sensation is

of dwarf habit, and bears well, but the flavour is not very high. The same may be said of Aberdeen Favourite which produces a good crop of small, elongated berries. Possibly the climate of the south is against it. The fruits of Loxford Hall are also firm but the flavour is by no means very high. Laxton's No. 1 is deep red when fully mature, and possessed of a peculiar, rather pleasing aroma. Its parentage was Noble × May Queen.

Late ripening varieties are always in request for maintaining a supply from the open air for the longest possible period, for which reason it proves useful to mention some of those coming under our notice. Frogmore Late Pine was just commencing to ripen its dark red, conical or flattened fruits, but the foliage is not particularly handsome, having a curled and unhealthy appearance. Fairly late also is Laxton's Climax (Latest of All × Waterloo) which produces conical or flattened red fruits of great size and handsome appearance (see p. 705). An old favourite is Dr. Hogg, on account of its delicious flavour, but it succeeds only in a limited number of gardens. The large, usually much flattened and very pale red fruits are only now commencing to ripen. Trafalgar, the result of crossing Latest of All with Frogmore Late Pine, is a stronger grower than the previous one, and like it possessed of pale red bluntly conical fruits of excellent flavour (see p. 705). Well named is Fillbasket (Royal Sovereign × Latest of All), and an enormous cropper, with light red fruits of high flavour (see p. 705). British Queen was flowering and just developing its earliest fruits, none of the berries having yet assumed their accustomed light reddish tint. Much in the same condition is Waterloo, which is evidently a a weaker grower than British Queen. Amongst white varieties we noted only Louis Gauthier which has large, more or less flattened white fruits of very moderate flavour. Latest of All, derived from Noble crossed with King of Earlies, is a very heavy bearer, the largest of the fruits being about half grown or nearly. It is notable for the light colour of its foliage and fruit, at least during the present stage of growth.

Seedlings are remarkably numerous, but being only on trial and under number, we can only give their parentage as an indication of their affinities and possibilities. Some of the most promising seedlings have been derived from James Veitch × Vicomtesse Hericart de Thury; Royal Sovereign × Latest of All, a heavy cropper; and Sir Charles Napier × Captain, which will give an indication of the good qualities sought for, judging from the known qualities of the parents. Sir J. Paxton × Monarch has given rise to a dark crimson berried variety, with firm pulp and cropping very heavily. Promising also are the seedlings derived from Royal Sovereign × Dr. Hogg; Captain × James Veitch, of rich flavour; Latest of All × James Veitch, which promises to be a good main crop variety, with light red fruits; Sir C. Paxton × Scarlet Queen, of delicate pleasing flavour and light colour; and the reverse cross of the last named, having richly flavoured, deliciously aromatic fruits, freely produced.

After the inspection of the Strawberries the party was entertained to luncheon on the premises by the Messrs. Laxton. The chair was taken by Mr. L. Castle, who in a post prandial speech thanked the hosts for the opportunities they had given the party to inspect their rich collection and what they had done for the improvement of their great speciality. Mr. Luckhurst, who occupied the vice-chair, said that 60,000 to 100,000 seedling Strawberries had been raised and passed through the hands of the firm during the last 40 years, and that out of 10,000 seedlings the chances were that only one might be of any superior merit. Royal Sovereign was one of the best of their raising, but it had just been eclipsed by The Laxton. The two sons were continuing on the same lines as their late father, and during the last ten or fifteen years they had been very successful. The results of their work was educational as well as commercial, and he hoped they would now reap the benefit of their labours. Messrs. Edward and William Laxton, the two brothers now carrying on the business, each replied to the speakers and said that though Strawberries were their great speciality, they were also crossing various other fruits, as well as Peas. After this the party took their places in the conveyances provided, and were driven to the Duke of Bedford's Experimental Fruit Farm at Ridgmount, Beds., a distance of thirteen and a half miles over the hills by Ampthill Park and thence to Ridgmount. Between these two places is a piece of ground consisting chiefly of sand and peat, surrounded by woods of tall trees. Here the Messrs. Laxton have five acres planted with Lily of the Valley, including a splendid plantation of the large flowered and broad-leaved variety known as Fortin's Lily of the Valley. All the sorts were making excellent growth but particularly that just named. Five acres of home grown Lily of the Valley is a very rare sight indeed in this country.

Californian Trees.—The famous Red Woods of California have at last been spared from the woodman's axe and saw, by which they were being quickly exterminated. The Governor of Callfornia has signed a bill to buy what is known as the Big Basin. The woods on this land are to be preserved as relics of the past.

Royal Horticultural Society.—The Royal Horticultural Society's Rose Show will be held on Tuesday, July 2nd (in conjunction with the National Rose Society) in the Drill Hall, Buckingham Gate, S.W., 1 to 5 p.m. With the exception of plants, &c., shown for certificate, no other plants or groups, &c., except Roses may be exhibited at this meeting. For schedule of prizes, see R.H.S. "Book of Arrangements for 1901," page 69. A lecture on "Mimetic Resemblances Among Plants, a Proof of the Inheritance of Acquired Characters," by the Rev. Prof. Geo. Henslow, M.A., will be given at 3 o'clock.

Reading and District Gardeners.—The June meeting of the Reading and District Gardeners' Mutual Improvement Association was held, by kind permission of Colonel Baskerville, at Crowsley Park, Oxon, on Friday evening of last week, when between fifty and sixty members were present. The great feature, from the horticulturist's point of view, of this lovely old fashioned residence is the "wild" garden occupying about fifteen acres, where Paeonies, Digitalis, Delphiniums, Poppies, Sweet Williams, Irises, Jerusalem Sage, &c., &c., grow and flower in their own sweet way not fearing knife or spade, and forming a picture not readily forgotten. After a pleasant hour had been spent here, the party wended their way to the vegetable garden, stopping to inspect a magnificent Oak tree in the park stated to have the largest stem in England. The borders of this garden are devoted chiefly to Roses, and the members were astonished at the luxuriant growth made. The trees had been allowed to grow "wild" and although carrying an immense number of flowers, yet many of the blooms were fit for the exhibition table. At the close of the ramble a hearty vote of thanks was accorded to Colonel Baskerville for the permission to hold the meeting in his grounds, and to Mr. Tubb, the gardener, for his interesting remarks respecting the various plants noted. Since the winter session started last October, new members have been elected at every meeting held, and this was no exception to the rule, as five were added to the list on this occasion.

The New Park at Birkenhead will be opened to the public on August 1st.

"The Irish Beekeepers' Journal."—The Irish Beekeepers' Association has just issued the first number of a very interesting publication bearing the above name. Its value cannot be over-estimated, as it is brimful of valnable hints on beekeeping, and has, we sincerely hope, come to stay.

World's Fair Banquet.—The Americans seem to do things thoroughly when they do do anything. For instance, the flowers employed in the decorations for the above banquet included 300 American Beauties, 10,000 Carnations, 2,000 mixed Roses, and four van-loads of Palms, besides minor qnantities of other flowers and plants.

Presentation to Mr. John Machar.—In our issne for June 8th we noted the appointment of Mr. John Machar as head gardener to the Earl of Donoghmore, Kilmanahan Castle and Knocklofty estates, near Clonmel, Ireland. We learn that his full duties will include that of land steward and overseer. Mr. Machar was gardener for over twenty years at Broughty Ferry, eighteen of which he put in as head gardener at Corona, Broughty Ferry. On June 12th, previous to his departure from the neighbourhood, a large number of his friends, members of the Broughty Ferry Horticultural Association, and others entertained Mr. Machar, and made him a presentation of a handsome aneroid barometer together with a piece of silver plate for Mrs. Machar. The presentations were made by Mr. David Croll (of Messrs. D. & W. Croll), Dundee, who took the chair. Mr. W. P. Laird (of Messrs. Laird & Sinclair), Mr. D. Hutchison (of Messrs. Storrie & Storrie), both of Dundee, and many others were also present. No man was better known or liked by his fellowmen in Forfarshire than Mr. Machar, and we wish him every success in his new undertaking.

Up-to-date Crops for the Farm.—Year by year it has become more evident that to a great extent the future success of British agriculture lies in obtaining the utmost return from the land, either by the cultivation of improved varieties of cereals, roots, forage plants, &c., or by the liberal use of suitable artificial manures. In either case, those interested in the subject will find much that is instructive in the imposing exhibit made by Messrs. Webb & Sons, of the Royal Seed Establishment, Wordsley, Stourbridge, and the Chemical Manure Works, Saltney, Chester. The new kinds of cereals which they show in grain and straw respresent upwards of 25 years' hard work in cross-fertilisation and selection, and the results they have obtained by these means are of national importance, inasmuch that the crop returns of these new sorts show a large increase over the yield of ordinary varieties. Nor is it in productiveness alone that they excel, as their success in all of the open competitions testify to their superior quality; moreover, in the many comparative trial growths conducted by county council experts and professors of agriculture throughout the kingdom, Webb's new cereals invariably take foremost place. Messrs. Webb have also achieved many valuable improvements in roots, grasses, clovers, &c.; indeed, the cultivation of their recent introductions has become indispensable in the up-to-date economy of the farm. The practice of growing vegetables for market, which has reached such large proportions lately, is a subject to which Messrs. Webb have given close attention, as the exhaustive tests and experiments annually conducted at their Kinver Seed Farms amply testify. A special feature on their stand are the vegetables recommended for market gardening, including a new Tomato in actual growth which displays clusters of luscious fruit in great profusion; it is not yet in commerce, bnt Messrs. Webb propose offering it to the public shortly. Among the Peas—also shown in growth—is the celebrated Senator, one of Messrs. Webb's recent introductions, and its wonderful cropping habit fully justifies the favour it has met with. A very fine collection of Sweet Peas, consisting of upwards of forty varieties in all shades of colour, together with a group of Webb's Excelsior Gloxinia, represent the floral department of Messrs. Webb's immense business, whilst they also show samples of their celebrated fertilisers for farm and garden crops, which are manufactured on an extensive scale at their chemical works at Saltney, Chester.

A Land Claiming Farce.—Every year the Newcastle Corporation send in the claim for £32 11s. 8d. to the South Shields Corporation for the rent of the bed of the river on which they have built a quay. The Shields people take no notice of the claim and the Newcastle people never take steps to enforce it, but send it in annually. Perhaps they are waiting until the river bed is more valuable before they enforce their claim.

The Agricultural and Horticultural Association, Limited.—We have received the schedule of prizes offered for competition at this year's "One & All" Flower Show to be held at the Crystal Palace on August 16th and 17th. It marks a considerable advance on those which have stimulated such notable displays of working men's produce in previous years. Full particulars are included of the Countess of Warwick's scheme for a combined educational flower show where the various institutions engaged in the technical teaching of horticulture and agriculture will have an opportunity of meeting and comparing results. Lady Warwick presents a Challenge Vase for competition among these institutions, and her sister, Lady Algernon Gordon-Lennox, we are informed, will found a similar Challenge Trophy for local horticultural societies with a view to stimulate their interest in this movement.

CELERY

Is the chief winter salad, and when well prepared is a universal favourite. So much depends on good culture, and proper blanching, that I would like to give a few hints on its management. One sowing is sufficient, which should be made about the first week of April. The seed should be sown in a shallow box, and placed on any moist warm material under glass, and shaded with brown paper until the seedlings are up. The seed of Celery germinates slowly. When the seedlings are 2 in. in height they should be dibbled out 3 in. apart in a frame which should have 2 or 3 in. of short well-rotted farmyard manure well trodden down on the bottom, and 2 ins. of good loam (no leaf mould or sand) neatly levelled down on the top. Give a good watering with a fine-rosed can, shade from strong sunshine for about a week until the plants are well rooted. Water every day if they require it, as success greatly depends on the plants never being allowed to get dry. Trenches should be thrown out 18 ins. wide, and 12 in. deep, and should have 3 in. of well decayed manure forked in. From the second week until the end of June is a good time to plant, which should be done with a trowel. They should be planted 10 ins. apart and made very firm. Celery plants are gross-feeders, and should have a good soaking once a week of liquid manure water made from sheep droppings and some soot. Earthing up should not be done until the plants have made strong growth. This should always be done in dry weather. All suckers should be pulled off. Each plant should be tied up not too tightly. Good and hardy kinds that stand the winter well are Standard Bearer and Major Clarke.—*F. Ross.*

LATHYRUS GRANDIFLORUS.

The perennial Peas, although they cannot vie with their sweeter sisters, in the matter of colour and perfume, are so showy and so generally useful in certain positions in the garden that they cannot well be dispensed with. Out of the 150 species or so, there are two or three which are as well worthy of culture as the beautiful annual varieties of L. odoratus. Moreover, they are exceedingly ornamental, and will thrive in almost any soil or situation; therefore they suit, *par excellence*, the amateur's requirements.

The subject of this note is, perhaps, the best of all for the decoration of suburban gardens, at least, I thought so, on visiting the limited space at the command of Mr. J. W. Caunter, of Horn Lane, Acton, W. Here L grandiflorus in a not too suitable situation was displaying all the glory of its papilionaceous character, and producing in some profusion those beautiful butterfly flowers for which these plants are so esteemed.

These flowers are of a dark, rich rose, and very large—hence the specific name. They are, like the leaflets, mostly produced in pairs on long peduncles, and, consequently, are very valuable for vases or buttonholes. The plant is remarkably slender in all its parts, the floral organs excepted, which latter, by reason of their size and substance, are strongly in contrast.

The stems are tetragonal or four-angled, while the delicate three-cut-tendrils suggest the employment of tall feathered twigs for the adequate support of the plant. Such plants are well worth more attention than they generally receive, both as regards manurial matter and full exposure to the sun. In a word L. grandiflorus may be made one of the finest objects in the garden, whether considered from a decorative point of view, as a representative of the Pea family, or as a source of cut flowers.—*C. B. G.*

ASPIDISTRAS.

In reference to the article on Aspidistras by that able contributor "C. B. G.," which appeared in your issue of the 22nd inst., may I be allowed to supplement a few remarks on this useful class of plants for the benefit of readers of your interesting journal.

A. lurida and its variegated form is the variety most frequently met with, being grown by the thousand for the embellishment of indoor apartments. In addition to the above mentioned kind the following varieties are cultivated by the principal Continental firms, namely, A. elatior, green and variegated; but the difference between the two kinds is so slight that where one is grown the other need not be kept. A. macrophylla, as its name indicates, is larger and more robust than the other type. The petiole or stem is thicker and longer, the leaf very much wider than any other variety. However, to recognise its true character, it is absolutely necessary to grow the plant under the best conditions. For instance, Aspidistras being natives of China and Japan where they are found growing in swampy places, the plants in this country should be grown (to obtain the best results) in a shady but warm and humid atmosphere. If grown entirely in rooms where the air is dry and arid, and especially if in a sunny place, the plants in such a position would have much shorter stems and narrower leaves, and in that condition it would be similar to the ordinary kinds. However, if the plant cannot be given a more congenial position it may be assisted in its growth by placing the pot inside another ordinary or fancy pot, and by placing some moss on the top of the soil. In this way moisture at the roots will be conserved, a point of no little importance when growing this or any other moisture loving plants in an indoor apartment.

A. punctata is similar in size to A. lurida, but the leaves are irregularly spotted creamy white which of course renders it quite distinct. A. vittata is beautifully and regularly striped white, but the intense variegation causes it to be somewhat delicate in constitution, owing to the absence of chlorophyll or green colouring matter.

A. angustifolia has leaves about an inch or so in width and about 6 in. in length. Being of a compact habit, it becomes exceedingly useful where dwarf foliage plants are required.

A. angustifolia variegata is very scarce, but similar in growth; the foliage is nicely striped white, and when well done, it is very fine indeed; but, on the other hand, if not vigorously grown, the growth is unsatisfactory, as the leaves become so narrow that they appear almost grass-like.

Aspidistras are best propagated early in the spring, just before they commence to make new growth, by dividing the creeping roots or rhizomes into pieces having several leaves. Many of the market growers, to obtain enhanced prices, put several selected single leaves with roots attached into a pot so as to quickly produce a good specimen, but that system only lends itself where a warm house or pit is available. For plants continually kept in rooms, weak doses of artificial manure may be given to the green variety, but variegated kinds should never be liberally treated, otherwise they are apt to revert. Where green leaves appear amongst variegated ones it is best to remove them, as being more robust, they elbow out the more beautiful but weaker ones. The best soil for Aspidistras (as, in fact, for almost all foliage plants) is a light one composed of equal parts fibrous yellow loam and leaf mould or peat, with sufficient coarse silver sand to render it porous. When potting, sufficient space should be allowed below the rim of the pot for watering.

The flowers which are more curious than beautiful are produced on a level with the soil. In this country plants rarely produce seed, however. The writer has recently seen several plants raised from a pod of seed found on a plant obtained from the Continent where the environment and general conditions were conducive to the production of seed.

Much more might be written on the cultivation of this deservedly popular plant, but space forbids our doing so on this occasion, more than to say that the foliage should be kept clean by sponging it once a week with either tepid water, milk and water, or a little soap and warm water. Care should be taken whilst this is being done to support the back of the leaf with one hand whilst the front is being washed with the other, and so prevent breaking or rupturing it which is frequently the cause of the leaves splitting. During the winter months owing to more dirt and dust the foliage will need greater attention in this respect than during the summer ones, and those leaves with much variegation are better for being wiped with a clean duster rather than sponging them, as moisture at this season of the year often causes them to become quickly discoloured and not unfrequently permaturely damp off.—*A. G. N. Launder, 36, Leppoc Road, Clapham, S.W.*

RHODOCHITON VOLUBILE

Is a beautiful cool house climber, and in warm situations succeeds well out doors during summer. Its beauty can only be seen to perfection when loosely festooned to the wires in the form of "loops," as it is a slender rampant grower bearing flowers in the axil of every leaf, with a rosy purple calyx, the tube or trumpet being a darker shade, and lasts a considerable time in beauty. Seeds should be sown now for a display of this beautiful climber in the dull days of winter when we have few flowering climbers to enchant our gazes, of this particular habit, using shallow pans or boxes and compost of sandy soil, and place in warm situation, with a piece of glass or slate over it until germinated. Then keep near the glass in a heat of 60° to 80°. Shade from strong sunshine and when ready for handling prick off into a box of medium rich soil, 3 in. apart each way, and when this space is filled pot in 5-in. pots or else plant in a mound of soil where convenient to flower them, as I prefer this to pot culture. A 9-in. pot will suffice for the plants. An occasional watering of liquid manure should be given. This part of their culture must be strictly observed as erring on either side will impair their health. When on the decline their foliage takes on some beautiful tints of gold and scarlet which is very useful for dinner table decorations, the trails being so long as 10 ft. We treat the species as an annual, as the best results are obtained from young plants. Thrips are the only insect I have known to like this plant, but the syringe will keep these at bay, used occasionally; a compost of one part loam, half part leaf soil and sand to keep the whole porous suits it.—*Northern.*

NEPENTHES.

These interesting plants are not nearly so difficult of culture as to merit the comparatively few attempts that are made to cultivate them well; the chief requisite being a house in which a moist heat may be obtained of from about 65° to 80° Fahr. in summer, and 60° to 70° in winter. The soil for potting should be composed of about two parts good fibrous peat to one part of sphagnum moss, not broken up very small. These plants should, of course, be grown in baskets or Orchid pans, suspended from the roof of the house, so that the pendulous "pitchers" may be seen to the best advantage. Propagation may be effected in two ways, viz., by cuttings and by seeds. Cuttings should be taken in May or early June, selecting well-ripened, one year old shoots, and should be inserted in a hot bed of fibre and sand in a close pit or frame. If seeds are obtainable, sow in a similar compost to that recommended above, with the addition of a little sand, water in carefully and place in a close moist pit with a temperature of about 85°. When the plants have three or four leaves, pot off into similar compost to that used for seed-pan into small pots, potting off as they require it again into baskets or pots, the compost this time containing no sand. —*C. J. G.*

EARTHING AND TOP-DRESSING GROWING CROPS.

It has often occurred to me that gardeners, in many instances, do not place sufficient value on these important operations, and a few remarks on the subject may not be out of place, and at present quite seasonable. "Earthing up" and top-dressing are not quite synonymous terms, and either may be adopted to suit the requirements of the subjects under cultivation, and the purposes for which they are required. It is amazing how readily young seedling plants, especially in a stiff soil, respond to a top-dressing of nice free soil with a dash of guano mixed in it. Young rootlets are emitted rapidly and a stout sturdy growth encouraged. To enumerate plants that derive benefit from this operation would be superfluous, but Pansies, Violas, Asters, and all border annuals respond with a luxuriant growth that is a pleasure to behold. Vegetable Marrows pegged down at joints 3 ft. from the stem and a basketful of rich earth placed over, will well repay the trouble, as they delight in fresh soil; so also do Cucumbers, Tomatos, and Melons. Earthing up is more suitable when Cauliflowers, Cabbages, and all members of the Brassica family have to be dealt with, also Peas, Beans, &c. After forking thoroughly, a few inches of soil drawn up stimulates the plants, and also helps to steady them against wind, and prevents *rocking*, which such plants are liable to when there is insufficient weight of soil against the stem to keep them steady.—"*Brightspade.*"

CAMPANULA PYRAMIDALIS FROM SEED.

This noble Campanula grows between four and six feet high. It is grown chiefly in pots. From the bottom to the top of the stem numerous flower stalks bearing bell-shaped blooms are formed into the shape of a pyramid. Propagation is effected by seed. If the plants are expected to flower the following year, the seeds must be sown during May. Procure an ordinary sized seed box and place a few crocks over the drainage cracks, then cover these with a little rough manure. A suitable compost will be, one part good loam to half a part of leaf mould with a proportionate amount of sand. After having run your soil through a quarter of an inch sieve, fill the seed box to within half an inch of the top and press slightly. Thoroughly level the surface and sprinkle your seed on evenly, taking great care not to have it too thick. Shake the soil through an eighth of an inch sieve over the seeds, covering them very slightly; water with a fine rose can and place them in a temperature of 65° until the seedlings have got a nice start, then harden them off gradually into a cool frame and keep moist. When the seedlings are an inch high prick them off into another seed box and use the same soil as before, only not quite so fine. Water and place back into the cool frame.—*G. W. Dickson, W. Hampstead, N.W.*

FLOWER GARDEN NOTES.

Now that the bedding out is done it behoves one to see that the beds are kept neat and clean. Dead flowers and decayed leaves must be kept picked off, and pegs inserted here and there to fill up gaps. The grass edges must be regularly trimmed. Nothing looks worse than ragged edges. If these little jobs be attended to the beds may always be viewed with satisfaction. It is the thorough performance of the work alone that ensures that high degree of perfection that makes the garden "a thing of beauty and a joy for ever." Plants in the flower garden will also require pegging, pinching or tying, as the case may be. Especially in carpet beds do plants require pinching, as it is only by such that the design of the bed is kept true. Plants in the herbaceous border will also require tying and staking properly. The stakes in all cases, where possible, should be hidden from view. As a rule, one stake is ample if placed in the centre of the plant, the string secured to the stake, and the tying divided in two or three equal parts of the plant. All stiffness is avoided by this method, and the plants have a natural appearance. The frequent removal of dead leaves and trimming of edgings complete the operations which are demanded of those who wish to have their flower garden "*par excellence.*"—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

MAINCROP CELERY.

Celery, as we all know, is one, if not *the* best, of all salads that are grown in our walled enclosures. How often do we see Celery decaying long before the winter is finished. Perhaps it *might* be something out of the common when I say that our last dozen heads of Celery were sent in for use only a very few weeks ago, in perfect condition, and had we had a bigger lot grown we could have had Celery good enough up till the end of May anyway, at least for flavouring purposes. My experience is that we are often too good and spend too much time on our Celery. We can *overfeed* even gross-feeding plants like Celery. Last year our maincrop was planted in the second week of July and only earthed up once. A great many believe in earthing up Celery every three or four weeks. Now, I think if we were leaving the earthing up until well on in the season, that would allow the stalks to be a bit tougher and firmer; therefore they can stand the wet and all kinds of weather better, the quality of the Celery not being in the least hurt. The varieties we had were Dobbie's and Major Clark's. Perhaps some of our senior writers to this valuable paper will give their opinions on "Celery growing for maincrop only."—*T. S. Dick, Castlemilk Gardens, Lockerbie.*

HARDY CYPRIPEDIUMS.

Some of these are so handsome, and the shape of the flowers, as well as colour, so remarkable, as to place them with the finest subjects we have for the border or rockery. Many of them are more effective, and the colouring brighter than in the tropical kinds, and being of easy culture, should be grown by everyone. To ensure good results, plant early in a half shady position, and if treated as follows they are sure to succeed—C. Calceolus (English Lady's Slipper) and C. montanum (Eastern Lady's Slipper) do best where planted in heavy loam or clay. C. arietinum (Ram's Head Lady's Slipper), C. spectabile (Showy Lady's Slipper), and C. pubescens (Downy Lady's Slipper), require peat and moss, and treated as bog plants. C. californicum, C. parviflorum, and C. fasciculatum thrive best in peat and leaf mould in a moist, shady position. Protect them from late frost, and keep sufficiently moist when growing. They will thrive better than many other herbaceous plants.—*Walter Hopkins, Leighton Gardens, Westbury, Wilts.*

A BOON TO CHRYSANTHEMUM GROWERS.

Most growers of the Chrysanthemum know what a pest the Black Fly becomes if allowed to settle on the young growths of the plants. But, perhaps, few are aware of a natural remedy often close at hand. Here is my own experience. Five years ago I planted a border of Lavender, and during May and June following I observed a quantity of the Cuckoo-spit (*Aphrophora Spumaria*) on the Lavender, and in due time the little frog hoppers were seen on everything around. I had about 600 Chrysanthemums more or less infested with the Black Fly, which gives me much trouble. At the final potting the plants were stood out near to the Lavender for convenience. As time after time I examined the plants I saw plenty of frog hoppers but very little fly. The reason of the disappearance of the fly was considered, and I discovered to my delight that the frog hoppers were rendering me a real friendly service. Each year since 1897 I have had no trouble with the Black Fly after June, though before that month the fly has been a trouble. I have called in people to show the friendly insects at their work.—*N.B., B., S.*

BEGONIA GLOIRE DE LORRAINE.

To grow and bloom Begonia Gloire de Lorraine in winter and spring good strong rooted cuttings ought to be now in 60-sized pots for first flowering, but for later work, along in spring, good cuttings inserted now in a gentle bottom heat in equal parts loam, leaf mould and sand well settled in with a fine rose, shaded from sun will very soon root. When rooted expose gradually to the temperature of the house or frame; pot off singly as before stated and grow on in a temperature of about 60° of a night, with a good rise with sun heat, of course looking well after the shading as this Begonia likes a fair amount of shade. A Fern house is a good place for the plants, to be on a shelf close to the glass, shutting up and treating the same as you would Maidenhair Ferns. Pot on into flowering pots when ready, 48's being a good handy size, using equal parts loam, leaf mould, road grit, and potting fairly firm, stopping about three times during growth. Feed slightly with liquid manure, when the pots are full of roots and keep growing as before recommended up till they commence to bloom and then a much drier atmosphere must be maintained and a little lower temperature or near about 55° of a night and 60° by day, or as nearly as possible, never exceeding it.—*J. Harwood.*

INARCHING VINES.

The present is a good time to inarch Vines, (unless where the vinery has been early started). It is an operation that may appear difficult to those that have never seen it done but which in reality is simple. Inarching is better than budding, and is really the best way to unite two varieties. Anyone with ordinary intelligence may accomplish it. The main object is to substitute good varieties for bad ones. A fairly strong young Vine in a pot, inarched now, would form a stem strong enough before winter to bear several bunches next season. The green wood unites best. Take a shoot that has started near the bottom of the old Vine to be worked on, then bring the two into close contact, so close that they can be tied without running the risk of breaking them; a small slice should then be taken off the side of each; make this cut between the buds from 3 in. to 4 in. long and between an eighth and a quarter of an inch deep, according to the thickness of the shoots. Make them to fit neatly, edge to edge, and then bind round with a broad piece of raffia firmly as to be immovable. In a few weeks they must be unbound and retied, but not so firmly as at first, as they will be partially united and beginning to grow and swell. Keep the pot Vine moving freely with liquid manure until the season's growth is completed.—*J. C. Dick, The Gardens, Champfleurie, Linlithgow.*

FRUIT PROSPECTS.

It is not an easy matter to be a prophet, especially when the weather of the British Isles can affect your calculations, so readers must not count this as a prophecy but merely a few facts about the condition of the fruit crop in various parts of the country as it now stands. The season started grandly, but now the outlook is rather doleful, as north and south the crops are suffering from want of water, especially the Strawberries, and unless there is a heavy fall of rain soon the outlook for the fruit grower will be very bad indeed. The railway companies swallow up a large margin of the profit, and when their extortionate carriage rates have been deducted from the profits, and the working expenses paid off, we are afraid that many will find that instead of profit to put away they will have to draw on the reserve of previous year's successes to make up a deficiency.

Kent seems to suffer terribly from drought, and is crippled to such an extent by the railway facilities offered that the industry is not slowly dying but rapidly being killed.

The great fruit centre of the future is undoubtedly in the Wisbech district. It is pleasing to note how that during the last few years the flat uninteresting country has been transformed into a thriving fruit farming district. The old question of "What shall the farmer occupy his land with to make it pay?" has been answered here. The soil around Wisbech seems better suited to the growing of many fruit crops than it is in Kent, and this together with the cheap railway rates offered by three competing companies is mainly answerable for the present rush of fruit planting. It is not only fruit that the Wisbech farmer is growing on his lands, but acres may be seen devoted to flower culture, and make a blaze of colour, especially where the fen soil offers suitable conditions to the cultivation of bulbs. The average price of land per acre is from 30/- to £3.

Even standing in the fen district the trees are feeling the effects of the drought and many crops are already, if not wholly a failure, very light. Red Currants are an exception for the bushes are loaded, but this excess is more than balanced by the failure of the Black Currants. Gooseberries are very poor but look better here than they do in most parts of the country. Last year's Plums were so plentiful that

they made a glut on the market; this year they are so scarce that they will make a high price, and those growers who sacrificed much of the crop last year by thinning will be well recompensed this year by the trees producing good crops, thus giving their owners the control of the markets, and enabling them to bring home good prices for their fruit; which if it had been marketed last year would only have gone off at a cheap rate to the boilers. Strawberries would be a good crop if they could get a good rain to assist them to swell their fruit which have set in abundance. The growers are only expecting about two tons to the acre, whereas if rain fell they would easily obtain three. Raspberries are in a bad state all over the country, and Wisbech canes were not exempt from the ill effects of last autumn, when they did not get the proper conditions to ripen thoroughly and consequently suffered from the frost.

In Kent the prospects for the Strawberry and Raspberry crops are very bad, growers are not expecting more than 30 cwts. of Strawberries to the acre, and they think that as the outlook is at present Raspberries will not yield more than 10 cwt.

The Scotch grower has not many things in the way of fruit growing on which he can congratulate himself, but one thing that seems to thrive in North Britain better than in any other part of the island is Raspberries. Scotch growers think they have had a bad season if the output per acre does not exceed twice as much as ours. In Kent there are 66,750 acres devoted to the cultivation of fruit, and it seems a great pity that such a large industry should be strangled by unfair railway rates while the Government looks on in its usual apathetic way and doses peacefully while the foreigner pockets the profits of our fruit markets, and the home grower is undergoing in too many instances the terrible ordeal of bankruptcy proceedings. We called it a pity but it is more a matter for indignation, especially when a grower in France can put his fruit in Covent Garden market not only as cheap, but cheaper than the grower only 20 miles out.—*Fruit Grower.*

SNAGS ON FRUIT TREES AND THEIR CAUSE OF DISEASE.

It does not appear to many cultivators that much mischief to fruit trees is caused by bad pruning and retaining of snags at pruning time. Training, as far as I have ever seen, is a secondary matter. Any form may be in practice with precisely the same results. The main object in view is to cover every small space with healthy free bearing wood, and when the trees are started in the beginning with this, free from long dying portions of shoots (which so often cause canker) they are easily kept from many evils which they suffer from, and which is followed by premature decay.

Rather than plant trees which have been badly manipulated it is much better to get maidens. Much hard cutting back of the young growth is not only waste of time in establishing healthy fruiting trees, but is very harmful If growth is gross, and many sublaterals formed, it is better to lay them in to form part of the permanent tree than to mutilate the young wood. Crowding is an evil much in evidence in the majority of gardens. Reverting to the mischief caused by leaving "snags" or pieces which have to die back to a wood bud, the only remedy is to cut them off, leaving nothing to die back. The wound soon heals, the bark closes over, and when properly cut the shoots show no appearance of having been pruned. The Fulham nurseries, so long established as an excellent fruit tree emporium, derived their fame mostly from two points in culture, viz., the absence of snags and careful transplanting in the young stages of growth. These nurseries of Osborn & Sons have long ceased to exist.—*M. T., Carron, N.B.*

THE PLANT HOUSES.

The hot weather has made much work in the houses by causing the plants to dry up quickly and the air to become dry and parched if the floors and stages are not kept frequently wetted. One of the chief things that seems to be occupying the attention of most of the men under glass is sponging, for as the bright warm weather promotes the growth of vegetation so does it also stimulate the pests which attack plants into a more active life, and it is only with the greatest difficulty that the various plagues are kept in hand. Insect pests are not so bad, but the invisible and subtle fungi often cause much anxiety, for one never knows what is going to be its next victim. It is both in the soil ready to attack the roots and in the air ready to attack the plant.

Insecticide.—Scale seems to be causing much annoyance at present, and like its relative the Aphis, it is almost impossible to eradicate without destroying the plant. There are many patent mixtures used for sponging plants with, but none are more cheap and efficacious than a handful of soft soap with as much paraffin worked into it as it will absorb, and then dissolved in a pail of water. By using the paraffin in this manner it does not cause trouble by floating on the top of the water but keeps thoroughly mixed. It is a good plan to apply sulphur in a mixture such as this, for it can be distributed at will with a syringe, and the soapy water will make it adhere to the parts to which it is applied.

Azaleas. — Those which have completed their growth should now be placed outside, if properly hardened off, to ripen their shoots. If sufficient ashes or fibre are not available to plunge the pots in they should be shaded by some other means. They are very liable to suffer from thrips and red-spider. Syringing with clear water does not seem to disturb them much as the hairy covering on the leaves affords a good protection, but if the plants are syringed occasionally with the paraffin and soft soap mixture with a little sulphur added they will be rendered too unpleasant quarters for these little marauders.

Aristolochias.—They are a handsome flowered genus of plants, at least most of them are, but they have one great drawback and that is their fetid odour, and it is quite common among gardeners to hear it referred to as the essence of bad smells. The one I draw attention to does not possess this bad quality and has most brilliantly coloured flowers. I mean A. elegans, a Brazilian species. For growing on the roof of a big stove it is unequalled for gracefulness, and when in flower, which is late in the summer and through the autumn, it is the pride of every man who owns one. The flower is not by any means a large one; the tube is a yellowish green, about 2 in. long, spreading out into a heart shaped limb about 3 in. across, which is a deep yellow heavily splashed with purple and has a rich velvety band of crimson round the throat. It grows very freely in the conservatory and has been known to grow out doors as a tender annual. It is about the most free or continuous flowering of the genus, and even when the roof of a hothouse is hung with festoons of shoots in full bloom it cannot be smelt, whereas with some of its sisters it would not be necessary to go into the house to smell them if only one bloom is out, especially A. gigas and A. cymbifera. Having no smell and being such a rampant grower it is invaluable for large conservatory work and has a quality that ought to recommend it more than anything and that is it is almost free from insect enemies. It seeds freely and can be quickly raised in this way, or by cuttings of the well ripened wood taken towards the end of the summer. It does not require any special soil, but the richer it is the more rampant it will grow. It should be pruned well back every spring; if it is pruned in the winter it often starts into growth again, which is very undesirable at that time of the year, as unless it receives plenty of light it grows weakly.

Celosias.—These are becoming very popular as summer bedding plants as well as for greenhouse decoration. They delight in a rich soil, and it will be found that those which are growing in pots will well repay the trouble of giving them an occasional watering with liquid manure. Celosia cristata, the Cockscomb, especially, shows signs of appreciation of generous treatment by making a most vigorous growth, and thus producing a strong comb. They are very easy to grow, but they are very much troubled by redspider, which persistently attacks them immediately syringing is left off. To grow large Cockcombs they should have plenty of dried cow dung in the soil, and be grown along in a warm moist house close to the glass. A shelf in a Melon house is well suited to them so long as the Melons will allow of the air being kept moist.

Medinilla magnifica.—There are not many gardens where this magnificent evergreen shrub can be seen ornamenting the stove. It must be because it is not sufficiently known that it is so rarely met with. It cannot be because it is not worth growing, or is difficult to manage. It is a native of Manilla, but does not owe its name to that, for the genus takes its name from Governor J. de Medinilla, of the Marianne Islands. The flowers are borne in very large pendulous racemes, and of a beautiful rose colour, and remain out for a considerable time before they show signs of fading. They delight in a light soil; a compost of equal parts of leaf soil and meadow loam is the best mixture to grow them in. They luxuriate in moist surroundings, and a high temperature. M. speciosa, as its name denotes, is a very showy species, having deep crimson flowers which are borne in long drooping racemes. It was introduced from Java in 1845 The leaves of the former species make it a conspicuous plant; they are rich shining green, and about 10 in. long. Although they delight in plenty of heat during the summer, 60° Fahr. at night will be plenty for them in the winter, when they should be induced to rest by lessening the water supply, only allowing just sufficient to keep the leaves from becoming limp. When they commence growth again, if they have not been repotted they should have occasional applications of weak liquid manure. The young half-ripened growths will strike readily in a good heat.—*C.*

Hardy Fruit Garden.

Now that the trees are growing so vigorously, they will require a lot of attention in the way of summer pruning. If this is neglected for a few weeks, the damage often becomes irreparable through one shoot running away with the sap which is required for its neighbour, and so on. What must be aimed at is a well balanced growth with plenty of room for each shoot which is to remain on the tree to ripen properly. If the wall-trees are left for a time without their young shoots being tied in, they will grow so strongly in an outward direction, that it will be impossible to get them back again into their proper places without damaging them. All growth that is not required and is making a crowd of foliage should be removed, or mildew, &c., will soon put in an appearance. When nailing in the young growth, plenty of room must be left in the shred for the shoot to swell. The Peach trees, &c., on walls should be looked to, now that the fruit is swelling quickly to see that it is not likely to be damaged by being in too close proximity to a nail or other object which will cause injury.

Watering.—If the trees are properly mulched, they will not need watering often. When they are watered it should never be with cold spring water, as the shock to the roots has much to do with the checking and cracking of the fruit very often. It is not always possible to obtain pond water, but when it is, it should be used, even if it necessitates a little more time and labour in fetching.

Grafts.—Much damage is often caused by the wind blowing out the scions when they burst into leaf. This should be prevented by running a cane up by the side of it and keeping it tied as it grows. The clay used in grafting should now be removed, but if the union is not quite complete, it should be covered again for a short time until it is. All shoots coming from the stock must be removed to induce it to throw the whole of its energy into the graft. Pear trees and Apple trees should be summer pruned, but this should not be done all at once, only one half of a tree should be done at a time and the other after the lapse of a few days; this will enable the tree to withstand the shock of the surplus sap being thrown back on it.

Netting.—In districts where small fruits are subject to the marauding expeditions of the feathered family, the trees should be netted without delay. Too often we see fruit destroyed wholesale, and the owner looking on in hopeless despair, saying he cannot afford to net them. If he cannot afford to net them, it is certain that he cannot afford to lose them, and he should choose the lesser of the two evils, for good garden netting can be bought at remarkably low prices, and a glance down the columns of any horticultural paper will point out that as much as thirty-five square yards can be bought for a shilling, and surely a shilling's worth of fruit can be saved in that space, even during the first year.—*F. J.*

Hints for Amateurs.

Paeonies.—Last week I dealt with the Rose, this week I do not think I can do better than start with a few words on a flower that bids fair to rival the Rose in colour and scent, but of course not in form. It is the Paeony I refer to, one of the most old-fashioned of garden flowers; but now that such strides have been made in its improvement it is becoming a most popular garden subject, and is much in evidence at the flower shows held at this time of the year. At one time the Paeony was used for medicinal purposes, and to this it owes its name, from Paeon, a great physician. It is a name that is used in a good many forms by many people, and very often it is known as Piony; the proper way to spell it is Paeony. With very few exceptions they are perfectly hardy, being natives of North-West America, Siberia, China, Asia Minor, the Caucasus, and Europe. They are divided into two distinct groups; one is herbaceous, that is it dies down every year and sends up fresh flowering shoots every spring, the other is a half shrubby one and does not die down in winter, this latter one being known as the Moutan or Tree Paeony.

The Tree Paeonies are a very beautiful class, but they have one very bad fault, and that is a strong tendency to burst their buds too early in the season, with the result that the tender young shoots too often fall a prey to spring frosts. They have a greater tendency to do this in the south than they have farther up the country. Tree Paeonies are too often encouraged to do this and are killed by kindness by keeping them too warm in winter. They will not suffer from cold so long as the buds remain dormant, but like many other hardy plants, if kept too sheltered in the winter they start to grow on the first advance of warm weather, which is so often followed in this country by cutting frosts towards morning, especially in low lying districts. One thing they delight in and must have, if success is to be obtained, and that is a rich deep soil, one with plenty of rotten manure incorporated with it. Provided with a good soil and plenty of moisture they are no more trouble, and will grow freely with very little attention. The lightest positions possible should be chosen for the Moutan type, as they then have a better chance of more thoroughly ripening the wood, and like all other plants, the better the wood is ripened the better the quality of the blooms will be. Although a light position is desirable for them they should by no means be planted in a too exposed place or they will suffer from the effects of the wind, which often proves very destructive to these flowers.

Propagation.—The herbaceous kinds are easily propagated by division of the clumps when they are dormant, but this should only be done when absolutely necessary as they are very impatient of root interference and often resent it by remaining for the next season in a miserably weak state. The Moutans are more difficult to deal with, and unless the amateur has had considerable experience it would not be wise for him to attempt it; it is accomplished by grafting pieces on to the woody root shoots of the herbaceous kinds, P. officinalis generally being used as the stock. There is no class of flower to surpass them for the number of different shades of red which they produce, they may be had from the most delicate pink to the deepest of rich crimson. Of course the single form is the form true to Nature, but as in innumerable other instances when grown under cultivation doubling often takes place by what is known as petalody, that is, stamens are metamorphosed into small petals and thus fill up the centre of the bloom.

Poppies.—The common field Poppy is passed unnoticed by the majority of British people because it is found so plentifully; but no flower in the British flora can come near it in point of brilliance of colour, and the same may be said of its sisters, especially the Oriental Poppies, which have been making such a blaze of colour in most big gardens. It is a flower that ought to be in the garden of every amateur as well as professional, as when in bloom nothing makes a more striking plant in the flower borders. Like the Poppy of the cornfield they are no trouble to grow, and if provided with a sandy loam they will grow as freely as weeds. They propagate easily from seeds or by division, and prove as hardy as any plants on the border. The tiny Iceland Poppy is found growing farther north than any other flower and produces its brilliant flowers in districts which are for the greater part of the year bound in ice and snow. It forms a most graceful subject for cutting, for which purpose it is largely grown, and for decorating the rockery it proves most suitable. It is safe to say that no flower in the garden will produce such an amount of bloom with so little attention as the small Popples, especially the pretty Shirley strain, which is the result of selection from seedling variations of the common field species. The colours are pure and varied, and from a small 1d. packet of seed an astonishing number of shades may be obtained. When once established on a piece of good light ground they are no more trouble, and although they are annuals they do not even require sowing again as they seed so freely and come up in abundance. If thinned, they prove much better plants and produce many more flowers than if they were left to themselves, and the strongest allowed to overgrow the weak.

Pansies.—These old favourites have been neglected somewhat of late, but they still have many enthusiastic cultivators, and they deserve to have, for they are almost indispensable where a show of dwarf flowers is required. Named sorts are perhaps expensive, but this need not deter anyone from cultivating the beautiful "Heartsease," for with a packet of seed and a little careful management blooms can be obtained which, to all but a specialist, are equal to the named varieties, and I will venture to say very often superior. For planting out in the spring the seeds ought to be sown in pans of light soil about September. If they are required for planting out in the autumn they should be sown in May or not later than the middle of June. When once a stock has been obtained, the poor varieties may be weeded out and the others renewed as they require it by young plants taken as cuttings, by which method Pansies propagate freely. If propagation by cuttings is resorted to they should be taken towards the end of the summer and inserted in light sandy soil either on a sheltered border or in a cold frame and protected from the sun. The Pansy has the advantage over many other popular flowers in being able to thrive in a variety of soils. To grow good Pansies fit for exhibition, the soil must be rich. A good compost is made from fibrous meadow loam and cow dung with plenty of sharp sand added. They require to be cool at the root, and perhaps it is for this reason that they do much better in north Britain than in the southern counties. When watering them always give a good soaking so that it runs down deeply into the soil, for if they are only sprinkled the roots will be encouraged to come to the surface, where, in addition to suffering from heat, they are very liable to injury by becoming too dry. If blooms for show are desired the shoots must be limited to five or six, and the blooms kept pinched off until they are wanted for the show-board. If they are grown in a position where the sun shines on them during the middle of the day, they should be afforded some slight protection on very bright days, such as a piece of muslin or a few leafy branches.

Saxifraga Cotyledon.—This plant has been seen much in the flower markets this season, and seems to have a ready sale. It is very easy to grow, and makes a very pretty picture at this time of the year. It is a remarkably free flowerer and, with the aid of a greenhouse, is very easy to grow. It often grows when in a good condition to 2 ft. in height. The culture is very simple, as it grows without any trouble if supplied with a light soil and not too wet. It is an alpine, and like all plants hailing from there requires plenty of light and not too much heat It was introduced to this country in 1596, so it is quite an old acquaintance. Saxifraga pyramidalis and S. nepalensis are only robust forms of this species, although they are often classed as distinct.

Saxifraga sarmentosa.—This is known under a variety of names, such as Wandering Jew, Creeping Sailor, Mother of Thousands, Aaron's Beard, Old Man's Beard, &c. I cannot say anything about its requirements, as it will grow almost anywhere if given ordinary treatment. I only mention it to remind readers of these columns that it is a plant worth growing, and proves a very useful one for small window baskets where it always looks pretty with its long trailing shoots and profusion of flowers when in season. The runners will root on anything if it is moist, and, of course, it is by these that the plant is best multiplied.

Cimicifuga.—This is another good plant for the amateur's garden, especially in a rockery corner where its tall, graceful spikes make a pretty picture during the summer. It is easily raised from seeds or by divisions of the root. The seeds must be sown as soon as they are ripe in a sheltered spot. The plant is often known as the Bugwort, its name, no doubt, accounting for that, as it is derived from *cimex*, a bug, and *fugo*, to drive away, a virtue it is said to possess. It delights in a moist position, and always does best when partially shaded.

Dahlias.—I must just give another reminder to those who have young plants of these growing vigorously, that if they do not seem inclined to break freely they should be forced to do so by pinching off the top; this is the only way to ensure a good bush of bloom, and a plant of good shape. Be sure they do not suffer from drought or the buds will be deformed, and remember if they have not had the soil in which they are planted recently enriched with manure they will require frequent waterings with liquid manure during the growing season as they are gross feeders.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

When to Plant Herbaceous Plants. — *House:* Of course the spring or autumn is the best time to transplant these, but if you are leaving your garden you can lift your plants, cut them down somewhat and then plant them in your new garden. If you supply them with plenty of water and good soil they ought to get well established and be benefited by the shift by the next season. If you could make arrangements to leave them where they are until the autumn they would not suffer so much, if any then, by being removed.

Calochortus.—*O.K.*: It would not be the cold that killed your bulbs as the last winter was not at all severe. Perhaps it was the wet, as they often go off during the resting season if too wet. It is from this that you should endeavour to protect them, not from cold.

Caterpillars.—*Cabbage*: The Caterpillars of the large white Cabbage butterfly (Pieris Brassicae) have various colours at their different stages. When they are very young they are green in front and yellow behind; as they get older they get hairy and dotted with black; when full grown they are about 1½ in. long, green above and yellow underneath. Along the middle of the back is a yellow line edged with black spots. During growth it changes its skin several times.

Primula Kewensis.—*Grower*: This beautiful new hybrid Primula only requires ordinary greenhouse treatment, and the treatment which is afforded to either of its parents will suit it admirably. The parents are Primula floribunda, the showy little dwarf yellow Primula of our greenhouses, and P. verticillata, the Abyssinian Primrose.

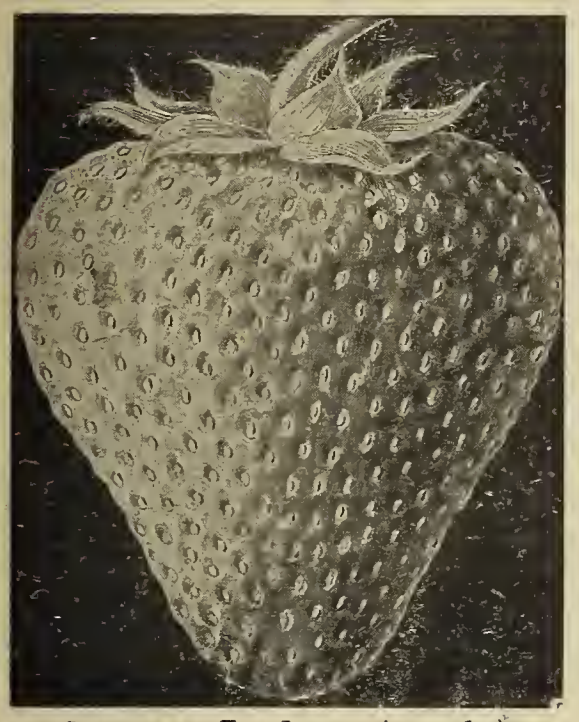
Streptocarpi for Cutting.—*F.*: We have seen these flowers used extensively for cutting, and they seem to last well. Whether for cutting or house decoration the numerous beautifully coloured hybrids which have been brought out recently are valuable subjects, as they produce their blooms so freely and flower for such a long period.

Pitcher Plants.—*Greenhouse*: It is impossible for you to grow Nepenthes unless you possess a hot glasshouse where they can have plenty of heat and a saturated atmosphere. Sarracenias are better suited to your requirements, and will thrive in a light greenhouse if they are provided with a close atmosphere and plenty of heat when they are throwing up their new pitchers. The flowers which are produced early in the year are very handsome and curious.

Amaryllis.—*S.S.*: It is a great mistake to let your plant dry off as soon as it has finished bloom-

ing. You should encourage it to grow as much as possible, as it is then that it stores up elaborated food in its bulb for the next year. This applies to all bulbs alike.

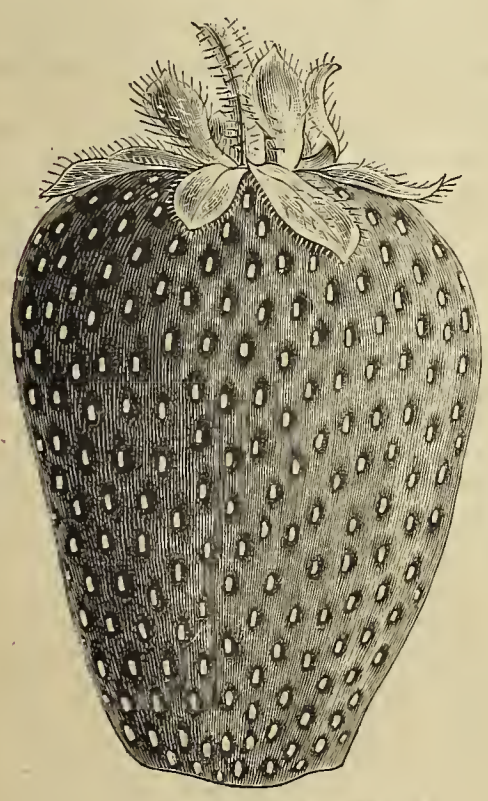
Caladiums.—*Rex.*: When your plants have finished growing and the leaves are mature, you can with safety harden them off and use them for the



STRAWBERRY THE LAXTON (see p. 699).

decoration of the conservatory. The lightest place possible should be given to them, as they soon lose their colour when taken from the light. You can keep them in a cool house to finish off, and with the low temperature and gradually diminished supply of water, you will find your corms will plump up well.

Striking Dracaenas.—*A. M.*: If your plant has become leggy, you can either nick the stem close to the top and then keep a ball of wet moss tied round



STRAWBERRY FILLBASKET (see p. 699).

it, or you can sever the top completely and stick it in a bottle of water, in which several pieces of charcoal should be placed to keep the water fresh, but it should be changed twice a week. If it is kept in a warm, shady place, it will soon put out new roots, and can then be potted up. The old stem will produce a large number of plants if cut up into sections and placed in a pan of wet sand in a warm house.

THE ROCK GARDEN.

In no other department of the outdoor garden can a greater or more continued succession of flowers be obtained than in a well stocked rock garden or rockery, according to its extent and pretensions. Just in proportion to the cultivator or collector's love for the dwarfer forms of hardy plants, and according to the number he has under his care, will he be proud of the same, and look upon his collection as a continual source of pleasure, not unalloyed, perhaps, for there are many difficulties, disappointments, and mishaps with which he has to contend; but the pleasure is there all the same, and the more skilful will generally be the most successful, all things being equal. At no period of the year are interesting plants more numerous, perhaps, than in May and June, though individuals may give preference to certain flowers that come earlier, or that more properly belong to the domain of spring. Those of broad views and wide taste will strive to keep up a succession of flowers during the greatest number of months in the year, which the climate of this particular district may permit. At the same time, by the use of dwarf evergreen, and berried plants, the rock garden may be made a source of pleasure at all seasons of the year, and in proportion to the neatness with which it is kept and the varied aspects it presents, so will it be a perennial source of pleasure.

Alterations may always be going on during autumn, winter, and spring when plants may be lifted or transplanted with safety, while the rest of the year has its cares, its pleasures, and duties. Fresh positions may be considered necessary for certain plants, as time and experience show what the requirements of each special class or species of plant may be. Instead of transplanting the original specimens, however, it often proves advisable to make the experiment with smaller or younger plants. This will necessitate the rearing of fresh specimens from seeds, cuttings, or layers as the case may be. Propagation is in itself an interesting operation, more particularly to those who have a decided liking for the plants in their possession or under their care. This may be carried on all the summer, where the collection is a large one, as many can be more successfully propagated at certain seasons than others, much being dependent upon the plants themselves and upon the conditions under which they are grown, or the state of the weather for the time being. The experienced cultivator or propagator knows all these things, and acts accordingly.

Erodium chamaedryoides.

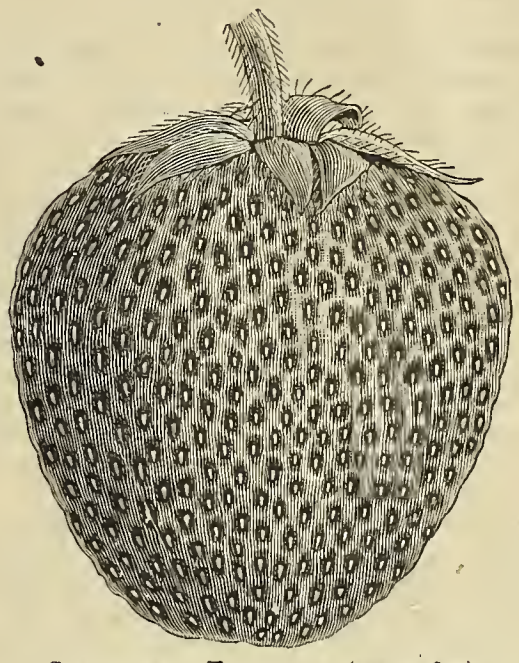
Several species of the Heron's Bill (Erodium) are amongst the neatest subjects that may be planted on the rockery, and that under notice is particularly so. Many plant collectors already know it under the name of E. Reichardi, a neat plant of dwarf and tufted habit, hailing from the Balearic Islands and Corsica. From the latter island we have an interesting lot of plants, all characterised by their miniature size and adaptability for the rockery or alpine garden, the occupants of which need not necessarily be truly alpines, so long as they are of dwarf habit and adapted for this method of cultivation. The flowers of E. chamaedryoides are about the size of a shilling or nearly, white, and produced singly on stalks just rising above the surface of the dense tuft of roundly heart-shaped leaves.

Linaria hepaticaefolia.

None of the species of Linaria or Toad-flax lie more closely to the ground than this interesting little species. It may be compared to the British L. Cymbalaria, but all parts are smaller, and the stems creep along the ground, rooting into it and not hanging in a loose wisp as in the case of the other just named. Owing to this neat habit of growth, the flowers are well displayed above the foliage, so that this tiny creeping species always makes a better show than its relative. It is admirably adapted for planting in small pockets of the lower parts of the rockery where it can creep over the damp stones and run into neighbouring pockets through the crevices and narrow straits that separate them. This habit of growth gives it a charm of its own, which planters would do well to recognise.

Chamaelirion carolinianum.

When grown in pots and kept in cold frames, this neat and pretty member of the Lily family flowers about the end of May; but under such conditions it does not, as a rule, exceed 6 in. or 9 in. in height. The best place for it is in the bottom of the rockery, where it may be planted in a partly peaty soil to conserve the moisture. If shaded from the afternoon sun, but not overhung by trees, so that it will not be subjected to the deleterious influences of the long afternoon sun and the influence of a dry atmosphere,

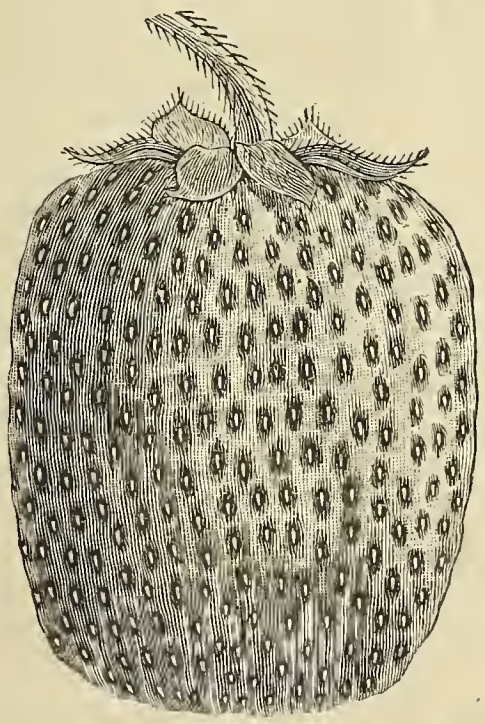


STRAWBERRY TRAFALGAR (see p. 699).

it will vary from 12 in. to 18 in. in height, when the dense, cylindrical spikes of small white flowers become indeed very interesting and pretty. The spathulate, light green leaves form a tuft confined to the base of the stem. It is now in perfection.

Aster alpinus superbus.

The Michaelmas Daisies have their summer representatives, to which a separate name must needs apply. All the same, some of the summer flowering perennial Asters are very pretty or even showy and dwarf in habit which adapts them for the rock garden. The variety under notice is notable for the size and deep blue colour of its flowers, purple-blue some would call it, yet it is decided and telling



STRAWBERRY LAXTON'S CLIMAX (see p. 699).

enough. The plant is only about 6 in. high, and flowers during the latter part of May and in June, earlier or later, according to the season. Propagation is easily effected by cuttings of the flowerless shoots in sandy soil under a hand light at this time or later; and also by division of the clumps in March.

Dianthus caesius.

The Cheddar Pink is one of the neatest and most

interesting of its kind at this season of the year. Nowhere is it more at home than when planted on a sloping part of the rockery, where the dense mass of shoots and gray foliage may creep over the surface and droop over the ledge in front of it. The rosy-pink flowers are neat in form, merely toothed at the edges, of appreciable size, and produced in sufficient numbers to arrest the attention of the casual observer. The soft gray setting of foliage gives the flowers additional attraction. A position fully exposed to the sun is the best place for it.

Bulbinella Hookeri.

A glance at this plant when in bloom recalls our native Bog Asphodel, though a closer inspection will show differences in the foliage and flowers, the former being narrower and not flattened like those of a miniature Iris; while the stamens are not bearded like those of the Asphodel. The Bulbinella also grows taller, say from 12 in. to 18 in. according to the strength of the plants, and bears a conical raceme of golden yellow flowers at the top. It comes from New Zealand, and should be planted in slightly peaty soil in a cool position somewhere about the base of the rockery, where it will be shaded from the long afternoon sun. It loves moisture during the growing season like other allied plants of the Lily family.

Dianthus callizonus.

The habit of this handsome Pink is not nearly so dense as that of the Cheddar Pink, and it is slightly taller, say 6 in. to 8 in. The flowers are much larger, however, rose coloured, and marked with a broad zone of crimson spots round the centre. It is a Continental species, being a native of Transylvania, but is not so often seen in collections as its merits deserve. The flowers would cover a florin when produced by vigorous plants. The florists might well take it hand for the purpose of giving us varieties, though they could scarcely improve it, otherwise than by intensifying the colour as in the case of the blue Cornflower.

Silene alpestris.

The species of Catchfly are very numerous, though many of them are of little value for garden decoration. That under notice is quite exceptional amongst perennial species, its leading features being neatness, dwarf habit, and a profusion of pure white flowers, small individually, but collectively very handsome when a good patch of it is seen upon the rockery. It is well adapted for this purpose, being a native of the Alps; and while it may be grown in a fairly dry, exposed position, it well repays a little attention in the matter of watering during the flowering period in dry weather. The conditions this summer have been very propitious to it, and for some time it will remain very attractive. The plant may readily be increased by division in spring, and by cuttings of the flowerless shoots when they may be had.—*Alchemilla.*

BEST TWELVE KINDS OF VEGETABLES FOR COMPETITION.*

THE best twelve kinds of vegetables to grow for purposes of competition are:—Carrots, Cauliflowers Celery, Cucumbers, Leeks, Onions, Parsnips, Peas, Potatos, Runner Beans, Tomatos and Turnips. But even apart from any intention of exhibiting, every gardener ought to be able to grow the vegetables just mentioned thoroughly well, and be able, if required, to have them fit for his employer's table before such things can be obtained in the open market at ordinary prices. The first and last consideration is quality. Size is not to be disregarded, but it must never be considered as in any way an equivalent of high quality. Such a list as I have given contains not only useful, but, I might safely say, indispensable vegetables, and the very marked interest taken at flower shows in the exhibits for competition in the vegetable tent should teach every gardener that whatever else he may or may not excel in growing, the cultivation of the leading vegetables should be a branch of his profession to be mastered. Then after he has succeeded in growing vegetables to perfection, he must also be able to show them to advantage.

Many a time has a first prize been missed by well-grown specimens being badly shown, and he who would succeed as an exhibitor must not only himself attend to every little detail in the preparation of his specimens, but he must closely watch and copy the methods adopted by those who come to the front in close competition at the leading exhibitions. He must also be careful always to comply with the conditions of the schedule, and before he finally leaves his exhibits to await the judges' award, see that in each case the required number of each article be staged, the name of the variety legibly written and properly affixed, and other details of arrangement carefully made with neatness and care.

Although I have given the list of twelve kinds in alphabetical order on the first page, I will now deal with them according to what I estimate their relative importance in the list. First, then, as to

CAULIFLOWERS.

I consider Cauliflowers are the most important to any one exhibiting in a class for twelve kinds at a show in August or September, but especially in August, for, in a collection, the three heads of Cauliflower make a fine effect and help to make the exhibit massive looking. For show purposes I have never found anything better than Veitch's Autumn Giant of the true type. In preparing the ground for Cauliflower I trench deeply, at the same time digging in a liberal supply of well rotted manure—the more the better. The trenching should be done in the autumn, or at all events in early spring, leaving the ground in a rough state, the better to be effected by any frost which may come and which does so much good by pulverising and letting the air into the soil. Before putting out the plants, say a week before, give the ground a good coating of soot, forking it well in, after which it is ready to take the plants.

In preparing for a show on a fixed date in August, it is well to make two sowings of seed, the first in the beginning of February, and the second about the last week of that month. If circumstances compel you to depend upon but one sowing, then let it be about the 12th of February. Sow the seed in a store-pan and keep it in a cold house, such as a Peach house, but, if you have no such accommodation, put the seed pan in a close frame well up to the glass to prevent drawing. As soon as the plants show their third leaf, prick them off into boxes at a distance of 1½ in. to 2 in. apart from plant to plant. Put them back into the frame and keep them close for a day or two, after which give air according to how the weather allows of it. When the plants are about 3 in. high, they must be given more room, and the best plan is then to pot them off singly into pots of about 4½ in. diameter, but if this cannot be done, they must be shifted into larger boxes to give them more room. When the weather permits, keep the frames uncovered until they are so hardened that you can keep the lights off altogether. Keep the plants growing and do not let them suffer for want of water. By the end of April or the beginning of May, the plants will be ready for planting out, but, of course, you must be guided by the weather. Let the rows be 3 ft. apart and the plants 2½ ft. from each other in the row. If the ground is limited, 2½ ft. between the rows would do, but 3 ft. is better.

CELERY.

In twelve kinds of vegetables I would place Celery as the second in importance. To be of any use for exhibition it must be very well grown. I sow about the 12th of February in 6-in. pots, generally sowing two pots of it, and the kinds I have found to answer best are Wright's Giant White, Dobbie's Invincible White, Standard Bearer Red and Dobbie's Giant Red. After sowing, place the pots in a warm greenhouse with a piece of glass over the pots. As soon as the seedlings are large enough to handle, pot them off into small thumb-pots or put four or five in a 5-in. pot. Next time they should be shifted into 3½-in. pots, always keeping them near the glass. When the plants have made such progress as to fill the pots with roots, give them their final shift, this time into 5-in. pots, picking out the best plants to grow on for exhibition. Do not select many more than you actually require. The soil I use for the first potting is two parts loam and one part leaf mould, sand, and good rotten manure, all well mixed together. When the plants are potted off, they should be put in a cold frame and kept close for the first day and afterwards given air according to the weather. The plants must be well hardened before putting them into the trench. The trench should be about 20 in. wide and 20 in. deep. Put in some good cow manure to the depth of about 10 in., then give the manure a dusting of soot, covering it over with a little soil, so that you may get on it to tread it nice and firm. Put on the top of this about 6 in. soil leaving the trench about 4 in. deep. Place the plants about 20 in. apart from each other and give them a good soaking with water. An excellent plan for blanching is, if you can conveniently get them, to put a 12-in. diameter drain-pipe over each plant. This keeps the cold from them and helps to keep the leaves compact and draws them up straight. Pipes of a smaller diameter than a foot spoil the plant. If you cannot get drain-pipes, make open boxes of a foot square as substitutes, raising the box as the plant gets taller. About five weeks before the show, take a piece of brown paper, 6 in. wide and about 24 in. in length, and wrap it round the plant at the base. A fortnight afterwards, put on another similar piece of brown paper, but let it be wider, say 9 in., tying it round with a piece of raffia or matting, but see that it is not tied in too tightly. Abundance of water is necessary at this stage.

CARROTS.

A good dish of Intermediate, well-grown, is indispensable in a selection of twelve kinds. Choose a sheltered position for your seed-row and sow as early in March as the weather will admit of it. Get the ground trenched as early as you can, and if you put in any manure with the seed it must be in the bottom of the trench, 20 in. to 24 in. deep. Make the line, then take a large dibble, or better still, a good crowbar, and with it make holes 2 ft. deep, carrot-shaped, and about 7 in. from hole to hole. The rows should be 15 in. apart. The holes must be filled up with a specially-prepared compost, and for the purpose there is nothing better than the soil in which Cucumbers or Melons have been grown the previous year. It should be passed through a ½-in. sieve or riddle to remove all stones or hard substances. Then add a little more sand and mix well together. A very little artificial manure, of any of the garden manures supplied by seedsmen, may be added to the compost, but very little must be given. As you put this prepared soil in the holes, gently press it down with a stick. When this is done, sow three or four seeds in the centre of each hole, then lightly cover the seeds over. When the plants are large enough to handle, reduce the number in each hole to two plants for a week or ten days, after which go over the rows again and make a final selection, leaving one plant in each hole to be grown on for exhibition. The rows must be kept perfectly clean, and if the weather is dry give plenty of water. The sort I have found best for show purposes is Veitch's New Intermediate. When well grown, no other can beat it. Three dozen Carrots would be quite enough to grow to select from.

PARSNIPS.

For this crop the same kind of preparation is required as for Carrots, making holes in lines, filling them with prepared soil, and so on, but for Parsnips, the holes must be 3 ft. deep and 5 in. across at the top. The seed must be sown not later than the first week in February if the weather is dry and no frost in the ground. For two dishes, fifty or sixty holes would be ample to provide enough to select from. Elcombe's, or Student, or Tender and True are good sorts, but nearly every seedsman has an improved variety that will answer well enough, the growing of the crop being the main consideration, there not being much difference in the varieties of Parsnips.

ONIONS.

For exhibition, the seed must be sown in the first week of January. They may either be sown in small pots, or store-pans, or even a shallow box will do. Give a good watering after sowing. Stand the pans or box in a greenhouse or vinery, or any similar house where the temperature can be regulated to about 40°. Be careful not to give too much water before the seeds have germinated, as there is the danger of damping off. When large enough to handle, the plants should be pricked off into boxes or thumb pots, and at the next shift into 4½ in. pots if you have room to accommodate them. Or you can use boxes 6 in. deep, with drainage at the bottom, and a thin layer of manure at the bottom just over the drainage, as the fibrous roots always seek downwards. The soil I use is loam, leaf mould, a little well-rotted manure and sand, all well mixed together. The soil should be firmly pressed in the boxes, and the Onion plants pricked in 3 in. apart

* A paper read before the Devon and Exeter Gardeners' Association by Mr. W. R. Baker, gardener to Lady Duckworth, Knightleys, Exeter, on February 13th, 1901.

each way. Keep as near to the glass as possible. Early in March they should be ready to go out into the cold frames. Keep them rather close for a few days, then give them more air according to the weather. A great thing is to try and keep them as sturdy as possible, and, as a means to this end, the lights of the frame should be taken off altogether before the Onions are planted out in their permanent quarters. The soil in which they are to be grown should have been trenched two or three spits deep, and plenty of good rotten manure put into it. This should be done in the autumn, and at the same time a good dressing of soot should be forked into it.

The ground having lain fallow through the winter, and the plants brought on as indicated, the third week in April, if the weather is favourable, would be a good time to transplant to the open ground. Transplanting must be most carefully done so that not a fibre may be broken that can be helped. To do this use a small trowel and lift the plant with the ball of earth round it, placing it gently in the hole prepared for it. The rows should be 18 in. apart, and 12 in. from plant to plant. Should the weather be dry, they should be sprinkled with a pot and rose for a few days until well established, and, from early in June, manure water may be given about once a fortnight. Should the exhibition you are preparing for be about the third week in August, the Onions should be lifted a few days beforehand.

LEEKS.

Leeks must, in their young state, be grown in the same way as recommended for Onions, sowing at the same time and giving them the same treatment, excepting in this particular, that Leeks for exhibition purposes should always be grown in pots and never in boxes, the great thing to aim at with Leeks being to get them as great a length as possible, and the less the root fibres are interfered with the more likely are you to achieve this end and success in the show tent. About the third week in April, prepare the trench they are to be grown in. It should be 18 in. deep and 18 in. wide for a single row, the length being according to the number of plants you intend to grow. For two dishes, twenty-five plants will be enough to select from. The soil removed from the trench should be piled up at the sides of it to be used later on for blanching. Into the bottom of the trench should be placed some good rotten cow manure, or horse manure, to the depth of about 10 in. firmly trodden in. On the top of this, place 6 in. of soil, and in it plant the Leeks about 3 in. deep, and 12 in. from plant to plant. As soon as the Leek is planted in the trench, place a brown paper collar round the white of it and put a little soil around just to keep the collar firm enough in its place; but do not let the soil reach up to the top of the collar, in case it gets in between the leaves. Give abundance of water throughout the dry weather. The sort I prefer for exhibition is the Monarch, being a sturdier Leek and of better constitution and a darker green in the leaf than the Lyon—also a good sort.

(*To be continued.*)

THE RISE AND PROGRESS OF THE STUDY OF PLANTS.

SKETCH II. (*Continued from p. 674.*)

WE find the next mention of plants in Grecian fabulous history about 1260 A.C. The probability that the Greeks derived any knowledge they possessed from the Egyptians is very likely. Much of other arts in which the Egyptians excelled were also transported to Greece.

Esculapius, one of the most celebrated persons connected with the study of plants in Grecian mythology, owing to his great skill in the medicinal virtues of plants, achieved to the immortal dignity of God, and father of medicine. True, he derived his instruction from his master Chiron, but the disciple appears to have so much improved on the tuition of the master, as to not only cure all diseases by herbs, but resuscitate the very dead to life!! This extravagant display of the high position the virtues of plants received at the hands of the early Greek writers, though of no value whatever as far as actual truth is concerned, clearly demonstrates a fact of some importance, viz., that the study of plants certainly had a place of very considerable consequence among the Greeks at this remote age.

Two of the sons of this notable quack, Machaon and Podalirius, are extolled by Homer for their knowledge and skill of herbal medicine at the time of the Trojan war.

Besides those evidences of the progress of the knowledge of the properties of plants, at this early period it is supposed, from a reference which Homer makes to the garden of Alcinous, that plants were used for culinary as well as ornamental purposes. The same author refers to the Lotus and Nepenthes.

It would seem from the statement made in 1 Kings iv. 33, that King Solomon wrote a book on plants, a circumstance which would imply considerable taste for the study of plants, among the Hebrews also. It is very likely they would, too, derive this taste from the Egyptians. Down to a period of about 600 years A.C., whatever evidences are directly or indirectly on record respecting the study of plants, there is not previous to this any reason for inferring that the subject was made an object of philosophical research. Thales, the earliest Greek philosopher, is regarded as being the first to enter upon phytological investigation. He is said to have travelled from Greece to Egypt for the purpose of being instructed in the knowledge which the Egyptians were in possession of at the time. From the inquiry into the subject by the philosopher's immediate successors, it is supposed that he must have made some advancement in the direction of the speculative side of the study of plants. Anything done is not considered, however, of further importance, than of giving a new course to the study of plants.

Phythagoras, Anaxagoras, Empedocles, and Democritus, the successors of Thales, seem to have bestowed some attention to the subject. Their books are unfortunately lost, and what is known of them is a reference to their opinions by subsequent writers.

Phythagoras is credited with the honour of writing a book on Onions. Anaxagoras held that vegetable seeds were suspended in the atmosphere and brought down to the earth, by the rain and dew. Empedocles taught a theory of germination, which, however, as might be expected, is not orthodox. Both he and Anaxagoras held that plants were sensible to touch, and capable of desires and passions; we think this theory has lately been resuscitated. Democritus is said to have made some inquiry into the cause of the tastes and perfumes of plants, and which he held to be due to the form of the primitive components constituting plants.

Hypocrates, the celebrated founder of rational medicine (400 A.C.), greatly extended the field of inquiry into the study of plants, and associates plants with medicine. He is said to enumerate over two hundred species of plants in his works. The dignity to which this philosopher raised plants was certain to incite emulation. Cratejas, a contemporary of Hypocrates, is said to have written a book on botany. It is unhappily lost.

Xenoppon makes honourable mention of the subject in so far as it tends to the perfection of the education of the Persian youth.

Aristotle, however, is the first Greek philosopher who evidently entered into the subject of plants with any pretensions to a scientific investigation. He wrote two books entirely treating on plants, which are now lost. Inferring from his other learned contributions to philosophy which have been transmitted to our time, the loss of these works will be generally regretted. They would doubtless have contained much that would be interesting; and yet perhaps much is not after all lost, for possibly we learn from Theophrastus, the disciple of Aristotle, all that was worthy of note in the lost works of his master. Theophrastus flourished about 300 A.C. He is said to have been a most enthusiastic botanist, so much indeed as to be denominated the "prince of ancient botanists." He wrote two books on botany, for which his name is honourably famed.

In the one he attempts to arrange plants, in the other to explain vegetable phenomena.—*Antiquus.*

(*To be continued.*)

Shrubs for Sandy Soils.—Quite a variety of shrubs specially lend themselves to cultivation on sandy soils. In speaking of sandy soils in this connection we do not refer to pure sand but to land in which the proportion of sand ranges from 70 to 80 per cent. On such land shrubs such as the Strawberry tree (Arbutus), Japanese Aucuba, Cotoneaster, Escallonia, Laurustinus, Phillyrea and Guelder Rose, usually do well and flourish to great advantage.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 18th inst.

Orchid Committee.

SOPHROCATTLEYA GEORGE HARDY TYNTESFIELD, VAR.—The parents of this bigeneric hybrid were Cattleya Aclandiae and Sophronitis grandiflora. Two at least of the seedlings have flowered, the one favouring one parent and the other seedling the other parent. The Tyntesfield variety under notice takes after Cattleya Aclandiae. The oblong sepals are suffused with buff-purple over a yellow ground, and thinly spotted with dark purple. The rhomboid petals are thinly spotted towards the top otherwise they resemble the sepals. The lip has the triangular side lobes lined with pale purple on a creamy yellow ground, while the terminal transverse lobe is deep rose. The short fleshy column is deep purple. It will be seen that the form of the flowers is intermediate between the parents. The typical S. George Hardy has orange scarlet flowers with a few spots and therefore leans towards the other parent, Sophronitis. (Award of Merit.) Fred Hardy, Esq. (gardener, Mr. Thos. Stafford), Tyntesfield, Ashton-on-Mersey.

Floral Committee.

TEA ROSE LADY ROBERTS.—Amongst new Roses this is one of the most handsome we have seen this year, the colour being strikingly distinct and magnificent. The opening flowers have a firm conical centre, around which the outer petals become more or less decidedly revolute at the tips as the blossoms expand. The buds are of a rich salmon-red, and the open petals orange-salmon, fading to apricot at the edges. Form and colour are therefore the glory of this new Tea Rose as the blossoms are not scented. Experts say that it is large enough or will become so, when properly grown, for exhibition purposes. We should think it will have an interesting career for that object. (Award of Merit.) Messrs. Frank Cant and Co., Colchester.

ASPLENIUM TRICHOMANES BIPINNATUM.—The most striking feature of this beautiful variety is the great length of the pinnae, which are lanceolate, elongate, and either serrated, pinnatified or pinnatisect, for they vary greatly upon one and the same plant. We understand it is a wild find collected in Wales. (Award of Merit.) C. T. Druery, Esq., V.M.H., Stanwixbank, 11, Shaa Road, Acton, W.

GLORIOSA LUTEA.—The leaves of this plant vary from lanceolate to ovate and terminate in a tendril. The flowers are similar to those of G. superba in all respects except in colour, the segments being soft buff yellow with a paler base. (Award of Merit.) The Hon. Mrs. Evelyn Cecil (gardener, Mr. Cox), Lytchett Heath, Poole.

CARNATION DUCHESS OF ROXBURGH.—The flowers of this fancy variety are of the largest size, and supported by a non-bursting calyx, but without scent. The base of the petals is yellow, but towards the apex they are striped with pale heliotrope and apricot on a white ground, the combination of colours being peculiar and the general effect handsome, even although the colours are subdued. (Award of Merit.) Mr. J. Douglas, Edenside, Great Bookham, Surrey.

DICTAMNUS CAUCASICUS.—The leaves of this plant are leathery with ovate, crenulate leaflets. The plant is more vigorous than either D. alba or D Fraxinella, growing to a height of 4½ ft The large flowers are produced in a long, pyramidal panicle, and are rose, veined with reddish purple. All parts of the plant are very powerfully scented. (Award of Merit.) Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill.

SEDUM KAMTSCHATICUM.—This plant is of procumbent habit, with terminal cymes of yellow flowers, and the spathulate leaves are crenate-dentate above the middle and edged with creamy yellow. It is quite hardy and well adapted for cultivation on the rockery. (Award of Merit.) Mr. Amos Perry.

Fruit and Vegetable Committee.

STRAWBERRY THE LAXTON.—The fruits of this variety are of good average, or even large size, conical, obtuse, and of a rich crimson-red colour. It does not seem to become flattened at the point as Royal Sovereign sometimes does, and is of finer colour and flavour than that grand variety. The skin is also firm, so that it will keep well on the plant in wet weather, and also carry well to market. It has, therefore, several points in its favour in

advance of Royal Sovereign, and being a great bearer it is sure to be extensively cultivated both in private gardens and for market purposes. (First-class Certificate.) Messrs. Laxton Brothers, Bedford, have for years been trying to get a variety of this stamp and have succeeded, beating their previous record with Royal Sovereign. (See illustration p. 705).

JOHN CLAUDIUS LOUDON.

(*Concluded from p.* 690.)

When Loudon had again settled down in London he renewed his labonrs with increased diligence judging from the books and supplements that appeared one after the other in relatively quick succession. In December, 1841, that is, the same year he returned from his second visit to Scotland, he published the first number of the *Encyclopaedia of Trees and Shrubs*, and continued the work monthly, the whole being issued in ten numbers. The preface to this work was dated, Bayswater, April, 1842, which would seem to indicate that the work was off his hands by the time half of it had been issued to the public. Although this is practically only an abridgment of the *Aboretum et Fruticetum Britannicum* it contains a vast amount of information we never see in modern books, for besides general and glossarial indexes, it contains the full contents of the book, including the species and varieties described in the body of the work, arranged in the exact order in which they are described, and that is on the natural system, and therefore different from his *Encyclopaedia of Plants* and other books issued from his pen. After the contents comes a summary of the uses of the trees and shrubs for a great variety of purposes. This is followed by an analysis of the genera according to the form and general character of the leaves, which would assist the general reader in getting at a knowledge of them. At the end of the book is a supplementary list of species and other matters which would appear to have come from his pen. A second edition was published in 1875, containing 3,000 illustrations, but this is merely a reprint of the first edition.

As soon as the above book was issued to the public he published an abridgment of the *Hortus Lignosus Londinensis*. Again, in May, 1842, he puhlished the *First Additional Supplement to the Encyclopaedia of Cottage Architecture*. Besides his own works he also contributed to the *Encyclopaedia of Domestic Economy* and *Brande's Dictionary of Science, Literature and Art*. The article on "Planting" which appeared in the new edition of the *Encyclopaedia Britannica*, also came from him.

In March, 1842, he contracted inflammation of the lungs, which laid him up for a time; and when he became convalescent he went to Brighton with his family, where he spent a few weeks. They then set out on a journey through various parts of Somerset, Devon, and Cornwall; and, returning to Exeter, Loudon sent his wife and daughter to London, while he himself proceeded to Barnstaple, in the neighbourhood of which he was to lay out some grounds for Lord Clinton. He was in good spirits when he returned to London, thongh still suffering from a slight cough. He now set about completing his *Suburban Horticulturist*, which had been commenced about two years previously, but had been stopped when laid up with fever during his Scottish journey. This work was published by a Mr. Smith, of Fleet Street, a new departure in his proceedings, as all his previous works, from the *Encyclopaedia of Gardening* onwards had been issued to the public by Messrs. Longman.

In the following year we find him hard at work on a new book entitled *Cemeteries*, which proved very expensive on account of the number of engravings he had prepared for it. Notwithstanding this, or probably on account of it, he took extraordinary pains with it to make it as perfect as possible. He had a second attack of inflammation of the lungs in Augnst, and had reluctantly to decline an invitation to revisit his old friend, Mr. Strutt, at Derby.

As above mentioned, Mrs. Loudon had taken to writing books by this time, and previous to her husband's illness she had conceived the idea of writing a book on the Isle of Wight, and was to visit it for the purpose of collecting information. Owing to London's illness she intimated her intention of abandoning the project, but his medical advisers thonght that a change of air might re-establish his health, so that the family set out together to the Isle of Wight. He became so listless and devoid of energy, however, upon the island that his wife became alarmed at symptoms she had never seen before. He rapidly got worse, and evinced a desire to leave the island, which he did. Soon after arrival at Southampton he felt better, and being engaged to lay out a cemetery there he sent his family back to London, while he himself went into lodgings. After the lapse of a fortnight his wife went to see him, and at the first glance of him she instinctively felt that he was dying.

His wonted energy had returned, however, and he proceeded with the work in hand, and also attended to literary work by correcting the proofs of the second *Supplement to the Encyclopaedia of Agriculture*.

After completing his contract at Southampton, he proceeded alone to Bath, in spite of the earnest entreaties of his wife for permission to accompany him. Here he had to be wheeled about in a bath chair while he inspected the ground intended for a cemetery. He proceeded in the same way to inspect the grounds of a private gentleman named Pinder. From Bath he went to Kiddington, the seat of Mortimer Ricardo, Esq., near Enstone, Oxfordshire, where he was also conveyed round the grounds in a chair. When leaving this place he looked so ill that Mr. Ricardo offered to send someone to accompany him to London.

Arriving at Bayswater on September 30th, 1843, he finally consented to call in medical aid, though not fully aware of his dangerous state. On October 2nd his wife went with him to call upon Dr. Lawrence, who told him that the disease was in his lungs. He had implicit faith in Dr. Lawrence, but his friends advised him to call in other help, including Dr. Chambers and Dr. Richardson, who attended him to the last.

Loudon was now fully convinced that he had not mnch longer time to live, and he laboured night and day to complete all the work he had in hand. With the aid of his draughtsman, he completed in succession plans for Baron Rothschild, Mr. Ricardo, Mr. Pinder and for the cemetery at Bath. As he had engaged to make additional alterations to the grounds of Mr. Fuller, at Streatham, he proceeded there on October 11th, but was unahle to go in the garden, and never again attempted to visit a place professionally. At home he exercised in his own garden, and in the nursery of Mr. Hopwood, Craven Hill, for a few days, hut his strength was fast failing him. After October 16th he did not leave the house, where he confined himself to two rooms. Though in the last stages of bodily debility his mind retained all its wonted energy, so that he lahoured incessantly to finish the works he had in hand. The last work he wrote, *Self-Instruction for Young Gardeners*, he was particularly anxious to complete; but though the pen fell from his hand, so to speak, the book nearly as he left it was puhlished. He had intended to carry it much farther than he did.

Abont the middle of November his medical advisers pronounced his malady to be chronic bronchitis, which, added to his pecuniary difficulties, had a depressing effect upon him. The next step he took was very distressing to one of his independence of mind, and that was to write a letter confessing his embarrassed situation, and stating that the sale of 350 copies of the *Arboretum* would get him out of his difficulties. The letter, dated December 1st, was lithographed and copies sent to all the nobility who took an interest in gardening, and by the 14th of that month the English aristocracy, with their usual generosity, had purchased books to the value of £360. Other letters were sent with satisfactory resnlts, his friend, Joseph Strutt, Esq, taking ten copies.

The debt on the *Arboretum et Fruticetum Britannicum* was originally £10,000, and by the sale of that and *Cottage Architecture* the total amount was reduced to £2,400. The publication of *Trees and Shrubs*, his edition of *Repton*, and some other publications, on his own account, had increased the above sum to £3,600. His creditors all agreed to wait for their money by the sale of the books, on condition that Messrs. Longman should hold the stock of books till all the demands of his creditors were satisfied. The engraver became bankrupt, however, and his assignees began to harass Mr. Loudon.

On December 13th he sent his wife to see the assignees and endeavour to bring them to terms, Mr. Joseph Strutt having offered to lend the money for that purpose. The assignees were obdurate, however, and wanted Loudon's edition of *Repton*, which he was very unwilling to part with, as the debt upon it was small, and the proceeds would soonest have been availahle for the support of his family. He was much disconcerted by the result of the mission, but continued dictating *Self-Instruction* to his wife as amanuensis till midnight. Unable to sleep he got up next morning before daylight, and told Mrs. Loudon he had made up his mind to sacrifice *Repton* thongh it would break his heart to do so. He hesitated to send his wife to town, and hecoming very restless paced his rooms several times, and while his mind retained its vigour he died standing on his feet. His wife noticed the change in his face and had just time to clasp him in her arms, when his head sank upon her shoulder and he was no more. He died on December 14th, 1843, and on the 21st was buried in the cemetery at Kensall Green.

BARR'S HARDY FLOWERS AT REGENT'S PARK.

There was a brilliant display of flowers throughout last week in the corridor of the Royal Botanic Gardens. They were supplied by Messrs. Barr & Sons, of Covent Garden, from their large and well-known flower growing establishment at Long Ditton. Paeonies were much in evidence and made the air heavy with their delightful scent. There were many handsome varieties, both of the double and single type; amongst the former we noticed three of exceptional merit, they were Bastian Sipage, a deep pure blnsh; Lord Salisbury, deep magenta; and Prince Imperial, a rich ruby. Next to the stand containing the Paeonies was a large and representative collection of the Iris family, the Spanish type figuring conspicuously; also the old-fashioned, but nevertheless, handsome Flag Iris. A Spanish Iris, bearing the name of I. California, is, we think, one of the most striking of this handsome type. It is a full yellow with old gold lip and a deep orange blotch, the flower is of good size and gracefully formed. I. longipetala was another handsome and attractive variety. Ixias were also well staged and included most of the best varieties.

We also noticed several plants of Francoa ramosa, better known perhaps as the Bridal Wreath. It is a flower that is not often seen now at shows, having followed many of its old acquaintances into the background of fashion. There was a small but choice collection of rockery plants, including such fine subjects as Prunella webbiana major, Campanula portenschlagiana, and C. p. divarica, a variety with larger flowers and of a deeper blue; also Linum arboreum, Ramondia pyrenaica, Saxifraga macnabiana, S. lingulata superba, Shirley Poppies, Gladioli, hardy Cypripediums, &c.

There was also a large assortment of herbaceous cut bloom, including fine samples of Armeria cephalotes rubra, Gillenia trifoliata, also known as Spiraea trifoliata, Linaria dalmatica, Helenium Bolanderi, Heuchera micrantha, Ornithogalum pyramidalis, Dictamnus Fraxinella, Delphinium grandiflorum, and a large variety of Canterhury Bells.

There was a large and interesting collection of pigmy trees, which included numerous quaint little Acers, also a plant of Lagestroemia indica, eighty years old; indeed, by its gnarled appearance, it looked twice that age; Styrax japonica, twenty years old; Pinus pentaphylla, eighty years old; and a fine little plant of Larix leptolepis 180 years old.

The collection of Water Lilies in separate trays was admired more than anything, and they were well worthy of praise, for they were an exquisite collection of these fascinating plants. Besides a large number of the Marliacea type, there were several varieties of Nymphaea Laydekeri, a variety we should recommend everyone to choose who has a limited water space. N. L. fulgens, one of the best of this type exhibited, has flowers of a rich amaranth red; N. L. purpurata has very large flowers of a rich crimson colour with fiery coloured anthers; in addition to a fine form and colour this flower has the extra attraction of a delightful scent. N. L. rosea, a deep rose coloured flower, is also very fragrant, and is made doubly attractive hy the showy, rich, orange anthers. N. Robinsoni was also in good form; it is a flower too well known to need any description. N. sanguinea is a newer variety of this beautiful species; it has flowers of a very deep crimson. N. ellisiana is a very dark carmine. N. flava has sweetly

scented, sulphur-coloured flowers, but it is not safe to count it as a hardy plant. N. gloriosa is one of the best forms of Nymphaea; it has glowing red flowers, and is very fragrant. The Marliacea type was well represented, and included such beautiful hybrids as N. M. carnea, a pink and white; N. M. chromatella, primrose suffused with soft rose; the foliage is of a deep green mottled with heavy purple. N. M. flammea is a deep rose and rich carmine, beautifully harmonised. Other fine varieties are N. M. ignea, orange red; N. M. rosea, deep blush; N. M. albida, a beautiful ivory white, with a very sweet and penetrating fragrance. These flowers seem coming to the front now with rapid strides, and now they have been brought to such a standard of excellence as those shown in this collection, with a habit that can be accommodated in a half-barrel and with a tone of colour to satisfy even the greatest connoisseur, and scent sufficient to make their pleasing fragrance appreciated, we may look forward to seeing a sunken tub of Nymphaeas in the place of a bed of Geraniums and Calceolarias in many gardens in Suburbia.

EXAMINATION IN HORTICULTURE, 1901.

The annual examination in the principles and practice of horticulture, under the auspices of the Royal Horticultural Society, was held on April 24th; 225 papers being sent in.

Three hundred marks were allotted as a maximum; and all candidates who obtained 200 marks and upwards were placed in the First Class. The total number was 109, or 48·4 per cent.

The highest number of marks, 290, was awarded to Miss Ella M. Watkins, from the Horticultural College, Swanley, Kent.

Those who secured 150 and less than 200 marks were placed in the Second Class. The number was 85, or 37·7 per cent.

Those who obtained 100 marks and upwards were ranked in the Third Class. The number was 25, or 11·1 per cent.

Six candidates, obtaining less than 100 marks, were not placed.

Comparing these results with those of the last two years the entry has slightly decreased, viz., from 236 in 1900, to 225 in 1901; both are, however, greatly in excess of the number of entries, viz., 165 in 1899.

It will be noticed that the percentages have fallen in the First and Third Classes, viz., from 60 to 48 in the former, and from 13 to 11 in the latter; but in the Second Class it has risen from 26 to nearly 38; that is as compared with the results of 1900.

The lowering of the percentages of the First Class may be attributed to a slightly increased difficulty in some of the questions, more especially in the "principles." It was felt by the examiners that the "requirements" drawn up some years ago scarcely met the increased knowledge of many students, especially when prepared at the various horticultural colleges. A new syllabus of botanical requirements will be issued for 1902.

The decrease in the percentages of the Third Class is a good sign, as it indicates a greater preparedness in the majority of the examinees.

It is very satisfactory to report that the steady improvement in the answers to the questions in the "practice" continues, although there is still room for improvement in some directions. Some candidates had full knowledge of the elementary principles, but failed altogether when they came to the practice. Candidates would do well to remember that a gardener may rise high in his profession with little or no knowledge of the composition of plants or trees, and may never have heard of phloëm or xylem; but cannot possibly do so unless he knows—when and how to repot choice plants; the rotation of crops in the kitchen garden; the best kind of fruit trees to plant and the right time to plant them, and so on. Some of the candidates could not name a succession of varieties of Pears, and did not know the name of even one stewing Pear. Some of them would sow Scarlet Runners in March in rows 2 ft. apart. No gardener will ever attain a high position in his profession unless he is careful to obtain a full practical knowledge of the minor details of garden work; as, *e.g.*, how to handle a spade or lay down a rake. A novice usually lays down the latter with the teeth upwards, and will shock the sensibilities of a well-trained gardener by the way he stands over his spade. Without any doubt it is well that students should have as much knowledge as they can possibly obtain of the elementary principles; but this can never take the place of the practical part which should be studied quite as freely, and especially in and by actual practice.

(Signed), George Henslow.
James Douglas.

First Class.

		No. of Marks gained.
1.	Watkins, E. M., Swanley College	290
2.	Squire, E. F., Swanley College	280
3.	Ardington, M., Swanley College	270
,,	Shrubshall, A. H., Essex County School of Horticulture, Chelmsford	270
5.	Clapham, V. H., Swanley College	260
,,	Cooper, J. J., School House, Chase Terrace, Walsall	260
,,	Goffin, L. L., Essex County School of Horticulture	260
,,	Sansom, M., British School, Wimbledon	260
9	Creswell, W. T., Oxford City Technical School	255
,,	Wright, F. D., Reading College and Lady Warwick Hostel	255
11.	Draper, H., Swanley College	250
,,	Jones, W., 40, Mornington Road, Wanstead	250
,,	Nicholson, G. O., Rose Hill, Market Harboro'	250
14.	Adams, L. L., Reading College and Lady Warwick Hostel	245
,,	Balch, A., Wallacestone Manse, Polmont Station, N.B.	245
,,	Bedell, E. W., Swanley College	245
,,	Chandler, A. E., Puttenham School, Guildford	245
,,	Fleischmann, M. D., Claremont Cottage, Ilkley	245
,,	Gandy, L. A., Lustleigh, South Devon	245
,,	Henderson, A., Swanley College	245
,,	Leyshon, R., City Technical School, Oxon	245
,,	Peacock, F., Reading College and Lady Warwick Hostel	245
,,	Rendle, A., Essex County School of Horticulture	245
,,	Thomson, B. D., Swanley College	245
25.	Atkins, T. L., Middlefield, Hinckley	240
,,	Brooker, H., The School, Ewhurst, Guildford	240
,,	Cull, A., Preston Patrick School, Milnthorpe	240
,,	Hall, H., Howe Green, Hertford	240
,,	Hanson, L., Swanley College	240
,,	Herring, L. K., Swanley College	240
,,	Humphrey, L. J., Essex County School of Horticulture	240
,,	Johnston, J., 8, Dunrobin Place, Edinbro'	240
,,	Law, C., Reading College and Lady Warwick Hostel	240
,,	Wright, E., Swanley College	240
35.	Cornelius-Wheeler, B. R., Reading College and Lady Warwick Hostel	235
,,	Dowie, T. M., Reading College and Lady Warwick Hostel	235
,,	Geary, G., The Pines, Salem Road, Burbage	235
,,	Macara, L. E., Swanley College	235
,,	Meyler, K. G., Swanley College	235
,,	Parker, J. W., Horticultural School, Holmes Chapel	235
,,	Usher, M., Swanley College	235
42.	Billington, F. H., Horticultural School, Holmes Chapel	230
,,	Blencowe, J., Eastcott House Gardens, Kingston Hill	230
,,	Canning, R. L., Marchwiel Hall Gardens, Wrexham	230
,,	Coleby, H., Reading College	230
,,	Creaser, W., 2, Rossington Grove, Leeds	230
,,	Landsberg, M. H., Reading College and Lady Warwick's Hostel	230
,,	Macara, M. G., Swanley College	230
,,	Piggott, W. H., Bicester, Oxon	230
,,	Sandys, A., Reading College	230
,,	Swift, J. W., County Technical School, Stafford	230
,,	Unwin, M. W., Reading College and Lady Warwick Hostel	230
42.	Williams, T. O., Albion Lodge, Hollingworth	230
,,	Wimpress, H., Swanley College	230
55.	Bateman, G., City Technical School, Oxon	225
,,	Carlyon, M., Reading College and Lady Warwick Hostel	225
,,	Coutts, W., 67, Cameron Street, Stonehaven	225
,,	Marriott, W. E., c/o Mrs. Cumpton, Burbage, Hinckley	225
,,	Rabjohn, H., Preston Hall Gardens, Aylesford	225
,,	Scott, L., Horticultural School, Holmes Chapel	225
,,	Webster, J. J., 24, Green Road, Skelton-in-Cleveland	225
62.	Colvile, K. J., Whitmore, Wolverhampton	220
,,	Nudds, H., City Technical School, Oxon	220
,,	Whetham, V. S., Swanley College	220
65.	Critchison, N. M., Swanley College	215
,,	Fenoulhet, S., Swanley College	215
,,	Jackson, B., Swanley College	215
,,	Johns, R., Reading College, Berks	215
,,	Little, H., Essex County School of Horticulture	215
,,	Martin, T. M., City Technical School, Oxford	215
,,	Murrell, M., Reading College and Lady Warwick Hostel	215
,,	Salway, S. J., County Technical School Stafford	215
,,	Saunders, B., Essex County School of Horticulture	215
,,	Schattner, K., Swanley College	215
,,	Shimmons, O., 35, Webster Hill, Dewsbury	215
,,	Smith, E., Swanley College	215
,,	Tickner, A. E., Farncombe Schools, Godalming	215
,,	Wallas, C. M., Swanley College	215
79.	Buttenshaw, W. M., Swanley College	210
,,	Cook, L. J., 12, Henrietta Villas, Bush Hill Road	210
,,	Grundy, S., Swanley College	210
,,	Huckle, M. J., 53, Birkenhead Avenue, Kingston-on-Thames	210
,,	Muscott, W., City Technical School, Oxford	210
,,	Pownall, F., County Technical Schools, Stafford	210
,,	Taylor, W. G., North Hagbourne, Didcot	210
86.	Butler, E. W., Swanley College	205
,,	Jones, P. L., Reading College	205
,,	Peache, F. W., Swanley College	205
,,	Stone, F. C., Schoolhouse, Brawley, Guildford	205
90.	Blaber, J., Hill View, Normandy, Guildford	200
,,	Buck, C. H., Swanley College	200
,,	Clayson, J., West Park Lodge, Silsoe, Ampthill	200
,,	Creasy, B., Essex County School of Horticulture	200
,,	Davidson, W., The Gardens, Stagshaw, Corbridge-on-Tyne	200
,,	Dines, J., Essex County School of Horticulture	200
,,	English, M., Swanley College	200
,,	Higgs, K., Reading College	200
,,	Humphrey, H., Swanley College	200
,,	King, R. G., Swanley College	200
,,	Kinnear, K., Swanley College	200
,,	Lewis, F., Swanley College	200
,,	Marriott, E. E., Shackleford, Godalming	200
,,	Nash, A. W., City Technical School, Oxford	200
,,	Pugh, B., Highfield, Castle Bromwich, Birmingham	200
,,	Selden, G. P., Gardens, Woodhatch House, Reigate	200
,,	Smith, T., Cambusdson Gardens, Ayr, N.B.	200
,,	Stoney, J. G., Sudley Road, Aigburth, Liverpool	200
,,	Stonehouse, E. M., Reading College and Lady Warwick Hostel	200

		No. of Marks Gained.
90.	Woodroof, C., County Technical Laboratory, Chelmsford	200
	Second Class.	
110.	Bayliss, I., City Technical School, Oxon	195
,,	Brown, S., Edwinstone, Newark, Notts	195
,,	Burton, M. E., 6 Duddingston Park, Portobello	195
,,	Cundy, C., Sudbury, Suffolk	195
,,	Hughesdon, M., Reading College and Lady Warwick Hostel	195
,,	Mason, A., Essex County School of Horticulture	195
,,	May, B., Essex County School of Horticulture	195
,,	Palmer, J., Pierremont Nursery, Darlington	195
,,	Robb, A., Essex County School of Horticulture	195
,,	Swainson, W. T., Swanley College	195
,,	Taylor, L. W., Schools, Clanfield, Farringdon	195
121.	Berry, O., Horticultural School, Holmes Chapel	190
,,	Cobbold, H. M., Swanley College	190
,,	Draper, M., Swanley College	190
,,	Edwards, C., Trewyn Gardens, Abergavenny	190
,,	Leighton, F., School House, Lydiard Tregoze, Wootton Bassett	190
126.	Grace, M. F., Reading College and Lady Warwick Hostel	185
,,	Horne, A. J., 1A Lewisham Road, Highgate Road, N.W.	185
,,	Lester, T., Horticultural School, Holmes Chapel	185
,,	Morris, T., 2 Aelybryn Terrace, Burry Port	185
,,	Paul, F. F., Essex County School of Horticulture	185
,,	Pearce, A. J., Reading College	185
,,	Proctor, H., Reading College	185
,,	Sefton, W. C., Horticultural School, Holmes Chapel	185
,,	Smallwood, G. Y., Queenwood, Broughton, Stockbridge, Hants	185
135.	Carlyon, C. M., Swanley College	180
,,	Dodd, W. E., Horticultural School, Holmes Chapel	180
,,	Hicks, W., Russell Gardens, Liskeard	180
,,	Ingles, M., Essex County School of Horticulture	180
,,	Lee, J., 292, Atherton Road, Hindley, Wigan	180
,,	Madelin, M., 71 Earlswood Road, Redhill	180
,,	Mallard, H. J., County Technical School, Stafford	180
,,	Murray, E., Reading College and Lady Warwick's Hostel	180
,,	Rushton, J. C., County Technical School, Stafford	180
,,	Slade, R., Silverburn, Ormskirk	180
,,	Smith, F., 3, Harestone Lane, Upper Caterham	180
,,	Smith, M. M., Swanley College	180

(To be continued.)

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends *the most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in quest on should not exceed 250 words and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. A. Thatcher, Aldenham, Elstree, for his article on "Heuchera sanguinea," p. 687. Some people have a difficulty in flowering this species, even although it grows well enough with them. Information with regard to the practical details of culture which have given successful results are always valuable and desirable.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Cherry Trees Dropping their Fruit.—*H. I.*: There are several reasons that might be given for this, but the real cause should be looked for and carefully thought out on the spot. We can only make suggestions. In the first place the fruits might have been improperly fertilised or set when in bloom. On the other hand it might be the case that the trees were too heavily cropped last year and are weak. In these two cases they would probably be imperfectly stoned. Are you sure that the trees are sufficiently moist at the roots. Another suggestion is that the soil might be deficient in lime, of which all stone fruits like a fair supply. If the soil is heavy and inclined to clay, or if it contains much decaying vegetable matter owing to the long continued application of farmyard manure, a good dressing of lime would, no doubt, do it good. These various suggestions you might think over and possibly you will arrive at some solution of the question. If the trees are under glass it may be that the drainage is bad, or that too much farmyard manure has been applied as suggested above. Whether the trees are outside or under glass you should closely inspect them to see that they are not suffering from aphides, which destroy or damage the leaves by curling them up.

Treatment of Mimosa pudica.—*A. M. D.*: This plant is best reared and grown on in the stove, in a night temperature say of 65° rising to 70° by day or higher by sun heat. The seeds should be sown in March, properly speaking, but possibly you have done so. During their early stages they do not grow very rapidly, so you must have a little patience with them. A suitable compost would be two-thirds of friable, fibrous loam, one third peat or leaf mould (or both these ingredients mixed) and sufficient sand to make it porous to allow the superfluous moisture to pass freely away. You may grow the plants in pots or pans, but avoid over-potting them, as they are not bulky subjects nor gross feeders. Let them have a well lighted place near the glass, and careful attention to watering, not allowing them to get dry nor giving too much water.

Eucalyptus Globulus.—*A. M. D.*: We do not know for what purpose you are growing the trees, but we do not see any object in pinching them. They should be allowed to grow quite naturally, under which conditions they will run up with a straight main stem, throwing out numerous side branches. If planted out-of-doors during the summer they will do this quite readily. Some people plant them in their cool conservatories, allowing them to run up as high as the roof will permit them, and then train them in some direction or other, just under the roof, or top them according to convenience. Your plan would simply be to grow them on naturally, and dispose of them when 12 in. to 18 in. high, more or less, and then let the buyers treat them according to requirements or convenience. Should they grow too large for you while still in your charge, the best plan would be to dispense with them, as we do not see that trees that have been cut down would be much appreciated or useful to anybody.

Herbaceous Perennials suitable for Exhibition.—*Gilbert Pullen*: There are many showy subjects suitable for exhibition, and which you could raise from seeds. In the case of Phloxes and Delphiniums you could not expect to get varieties equal to the best named ones though you would get a fair percentage of passable varieties from a packet of a good strain of seed. If you care to try them you can grow the seedlings to flowering stage and then discard the worst varieties. Other useful exhibition subjects you could raise from seed are Gypsophila paniculata, Lathyrus latifolius, Coreopsis grandiflora (a showy yellow flowered subject, but rather short lived), Eryngium planum, Eryngium Olivieri, Gaillardias, the hybrid Montbretias (if you can get seeds), Scabiosa caucasica, Chrysanthemum maximum, species of Aconitum, &c. The fine varieties of Sunflower (Helianthus) are usually propagated from cuttings or by division, though seedlings can be raised if you can get seed. Sometimes a good or superior variety may turn up. The raisers usually save their own seed, but they might be willing to sell you some. The same applies to the fine varieties of Delphinium, Chrysanthemum and other subjects. The above will furnish you with something to make a commencement.

Tomatos Decayed and Blackened at the Apex.—*R.H.B.*: The complaint is a common one and is known as the Black Spot of Tomatos, caused by a fungus which enters by the decaying style at the apex of the fruit. You will notice that the depression and blackening almost, if not invariably, commences on the top. Your fruits seem to be in a worse condition than usually occurs; and the case would point to the fact that you have been keeping the atmosphere of the house too moist some time ago when the mischief really occurred. The blackening does not make its appearance till some time after the fungus obtains an entrance into the fruits. You cannot now save those fruits which are attacked and there is no cure, so that the only thing you can do is to cut them off and burn them to prevent the spores spreading to other fruits. Keep the atmosphere of the house very dry and you should have little further trouble except where fruits are already attacked but do not as yet show it very visibly.

Names of Plants.—*E. C. H. D.*: 1, Festuca rubra; 2, Lychnis vespertina; 3, Ranunculus acris; 4, Carduus palustris; 5, Holcus lanatus; 6, Anthemis Cotula.—*W. P. T.*; 1, Veronica Teucrium dubia.—*J. B.*: 1, Gillenia trifoliata; 2, Alyssum maritimum; 3, Sedum sarmentosum variegatum; 4, Centaurea montana; 5, Centaurea montana rubra; 6, Sempervivum tortuosum variegatum.—*A. W. T.*: 1, Odontoglossum praetextum; 2, Oncidium maculatum; 3, Cypripedium bellatulum; 4, Laelia grandis tenebrosa; 5, Cattleya gaskelliana; 6, Oncidium pumilum.—*A. K.*: 1, Geranium Endresii; 2, Geranium sylvaticum; 3, Tropaeolum polyphyllum; 4, Achillea Ptarmica The Pearl; 5, Lathyrus grandiflorus.—*R. M.*: 1, Heuchera sanguinea; 2, Saxifraga Aizoon MacNabiana; 3, Saxifraga umbrosa serratifolia; 4, Spiraea Aruncus.

Communications Received—D. C.—Frank Cant & Co.—James Munro.—C. J. G.—J. H. Nicholas.—T. M. I.—Secretaries National Rose Society.—Rosen Zeitung.—W. Paul & Son.—Paul & Son.—A. Dickson & Sons.—G. Cooling & Sons.—A. T.—A. J. B.—D.M.—R. S.—E.T.—E. C. H. D.—Gilbert Pullen.—L. M.

TRADE CATALOGUE RECEIVED.

Herb and Wulle, Via Trivio, 24-36, Naples, Italy.—General Catalogue of Bulbs.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

JULY.

2.—R.H.S. Committees (Roses); Southampton Exhibition (2 days); Hereford Rose.
3.—Hanley Horticultural Fete (2 days); Croydon Horticultural Society Show; Farningham Rose and Horticultural Society Show.
4.—N.R.S., Metropolitan; Norwich Rose Show.
6.—Royal Botanical Society Meeting; Societie Francaise d'Horticulture de Londres Meeting; Maidstone Rose; Sutton Rose.
8.—United Horticultural Benefit and Provident Society Committees' Meeting; N.C.S. Annual Outing to Leatherhead.
9.—Wolverhampton Floral Fete (3 days); Gloucester Rose; Harrow Rose.
10.—Formby Rose; Stambridge Rose; Worthing Rose.
11.—Bath Floral Fete and Rose Show; Brentwood Rose; Eltham Rose; Helensburgh Rose; Woodbridge Rose.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S., Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting; Halifax Rose.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days); Tibshelf Rose.
24.—Strathbane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Prescot Exhibition; Selby Exhibition; National Sweet Pea Society (2 days).
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldearn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley; Beddington, Carshalton and Wallington.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
15.—St. Andrews Horticultural Association.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, JULY 6th, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.**, where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, July 8th.—Meeting of the United Horticultural Benefit and Provident Society.

TUESDAY, July 9th.—Wolverhampton Floral Fête (3 days); Gloucester Rose; Harrow Rose.

WEDNESDAY, July 10th.—Formby Rose; Stambridge Rose; Worthing Rose.

THURSDAY, July 11th.—Bath Floral Fête and Rose Show; Brentwood Rose; Eltham Rose; Helensburgh Rose; Woodbridge Rose.

SATURDAY, July 13th.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.

THE WOBURN EXPERIMENTAL FRUIT FARM.—The large party from London and its suburbs, as well as from greater distances, that inspected the Strawberry grounds of Messrs. Laxton Bros, Bedford, on Monday, June 24th, was driven in conveyances to inspect the Woburn Experimental Fruit Farm, established by the Duke of Bedford in 1894 near Ridgmont. At that time some 20 acres of arable land were laid out and trenched two spits deep, loosening up the subsoil and replacing that taken out in its original position. No manure was applied. The soil is of average fertility, overlying a deep bed of Oxford clay, and lies at an elevation of 270 ft. above sea level. Planting was commenced immediately and has been continued or added to by fresh plots or plantations as new ideas suggested themselves. Fruit trees, bushes and Strawberries constitute the principal subjects now under trial or experiment, the main object or design of which is to show farmers, market gardeners and fruit growers generally what can be done by certain methods of planting and cultural treatment. The plots under treatment are now very numerous, something like 918 of them being catalogued. Apples and Plums amongst the larger trees are very extensively employed. There is also a large stock of Gooseberries, Black Currants and Strawberries, with smaller quantities of other fruits.

Of dwarf Apple-trees alone there are 180 lots under experiment, all of which are worked upon the Paradise stock. They were planted in November, 1894, as three year old trees, which have now attained considerable size. The varieties employed for this set of experiments are Bramley's Seedling, Cox's Orange Pippin and Potts' Seedling. A square of ground around each tree is dressed with artificial manures at a rate estimated at an equivalent of 12 tons of farmyard manure. The square is annually increased in size, and will be continued so that their periphery will meet in the course of fifteen years, so that all the ground will be covered with this dressing. These manures consist of sulphate of potassium at the rate of 94 lbs. per acre; superphosphate, 152 lbs.; and magnesium sulphate, 32 lbs., all of which are applied in November. Nitrate of sodium at the rate of 97 lbs. per acre is added in February. Some half a dozen plots are under experiment for different treatment of the surface soil. All have the same quantities of artificial manure, and the same varieties are employed for the purpose of ready comparison. With the exception of one plot no great differences were observable as far as the growth of the trees was concerned. This plot was originally planted in 1894, but as it was cleaned by mistake the trees were lifted and replanted in 1895. Since then the weeds have been allowed to grow at their own sweet will. The Apple-trees have evidently had a great struggle for existence, for they are still very small stunted bushes compared with those on the plots on either side of them; and some are dead or nearly so. The calculation is that the weeds utilise or waste about two-thirds of the moisture or rainfall, so that the Apples suffer from the deficiency and grow very slowly in the absence of that water which acts as the vehicle for conveying the dilute or scanty plant food in the soil from the roots to the leaves. The present belief is that the trees will ultimately attain to good size when their roots have had time to pentrate the hard dry soil. At present they are loudly demonstrative of the fact that trees so treated lose several years' growth by comparison with those grown in clean land. On one side of the last mentioned plot is one where the weeds are entirely removed but the surface of the ground beaten hard. On the other side is a plot which is dug twice or thrice during the course of the year, close to the roots but without injuring them. The trees in both of these plots have made admirable growth; and, indeed, it would be difficult to tell in what particular respect they differ, if at all. The plot on which the weeds have been allowed to grow undisturbed should constitute a good object lesson to those who still believe that fruit trees may be profitably grown on grass, whether intended for hay or for the pasturing of sheep or cattle beneath them.

Akin to these trials is a plantation of standard Apples on the Crab stock, such as are used for the plantation of Orchards. The ground was trenched before they were planted, and manure applied as in the case of other plots close by. The trees are near the top of a gentle slope which might be said to be in their favour. The grass has been allowed to grow beneath them, however, and that fact has told immensely to their disadvantage. The heads are very small and the stems quite thin by comparison with those of their neighbours on clean ground. The suggestions made by Mr. Lewis Castle, the resident superintendent of the fruit farm, were that grass land was unfavourable to the profitable growth of Apple-trees, particularly those on the Paradise stock which have their roots mostly near the surface. Cherries might with advantage be planted on grass so as to check over luxuriance during their earlier years, and thereby induce early fruitfulness; but otherwise the system of planting on grass land was altogether a mistake if the best results are to be expected. A suggestion was made by a visitor some years ago that the lack of aeration to the roots might be the cause of the trees doing so badly in grass land or where the weeds are allowed to grow. In order to test this a plantation was made three years ago, and the roots put under special conditions. Zinc cylinders were put down to the depth of 18 ins., and having a diameter of 3 ft. to 3½ ft. The trees were planted and staked. Then the surface of the ground was covered over with a layer of cement close up to the trees, which are now practically being grown in large pots, bottom upwards with the stem of the trees protruding through the central hole in the bottom of the pot. The root system of the trees is in direct contact with the soil and subsoil below. A few iron pipes were let through the cement surface covering for the purpose of supplying water equivalent to the rainfall. After the application of the water the pipes are tightly corked up so as to exclude air. The object of this experiment was to prove whether the lack of aeration to the surface of the soil was what made the trees do badly in grass land or in that where the weeds were allowed to grow. The trees are flourishing and quite as large as they could be expected if grown under natural conditions. The conclusion is that lack of air to the roots has little to do with the case, but that the moisture wasted or utilised by the grass is the true reason for the trees doing so badly in grass land. A slight modification of this trial was suggested and carried out by Mr. Castle about two years ago. An Apple-tree was planted in a pot, the latter being plunged to the rim in soil. The surface was then covered with a layer of asphalt and so it has remained to this day. The tree is not making much growth but is healthy; and although its roots are practically hermetically sealed so far as an earthenware pot can do so, they must have all the air they require, and the moisture they utilise must all percolate through the sides of the pot from the surrounding soil. These facts would seem to explain why it is that street trees can live and thrive although their roots are covered by stone, wooden or asphalt paving. They must get sufficient moisture from below by capillary attraction, and the hard and solid surface prevents the loss of the same by evaporation from the surface. On the whole, then, the question of fruit or other trees being able to grow under these various conditions is purely that of being able to get a sufficiency of moisture by their root system during the period of growth.

Some interesting experiments have been made in the manuring of Gooseberries with varying quantities of artificial and farmyard manures. Several plots had artificial manures applied to them equivalent to 12 and 30 tons of dung per acre. The bushes are light green in colour, and making very moderate growth, but are heavily laden with fruit, the berries being of small size. One plot had stable manure applied to it as a top-dressing at the rate of 30 tons per acre. The bushes are dark green, growing vigorously, and laden with berries of handsome size. The number of berries is evidently much less than on the other plots and this elicited the question whether they had been thinned, the reply being in the negative. Here again we think it is largely a question of moisture. Farmyard manure apart from its fertilising ingredients has the property of making the soil more retentive of moisture, or, as in this case, of conserving the moisture in the soil. This recalls an old adage that the weather, or more particularly the rainfall, is a more potent factor in determining the weight of any given crop than all the manures that can be applied. It is also widely known or recognised that the best results are obtained by combining the natural with artificial manures, the former to supply humus to the soil, thereby increasing its retentiveness of moisture and plant food, the latter to make good the deficiencies of farmyard manure, or to supplement the plant food it contains.

A large number of different kinds of fruit trees are planted in the form of hedges enclosing the different breaks or squares of ground. The object is twofold, namely, to furnish shelter for the fruit trees the hedges enclose, and in the second place to produce something useful in the way of fruit. In a word, they are wanted to be profitable as well as useful; and the different kinds employed, including Crabs, Plums, Damsons, &c., is to determine which give the best results. The Plum-tree hedges in several instances carried a good crop of

fruit. Of the various Crabs used the American forms the neatest, tidiest and most regular hedge. Time did not permit of many of the trials being inspected.

Flax.—Forty-eight thousand acres of the land in the United Kingdom are devoted to the culture of Flax.

Her Majesty Queen Alexandra has graciously consented to continue the patronage to the Royal Gardeners' Orphan Fund, which her Majesty formerly extended to the institution as Princess of Wales.

Cider.—The *Morning Post* speaks highly of cider. It says that a really good dry cider is flagrantly insulted by comparison with anything else. It asserts that it is not only more wholesome, but more palatable than champagne. It is a very good drink, but the *Morning Post* seems a little too patriotic to be reasonable.

Fumigating Vines with XL All.—In answer to the inquiry from a correspondent in your columns I may state I have used this fumigator in many houses but have always been careful not to use it in vineries where Muscats, Lady Downes, or Gros Colmans were growing. It does not affect them in every instance but does in a good many cases. Much depends on the stage of the Vines and the quantity used. Ferns I have found also suffer from its effects, but particularly when the fronds are young. But either of them will suffer from tobacco smoke, and of the two the XL All is preferable.—*F. J.*

The Worshipful Company of Gardeners. — There was a large attendance at the master's installation banquet of this company, which was held at the Prince's Restaurant, Piccadilly, on Friday, June 28th. At the open court which preceded the banquet, Mr. G. F. Tinley, Mr. C. J. Gleed, Mr. H. S. Langford, and Mr. Bertram Smith who have won the company's scholarships in the examination recently held by the Royal Horticultural Society were introduced by Sir Trevor Lawrence, Bart., and admitted to the freedom of the company. The dining room was arranged in a novel and picturesque manner, and needless to say was a wealth of choice flowers. Sir Trevor in proposing the toast of "The New Livery" gave a passing allusion to the low water which the company found themselves in a few years ago, but was pleased to say that it was now successfully resuscitated and once more held its old position. Whether progressing or falling the company has always identified itself with gardening and garden work, with a view to doing all it could for the great national industry. In returning thanks Mr. Sheriff Lawrence claimed that the company was the oldest in the City, and in fact the industry dates back to Adam. It is not often that a lady is enrolled as a member but recently the Hon. Mrs. Evelyn Cecil has been enrolled in recognition of her services to gardening. At a reception given by the master after the banquet there were over 400 guests present.

Commemoration Day.—A touching service and function was performed this year on the day set apart by thoughtful Americans for honouring their fallen heroes on the deck of the battleship Massachusetts. Flowers are always strewn on the graves of those buried on land on this day but this year a movement was set on foot and endorsed by Admirals Dewey, Sampson and Schley to strew flowers on the deep in commemoration of those buried at sea. The wreaths were borne by bluejackets to the gangway, and after the following appropriate decoration hymn had been sung were reverently cast into the water:—

"Cover them over with beautiful flowers,
Deck them with garlands those brothers of ours,
Lying so silently by night and by day,
Sleeping the years of their manhood away.
Give them the meed they have won in the past;
Give them the honours their future forecast;
Give them the chaplets they won in the strife;
Give them the laurels they lost with their life."

When the first wreath was cast, the chaplain intoned the words "For our heroes," for the second "For loved ones," and for the last "In tender memory of all who have perished at sea." After a plaintive blast on the trumpets the ceremony concluded and the crew broke ranks.

Correction.—On p. 700, in the third line from the bottom of the column, for Mr. Luckhurst read Mr. John Harrison, Leicester.

An M.P.'s Orchids.—At the time of going to press we understand that the case brought by Mr. John Rutherford, M.P., against L'Horticole Coloniale, claiming £120 for breach of warranty, was not concluded.

Colour in the Flower Garden.—I beg to correct a small mistake on my part in my article on "Colour in the Flower Garden," which appeared in your paper on June 22nd, 1901. The fault in question is in the last portion. It says "*fibrous tuberous* Begonia Gloire de Lorraine." There is of course no such thing as a fibrous tuberous root. Tubers possess fibres and some fibres possess tubers, yet neither of them can be termed fibrous tuberous. Gloire de Lorraine is a tuberous rooted specimen. Most readers will have noticed the very slight error, but I mention it for the benefit of those that might have been led astray.—*G. W. D.*

Croydon and District Horticultural Mutual Improvement Society.—There was a capital attendance at the meeting held in the society's room at the Sunflower Temperance Hotel on Tuesday, June 18th. Six new members from Reigate, Caterham, and Sydenham were elected. The chairman, Mr. W. J. Simpson, introduced Mr. Harry Boshier, of E. W. & S. Rogers, who gave an excellent and practical paper on "Vegetables for Exhibition." The lecturer dealt most thoroughly with his subject, pointing out the importance of a high standard of quality and well cultivated specimens. Tasteful arrangement on the show table was emphasised. The best varieties and their cultivation were specially noted. Mr. Boshier's knowledge of his subject enabled him to give much practical advice. An interesting discussion followed the paper, and on the proposition of the chairman, supported by Mr. Oxtoby, a unanimous vote of thanks was accorded Mr. Boshier. A good collection of vegetables, &c., was shown in illustration of the paper, Mr. Oxtoby staging three braces of Cucumbers, dishes of Tomatos, Potatos, &c.; Mr. C. Ford, two fine Melons, the chairman Peas, Potatos, Cucumbers, Tomatos, Lettuce, &c., also several vases of Gloxinias, and a capital plant of Cattleya gigas. Mr. J. Bannerman showed his new Carnation Joseph Lawrence. On the proposition of Mr. Gregory and Mr. Boshier the society's vote of thanks was given the exhibitors. The subject for the next meeting, on July 16th, will be "Winter Flowering Geraniums."—*John Gregory, Hon. Sec.*

Cricket: Hurst & Son v. Beaumont.—This match was played at Walthamstow, on the former club's ground, on Thursday, June 20th. The scores are given below:—

HURST & SON.

Sampson, c Winstanley, b Leighton ..	18
Squire, b Leighton	37
Portch, b Leighton	0
Main, c Day, b Reed	22
Jerry, c and b Reed	0
Addiscott (A.), b Reed	4
Payne, b Day	21
Shelton, b Reed	1
Locke (F. W.), c Ashford, b Day ..	1
Locke (F.), lbw, b Reed..	3
Duggleby, not out	10
Extras	5
Total	122

BEAUMONT.

Winstanley, b Portch	0
Ashford (J.), b Locke (F.)	42
Leighton, c Main, b Addiscott.. ..	35
Reed, c Sampson, b Addiscott.. ..	0
Sanderson, b Locke (F.)..	11
Day, c Locke (F. W.), b Portch ..	15
Bell, c Portch, b Addiscott	7
Ashford (R.), not out	6
Tedbury, c Squire, b Sampson.. ..	4
Halloran, not out	1
Extras	8
Total	129

Robinson did not bat.

Correction.—For Sedum kamtschaticum, p. 707, in the sixteenth line from the bottom of the third column, read Sedum kamtschaticum variegatum.

Founder's Day Commemoration at Lady Warwick Hostel, Reading.—The first annual show of flowers, fruit, dairy produce, &c., is to take place in the Hostel grounds on July 9th and 10th. According to the prize schedule, the show ought to be a very interesting one, as there are to be demonstrations at intervals on drying and evaporating fruit, &c., compressing of butter, cream, &c., trussing fowls, extraction of fruit juices, and several other valuable items. The Hostel will be thrown open for inspection, and a good band will be in attendance during both days.

Bristol and District Gardeners' Mutual Improvement Association.—The monthly meeting of this society was held at St. John's Parish Rooms on Thursday evening, June 27th. Mr. E. Binfield occupied the chair. Minutes of the last meeting were read and confirmed. The paper for the evening was on the "Culture of Orchids," being the first prize essay kindly given by Mr. Green, Redland, and one by Mr. F. Lee, of Redland, who deserves great credit for the masterly way his paper was put together, proving by it that he has made a study of this most popular flower. Mr. Lee mentioned the rapid strides which Orchid culture has made during the past few years. The large importations into this country, as well as the reasonable prices which they can now be bought at, causing many horticulturists to make them their special hobby. The lecturer gave a selection of the best varieties to grow such as Cypripediums, Dendrobiums, Cattleyas, Odontoglossums, and others; and also cultural directions, including potting, watering, &c., emphasising the necessity of cleanliness as being the most important item of successful cultivation. Drainage needed careful attention in order to carry off the surplus moisture, owing to the more frequent waterings needed compared with other plants. For composts Mr. Lee recommended equal parts living sphagnum moss and fibrous peat. Proper Orchid pots were preferable to the ordinary flower pot, allowing the air to circulate more freely amongst the roots, fresh air being most essential for their well being. Mr. Lee went into details for the cultivation of each of the different species requiring different treatment in such a way that every member present was able to carry away many valuable hints. Concluding his paper, the lecturer mentioned a few of the different pests which Orchids were subject to, as also the best methods for their destruction. Altogether the paper was brim-full of information, and was much appreciated by all present. An excellent discussion followed, and Mr. Lee was warmly congratulated on his success. Prizes were awarded as follows:—Dish of Strawberries: first, Mr. N. C. Dobson, gardener, Mr. Thoday; second, Lady Cave, gardener, Mr. Poole, F.R.H.S. Orchid in bloom: first, Mr. Bruce Cole, gardener, Mr. Lee; second, Mr. G. Howes, gardener, Mr. White. Six Tea or Noisette Roses: first, Mr. N. C. Dobson, gardener, Mr. Thoday; second, Mr. A. Baker, gardener, Mr. Orchard. A Certificate of Merit went to Lady Cave, gardener, Mr. Poole, F.R.H.S., for twelve Cauliflower.

THE APIARY.

SWARMS.

WHEN a swarm comes off and is safely hived into a straw skep, as soon as all the bees are entered carry it to the place where it is to remain for the season. Shade it with a sheet from the sun and leave it until evening. It is expected that the frame hive is ready long ago with strips or full sheets of foundation fit for a swarm to work upon. See that the hive sits level across the frames, removing them all with the exception of six; raise the front of the hive ½ in. by means of two wedges at each side; this gives the bees plenty of room to enter. Place a board (an old door does nicely) on a slight slope from alighting board to ground, covering same with an old table cloth. Take a firm hold of skep containing bees and make as if you were to dash them against the cloth. When within a few inches of the same, stop, and nearly all the bees will fall out and commence to run into the hive. A few thumps on top of the skep will clear it of any stragglers left. An occasional

puff of smoke will keep them on the move until all are in. If the swarm is given one frame of larva about three to five days old, this will make certain of their remaining in the hive. Place a super on the top of frames, and provided weather is suitable it is surprising how quickly they will fill them if they are a fair swarm. Allowing them only six frames they are forced to enter the sections, storing all their honey there. In a week or ten days another frame filled with foundation may be given them until the full completement is made up at intervals of a week between each. If no after swarms are wanted place the hive containing the swarm on the stand occupied by old stock. This will weaken it so much that they will not think of swarming. If bad weather comes give a pound or two of syrup.—*Doonfoot.*

BERBERIS STENOPHYLLA.

Visiting the gardens at Ardnrden, near Helensburgh, I noticed one of my old favourites, and worthy of note, Berberis stenophylla. The thought struck me how this splendid plant is not more freely grown about gardens instead of some uninteresting subjects. It is quite hardy, flowers profusely, and thrives in any soil, although its habit is a little free. Mr. Sutherland, the gardener, mentioned he had no difficulty in growing it as the light soil seemed to suit this plant well. I noticed also in the kitchen garden some splendid crops of Onions, Carrots, Peas, etc., ready for use, free from all vermin pests that annoy so many gardeners. It is possible the Dahlias from this district will be nearer the mark this season than last year.—*A Cabbage.*

CHRYSANTHEMUM NOTES.

Now the Chrysanthemums should be all potted and in summer quarters. I think an 8-in. pot large enough size in which to grow any Chrysanthemum, to get it well filled with roots and the wood well ripened by housing time, generally the end of September. Ten-inch or larger pots could be used when two or more plants are to be placed in the pot. Too large pots have a great tendency to become acid, being often over watered, whereas smaller pots get sooner filled with roots and can take more liquid feeding, which adds in most varieties to the substance of the flowers, as my little experience teaches me, that in the north of Scotland, the above size (8 in) is a very suitable pot for to flower either free flowering or disbudded Chrysanthemums. Perhaps in the south of England where the watering has to be gone over three or four times a day a little larger pot might be preferable. The watering is the principal point in Chrysanthemum growing, but a "boss" of mine once said to me watering the 'mums is a fine job for the laddie.—*Wullie.*

GYPSOPHILA ELEGANS.

This hardy annual is well worth growing in pots for greenhouse and conservatory decoration. The last few weeks, its white feathery flowers, mixed with Calceolarias and Gloxinias, have made a bright display in the conservatory. It is also very useful for cutting to use with other flowers, and for bouquet making. Seed can be sown in a pan in February and March, and when large enough pricked into 48's and 32's, placing several seedlings in each pot, and staking when large enough. Any ordinary potting compost will suit them. They thrive best in a cold frame, after they have been hardened off. Schizanthus is another pretty and useful annual for conservatory work, and can also be sown the same time as Gysophila, and treated in a similar way, their various coloured flowers making a pleasing group.—*J. Botley.*

CAMPANULA MEDIUM (CANTERBURY BELLS).

Of all the plants grown for the house and conservatory, none more fully repay for the trouble taken with them than a good batch of Canterbury Bells. Seed should be sown now (if not previously done) in shallow boxes, using equal parts loam and leaf mould with a little sand added. Place them in a cool frame, shade from bright sunshine till the seedlings appear, when they should be gradually exposed and removed to the open air. As soon as they can be handled, box them off 3 in. apart, and grow there until large enough to plant outdoors. Plant them 15 in. apart each way. They do best in a half shady position, but if well watered in hot weather they will succeed anywhere. In November lift and pot them in good rich soil, using 6-in. and 8-in. pots, which will be large enough to flower them in. Place the plants in a cool frame or Peach house, and do not over water them. When the pots fill with roots, manure water should be frequently applied. They will not require much staking; their drooping habit is most effective. Keep them in a sunny position in the early spring months; a charming display will be obtained in April and May.—*Walter Hopkins, Leighton Gardens, Westbury, Wilts.*

THE ARUM LILY.

To grow the Arum Lily for blooming early, a start ought to be very soon made. For plants to be in bloom in early autumn, of course they ought to have been prepared for it some time previously by having a period of drying off or resting for a month or six weeks. When properly gone to rest, shake them out, break all side bulblets off, if blooms for quality are desired. If for quantity, then only shake them out and repot in the same size, which would be, I presume, 8 in. upwards, using a mixture of three parts loam, one part well-rotted cow manure, one-half part of road grit and a good shake of Clay's manure over the whole, well mixing it. Crock the pots well and repot the bulbs fairly firm and deep. Well settle in with a fine-rosed can; stand partially in the shade till well rooted, and water when dry in the usual way. Syringe morning and night in hot, dry weather. Give manure water when the pots are full of roots. House the plants the first week in September, and give them ordinary greenhouse treatment, when they ought to begin throwing up their spathes soon after they are housed, if well cared for, and continue throwing up their spathes more or less all the winter, especially if well looked after as regards copious supplies of liquid manure, never using the same twice running.—*J. Harwood.*

KALANCHOE FLAMMEA.

This unique and stately little plant is truly worthy of cultivation. It is an entirely new species of the Kalanchoe, being only recently introduced from Somaliland, in East Africa, and flowered for the first time in 1897. The flowers are deep orange in colour and are produced in small trusses on a conspicuous stem thickly covered at the base with stout, leathery obovate leaves about 2½ in. in length and 1½ in. in width. The plant grows about 18 in. high and enjoys a cool, airy greenhouse temperature with a light position. Heat draws the colour out of the bloom. Propagation can be effected in three different ways, namely, by seeds, side growths and leaves. To effect the latter, procure a mature leaf with a small piece of stem attached and place it in a small pan of silver sand and leave a small portion of the tip out of the sand; place it in heat ranging between 70° and 75°, and keep well shaded. The greenhouse is not gifted with many orange coloured flowers, and this species of the Kalanchoe will prove a useful plant, as the bloom will last about three months in a growing state and fully one month as cut flowers. It is by far the best Kalanchoe in cultivation.—*G. W. Dickson, 107, Belsize Road, W. Hampstead.*

FORCING OF GREEN PEAS.

In places where we are expected to give a dish of any vegetable out of season I can strongly recommend the "green Peas." No doubt they are bad to grow when forcing, yet, with strict attention and careful watching, they can be grown as good if not better in flavour than our early Peas outside. Instead of sowing in January or February as generally is the case, sow in the end of October in 4½-in. pots, well drained and filled with rather a light soil, place in a hot frame or pit until the young seedlings are about 3 in. high, then harden off and winter in low frames where a little heat can be turned on at night or in cold weather. In February repot into 8-in. pots in a compost of turf and rotten cow dung, place on hanging shelves in a temperature of from 55° to 60°, rising a little with sun heat during the day. Great care must be taken in watering as they are very liable to damp at the neck if getting too much water. Once they are in flower and set feed slowly with manure water, and by the end of March or beginning of April you can surprise your employer with a dish of green Peas. The varieties we forced here this year were Chelsea Gem and English Wonder, which did wonderfully well, English Wonder being a little later in bearing.—*T. S. Dick, Castlemilk Gardens, Lockerbie.*

HERBACEOUS CALCEOLARIAS.

By many people the herbaceous Calceolaria is thought to be difficult of culture, and so is often discarded for other flowers. This is a fallacy, for with reasonable care and attention, very few florists' flowers are more easily grown. Seeds should now be sown. The pans should be half full of crocks broken up; over these place some rough soil and then fill up to the surface with fine soil. A light, rich, sandy soil is preferable. Sow thinly as the seed is very minute. After sowing cover with a slight sprinkling of silver sand, and cover each pan with a piece of glass, placing the pans on a shelf in a shady part of the greenhouse or frame. As soon as the plants appear above the soil a little air should be given to encourage the young plants to grow as strong as possible. As soon as large enough prick off thinly into well drained pots of fine soil. As soon as any of them are big enough, pot singly into small pots; place in a cold frame, shade from the sun, but give plenty of air, and shift into larger pots as required. Do not pot the plants between November and February, as in mid-winter no roots are made. The best place in the winter for the plants is a heated frame, in case of frosts, or damp weather; the latter is their great enemy. The plants should be smoked frequently, as upon their cleanliness success depends.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

PLANTS FOR SHALLOW GRAVELLY SOIL.

The owners of gardens standing high and dry, with shallow, hungry soils, overlying gravel beds, are much exercised in properly furnishing them, and not a few give up in disgust, with a despairing grumble that it is a waste of time and money, resulting only in vexation and disappointment, to attempt to grow anything thereon. As one who has suffered, I tender my sympathy to such, but at the same time beg of them to have another try, with a determination to succeed, for I have discovered there is a host of things which do succeed and some few which actually revel in such a soil. Side by side with the choice of suitable plants, however, let there be a steady effort to improve the staple and thus make it the better sustainer of those things which struggle along and a fitter receptacle for a wider range of subjects. The best aids to such improvement I have found to be deep digging, or what is known as bastard trenching, the incorporation of clay or heavy loam, and the application of heavy manures, such as cow or pig-dung, in preference to horse-dung or strawy litter. The present time affords an excellent opportunity for taking note of what best withstands drought, and any plants which have shown no signs of distress in ordinary light soils may fairly be given a trial. I give below some of the principal things which have succeeded with me. Many merit special mention of their beauty and value, but, with the conditions of the "prize" before me, it is necessary to place a limit on words, and I must therefore content myself with a mere list, and that by no means complete one.

Trees and Shrubs.—Silver Birch, Austrian Pine, Deodara, several Barberries, particularly B. Aquifolium, B. Darwinii, B. stenophylla, and the ornamental leaved B. Thunbergii or sinensis, as it is sometimes catalogued; Thorns, single and double-flowering; Cotoneasters, Leycesteria, in its deep green leaves and hollow stems, it has the appearance of an aquatic, but does remarkably well on an excessively dry border when once established; Roses, Penzance hybrid Sweet Briers, Japanese rugosa, and shrubby Veronicas.

Plants.—Border Chrysanthemums, Pampas Grass, Yuccas, German Flag Irises, Pinks, Alstroemerias, Lilium candidum, Snapdragon, Canterbury Bells, when put out in the autumn; Godetias, Sweet Peas, and other annuals, when sown in the autumn. —*C. W. Smith, Devonia, Kidmore Road, Caversham, Oxon.*

There are 51,000 acres devoted to the culture of Hops in the United Kingdom.

EXAMINATION IN HORTICULTURE, 1901.

(Continued from p. 710.)

Second Class.

		No. of Marks Gained.
147.	Beckett, W., Horticultural School, Holmes Chapel	175
,,	Duguid, M., Swanley College	175
,,	Lyon, R., 19, Barn Street, Strathaven, Lanarkshire	175
,,	Martin, H., Horticultural School, Holmes Chapel	175
,,	Nichols, H. R., City Technical School, Oxford	175
152.	Blackshaw, A., Horticultural School, Holmes Chapel	170
,,	Cole, T., City Technical School, Oxford	170
,,	Denman, J., Brynbella Gardens, St. Asaph	170
,,	Gilhey, G., Essex County School of Horticulture	170
,,	Harrison, F. A., Launton, Bicester, Oxford	170
,,	Hughes, C. F., City Technical School, Oxford	170
,,	Hunter, T., Coombe Cottage Gardens, Kingston Hill	170
,,	Jacobs, L. L., Swanley College	170
,,	McDonald, A. J., The Gardens, Monteviot, Jedburgh	170
,,	Mathews, W. A., City Technical School, Oxford	170
,,	Mitchell, F., City Technical School, Oxford	170
,,	Moore, W. E., Horticultural School, Holmes Chapel	170
,,	Pitman, E. B., Old Basford Vicarage, Nottingham	170
,,	Rigold, S., Swanley College	170
,,	Sibley, J., The Grove, College Road, Dulwich Common	170
,,	Sumner, A., Horticultural School, Holmes Chapel	170
,,	Trollope, T., Middleton Park, Bicester	170
169.	Bishop, R., 262 Burrage Road, Plumstead	165
,,	Brown, H. W., "Salmons," Whyteleaf, Surrey	165
,,	Doneghue, J. F., Tranby Croft Gardens, Hull	165
,,	McKechnie, W. C., The Gardens, Ffrwdgrech, Brecon	165
,,	Pruce, H., Curbridge Road, Witney, Oxon	165
,,	Reux, F., The Gardens, Drove, Singleton, Chichester	165
,,	Rolfe, T., Essex County School of Horticulture	165
,,	Wright, J. R., Chalkpit Cottage, Caterham Valley	165
177.	Allison, W., County Technical School, Stafford	160
,,	Young, E., The Gardens, The Grange, Kingston Hill	160
179.	Champness, E. H., Haslemere, Park Hill, Carshalton	155
,,	Evans, W. N., Horticultural School, Holmes Chapel	155
,,	Hargreaves, J. T., The Ruins, Harwood, Bolton	155
,,	Head, G. H., The Gardens, Poltimore Park, Exeter	155
,,	Holford, G., County Technical School, Stafford	155
,,	Minty, J., The Gardens, Riverdene, Cookham	155
,,	Peaples, F. W., Hardy Mill House, Harwood, Bradshaw, Bolton	155
,,	Townend, J. W., The Cottage, 24 Westcliff Road, Birkdale	155
,,	Watson, J. W., Upper Sleigh Lea, Fulwood	155
,,	Dolphin, A., 371 West Row, West Bars, Chesterfield	155
189.	Gibson, J., Swanley College	150
,,	Hough, W., The Gardens, Ryecroft Hall, Audenshaw, near Manchester	150
,,	Jay, P. C. H., Lancaster, Croft Road, Carshalton	150
,,	Morrell, K., Swanley College	150
,,	Powell, E. H., Swanley College	150
,,	Wilson, T., Elvaston Castle Gardens, Derby	150

Third Class.

		No. of Marks gained.
197.	Miller, M., Swanley College	145
,,	Sibley, C., Rutlish School, Wimbledom	145
,,	Heald, C. W., Horticultural School, Holmes Chapel	140
,,	Jenkins, A. R., County Technical Schools, Stafford	140
,,	Johnston, M. D., Reading College and Lady Warwick's Hostel	140
,,	Shaw, J., Stermerhill Gardens, Tottington	140
,,	Taylor, W. R., Woodhatch, Reigate, Surrey	140
202.	Kirkman, A., 303, Stitchmy Lane, Harwood, Bolton	135
,,	Mackay, M., Swanley College	135
,,	Miles, H. W., 4, Westend, Witney, Oxon	135
205.	Boorman, H. G., City Technical School, Oxford	125
,,	Chapman, G. M., Leopold Road, Wimbledon Park	125
,,	Girling, J. A., Reading College	125
,,	Hunter, J., 52, Castle Street, Woolton, Liverpool	125
,,	Jolley, E., 2, Lynwood Villas, Jubilee Road, Waterloo Ville, Hants	125
,,	Polkinghorne, F. J., Gardens, Polgwin, Bodmin	125
211.	Backhouse, A., City Technical School, Oxford	120
,,	Lickman, R., Gardens, Coombe House, Kingston-on-Thames	120
,,	Spencer, J., 40, Lower Church Street, Warwick	120
214.	Field, J. D., Woodstock Road, Witney	110
,,	Long, H. B., St. John's, Bicester, Oxon	110
216.	Brooks, A., 31, Farnsby Street, Swindon	105
,,	Goble, W. E., Kingswood Warren, Epsom	105
,,	Grantham, W., Technical Institute, Aughton, Ormskirk	105
219.	Englefield, G., 22, Cross Road, Wimbledon	100

(To be continued.)

AMORPHOPHALLUS TITANUM.

A LARGE amount of interest is always shown in this remarkable genus of plants. It is impossible not to be interested in them when once they have been seen in bloom. It cannot be their beauty, at least, not the beauty of the flower, which induces this fascination, for they are, without exception, always of a heavy, dull colour, and the odour which they give off makes it impossible for anyone to remain long in their vicinity, as it resembles the effluvia given off by meat when in the worst stages of putrefaction. The foliage of all the species is remarkable and makes the plants well worth growing. Many of them have handsomely marked stems, and the shades and ridges remind one of a contour map.

They belong to the Aroideae group and are thus closely allied to the Arum Lily. The inflorescence of the species under notice is a marvel of the vegetable kingdom, and with but few exceptions is the largest known. It has only bloomed twice in Great Britain; the first time was in 1889 at Kew, and the second time during last week (June 28th), also at Kew. The first account of the giant was sent by Dr. Beccari, who found it growing at Ajer Mantcion in the Padang Province of Sumatra. The first inflorescence produced at Kew was from a ten-year-old seedling corm measuring 6¾ ft. round and weighing half a hundredweight. The spadix was between 5 ft. and 6 ft. high and of a purplish-black colour changing to chrome-yellow. The spathe was a gigantic affair, being quite 3 ft. in diameter. The edges were deeply toothed and crimped. Deep down in the throat the colour was greenish-yellow, but up on the limb it was almost black. The outside was pale green, and quite smooth in the lower part, but was deeply corrugated towards the top. The scape was 1½ ft. long and of a dark green colour densely blotched with white. The leaf when fully expanded covered an area of 45 ft. in circumference. The corm expended over 9 lb. of its weight in producing the inflorescence.

The plant that favoured the public with a show last week was not of such gigantic proportions, and the corm only weighed 29 lb. The inflorescence was only 4 ft. high, but the leaves which it has produced have been well up to the mark, also the odour given off during the short time it remained in bloom, which was only for a dozen hours on Friday afternoon till sunrise on Saturday morning. The corm only produces one inflorescence and then gradually dies, and as the other plants are only as yet very young, it will again be a long period before we are favoured with such a sight again, unless someone chooses to bring home some good corms from Sumatra.

They are a very easy family of plants to grow and thrive in a temperature of 60° to 70°, if the air is moist. They like a good turfy loam and a good quantity of well-decayed, sweet manure, and plenty of sand. When at rest during the winter they should be kept perfectly dry, but do not lower the temperature below 60°. The smaller species make striking plants for stove decoration or for subtropical bedding, as in the case of A. Rivieri, which succeeds as well as any in the open air during summer, attaining a height of 3 ft. to 4 ft.

THE FLOWER GARDEN.

DURING the coming month the outside garden is generally at its best, and the gardener can watch the result of his labours, but not stand and watch his plants in the manner depicted by numerous poets, whose imagination leads them to think that after the flowers are once growing and in their beauty, the gardener's work is done for some time. If once they had charge of a herbaceous department for a week in the height of the season, this fallacy would quickly be dispelled. There is a far more appropriate truism which says, "A gardener's work is never done." Whoever uttered those words evidently had what may be commonly expressed as "had some." With the drying winds demanding that the soil should be kept watered, and the rampant growing plants bowing in a dangerous manner before the stiff breezes for the want of secure fastening, the gardener has plenty to do in his long day of 6 a.m. to 6 p.m. Although the season was very late in the spring, it seems to be now well forward, and there is nothing to grumble at, unless it is the drought, which seems to be causing some trouble on the dry lands.

DIGITALIS.—One of the best plants I have noticed on the borders at this season is the old Fox-glove. It may be seen in all colours from pure white to deep red. Rose seems to be the prevailing colour, and one cannot wish for a more soft refined shade. The ideal place for the Foxglove is either in the shrubbery border or growing wild in the grass. It presents a picturesque appearance when growing in the free and wild surroundings of grass land, especially when planted in clumps. It may often be induced to bloom again from the side shoots if the flowering stem is cut out as soon as it begins to look shabby. A succession of young plants should be kept up to replace the older ones, as they seldom flower after the second year. They make a striking feature when grown under trees, especially if there is an abundance of long grass as a groundwork.

PAEONIES.—Speaking of plants in the grass, I must call attention to the effect produced by Paeonies when grown in this manner. When planted in the rough grass of the pleasure ground, or in the orchard, they are seen to the best possible advantage. They lose their stiff appearance, and when surrounded by luxuriant grasses they are hard to surpass for beauty, and only require once seeing amongst such surroundings to recommend them to every lover of beauty.

GUNNERAS.—These handsome foliage plants are coming much into favour now in most big gardens, and for making a bold effect, especially by the side of a lake or stream, there is not a plant to beat it except it be the Bamboo. The leaves are often 6 to 9 ft. in diameter and over 8 ft. high. The leaves are the main feature, the flowers being inconspicuous, and should be cut out as soon as they make their appearance. It is called the Prickly Rhubarb, and, indeed, very much resembles Rhubarb. Being such a vigorous grower, it requires a rich soil and plenty of moisture in it, or such conditions as Rhubarb will thrive in. It is easily raised from seed or by division in the spring. In exposed positions it should be protected from the severe frosts by covering the crowns with long litter, or by dry leaves. It may be seen gracing the banks of the lakes in many public parks and gardens. G. manicata when planted in rich soil on the bank of a stream where its roots get an abundance of water, often covers a space quite 30 ft. across.

DORONICUMS.—The gardener is often, as he terms it, at his wit's end to find a plant suitable for decorating dry banks, &c. I advise him to try the Doronicum or Leopard's Bane, for nothing can beat it for effect on dry solls for profusion of bright flowers. It is a good plant for a number of purposes, and does not seem quite so fastidious as many of his relatives as to what soil it is planted in. It makes a splendid effect when planted in the mixed border, especially D. plantagineum excelsum, often known under the syn. Harpur Crewe.

CELSIA CRETICA. — This handsome N. African plant is too often confined to the greenhouse where many of its good qualities are hidden. If treated as an annual and planted on a sunny border it is doubly effective to what it is when cramped up in a pot and on a formal stage.

BUPHTHALMUM SPECIOSUM.—This is another plant which is seen to the best advantage either when massed in the shrubbery border or when isolated ln clumps in the grass of the pleasure grounds. It is bold, free and perfectly hardy and possesses handsome yellow flowers with very dark centres.

HELICODICEROS CRINITUS.—This is a very nnique plant and should be grown in every garden. Some might desiguate it as beautiful, but I prefer to term it interesting and curious. It is bound to attract attention wherever grown. The flower is very peculiar and owing to its form is often called the Dragon's-mouth. The leaves are deeply cut and prettily marhled with black and purple. It is easily propagated by the division of the tuhers and makes a very suitable plant for the outsides of beds of tropical plants.

ARUM ITALICUM is another very pretty plant of this Cuckoo Pint order and makes a good effect when in clumps on the borders. It produces some very bright berries in the autumn whlch remaiu on the plant for a considerahle time after the leaves have died down. Both of these plants are readily propagated by offsets which they produce in abnndance.

LILIUM GIGANTEUM.—This is, I think, without exception the best of the hardy Lilies and when in bloom with its flowers often borne 10 ft. in the air it defies description. It is often difficult to grow, but when once it is in a suitable position there is no more trouble with it. It likes a rich soil but not one which has been recently manured, nor one that is too wet and heavy. It does well amongst dwarf open shrubs, which protect the young shoots from the cold winds of spring. It is a long time before it blooms when raised from seed, and even when propagated hy offsets, generally several years elapse before it throws up a flower spike. A good spike will produce from ten to a dozen flowers, which are white with the throat suffused with purple.—*P.R.*

Kitchen Garden Calendar.

ONE of the chief things that demand attention at this time of the season is the planting out of winter greens, etc., as the ground becomes cleared of early crops. Watering is demanding a lot of time, especially where the gardens are so unfortuuate as to not have the water laid on. Do not be misled by showers, for unless there is a heavy downpour for some time, they do not reach the roots. The recent apparently heavy showers round the London district have not done much good to deep rooting plants, for on examination the soil was fonnd to be quite dry at a depth of 2 in.

CABBAGES may be planted out and seed sown for the spring crop. If they are sown later they have a tendency to bolt just when they should heart.

ENDIVE.—The sowings for winter use shonld now be begun and a succession kept up.

CHARDS.—Some people are very fond of these. If they intend to prepare any, the plants should be cut down at once to within 6 in. of the soil and encourage new growth. This will produce a large snpply of shoots for blanching about September.

STRAWBERRIES.—In places where new beds are to be made or plants are required for forcing a lot of time is required for pegging down the runners and trimming up the plants so that they may not waste their energy on making useless growth. If the pots are not kept watered they will soon dry up and when in an exposed position they often require wateriug several times a day, which time can he ill afforded during the present rush of work; but if success is to be obtained they should never he neglected. It is a very good plan to renew part of the bed every year so as to save any noticeable break when it requires renewing.

LEEKS may still be planted out, but will require a manured trench now, such as is given to Celery plants, or they will not thrive. If the weather holds dry Leeks are more liable to suffer than many other crops so they must receive careful attention.

PEAS are suffering considerably in the south, especially those which are just in their growing season. Unless rain falls in large quantities, or the roots can he mulched and soaked, failure is inevitable.

PARSLEY should be sown for winter use in a good soil and sheltered position.

TURNIPS may still be sown in quantity for succession, watering the beds if need he, till germination has taken place.

SPINACH.—This valuable winter vegetable should now be sown. A great mistake is often made by sowing it in soils which have recently been enriched by fresh manure. Spinach will not grow satisfactorily where the soil is full of manure. What it requires is a rich light soil which has recently been cleared of some other crop. The soil should he well turned np a time or two if it has borne a crop of Spinach recently, to expose the Spinach gruh which often proves very destructive. Birds, especially the rohin, have a speclal liking for these gruhs and will soon pick them out if brought to the surface.

POTATOS.—Everyone likes new Potatos, or the majority of people do. If a set of quick growing varieties is now made they will produce a crop of new Potatos late in the season when they will he very welcome.

Gleanings from the World of Science.

THE undermentioned subjects were discussed at the meeting of the Royal Horticultural Society on the 18th inst.

Abies hybrids.—Dr. Masters exhibited four specimens, all different, the result of a cross between A. Pinsapo and A. nordmanniana, and one specimen between Picea alcockiana (or ajanensis ?) and P. nigra, var. Doumeti. This is remarkable for having the stomata on the upper side of the leaf, in correlation with the habit of the leaves lying horizontally with the upper surfaces downwards. The paper will be published in full in the Society's Journal.

Cornflowers diseased.—Mr. J. Laws sent specimens of Centaurea Cyanus badly afflicted with "rust." Dr. Cooke reported upon it as follows:—"Plants of Centaurea Cyanus, covered with rusty spots on leaves and stems, were sent to the Committee in a deplorable condition. This fungns, as far as present experience goes, is the same as that which attacks Chrysanthemums, and is called Uredo Hieracii. Plants in the condition sent should at once be rooted up and burnt. It will be well understood how dangerous it would be to have such a pest in the neighbourhood of Chrysanthemums, and probably others of the Compositae, to say nothing of the Cornflowers themselves."

Potamogeton crispum.—Mr. Mark Webster described a pond infested by this Pondweed. Cutting it down with a scythe, as practised, would only tend to propagate it still more. Mr. Correvon observed that the only method, as adopted in Geneva, to keep the Water Thyme, Elodea canadensis, in check, was to clear out the pond once in three years. Other members suggested the introduction of water snails, especially Lymnaea stagnalis and species of Planorbis.

Dendrobium dimerous.—Mr. R. Young of Liverpool sent a flower having only two petals and two sepals, a not uncommon form.

British Orchids.—Mr. Bowles sent specimens of Liparis Loeseli, as well as both white and pale varieties of Orchis latifolia var. incarnata, from Horning, Wroxham. The former is interesting, as showing the commencement of the inversion of the lip in Orchids generally. This petal is in Liparis, at first erect and posterior, but then lies flat, so that an insect readily stands upon it. In Ophrys the lip becomes pseudoanterior, by the flower simply bending over to the opposite side of the plant, In other Orchids the falsely anterior position is due to a twist of the pedicel, as in Listera, or else of the inferior ovary, as in Orchis. Mr. Bowles observes that the "Liparis is still plentiful at Horning, but owing to its dwarf stature, and the boggy nature of the ground in which it grows, it is easily overlooked. It thrives wonderfully well in an artificial bog made of Jadoo in my rock garden. The white form of O. latifolia is very abundant, large patches sometimes occurring. Listera ovata (Twayblade) and Ophioglossum vulgatum also occur in a 'dancing bog,' and grow very large. I also send an albino Pedicularis palustris."

Tomatos attacked by fungus.—Mr. G. E. Day sent specimens diseased with Macrosporium Lycopersici. It was in the young state. The best remedy is spraying with Bordeaux mixture.

Asplenium Trichomanes, var.—Mr. Druery showed a plant of this Fern, which had several fronds partially bipinnate. It was found in Wales. It was interesting as exemplifying an attempt of a normally pinnate species to assume the form of an exotic one. The variety so far did not approach the incised section, which varies on quite different lines.

Papaver Rhoeas, var.—Mr. Druery also showed flowers of a Poppy having an intense crimson colour, a native of Asia Minor. They were raised from seed brought from Smyrna, and have been growing spontaneously in a garden for two years at Acton. Each petal had a small black spot or line at the base.

Peach blister.—Dr. Bonavia sent leaves badly attacked by this common disease, Exoascus deformans.

Apple bark tendrils.—Mr. F. Marsh Read sent a piece of Apple bark covered with golden twisted threads. He observes that "the main stem for about 6 ft. from the soil is 'ribboned' with it." Dr. Cooke reports upon it as follows:—"Portions of the bark of living Apple trees were sent for information. The bark was covered with long yellow tendrils or filaments, thin as a hair, and much contorted and interwoven together, presenting a very singular and conspicuous appearance. Upon examination a number of compound cells may be seen in the bark, each with an external orifice, from which the golden tendrils protrude. These tendrils are composed of myriads of very minute conidia, or spore-like bodies, adhering to each other as they exude, and are at first soft and flexile, but soon, on becoming dry, the tendrils are brittle and horny, or hair-like, variously twisted and contorted, little thicker than a human hair. The number of very minute spore-like bodies composing each tendril must be enormous (each five micromillemeters long, and slightly curved). The fungus has long been well known on pomaceous trees, but we have not met with it before upon living bark. It is known as Cytospora carphosperma. Later on the same pustules are occupied by a sphaeriaceous fungus, which is believed to be the ultimate development of this dimorphous organism, and in this condition each pustule consists of a few flask-like conceptacles or perithecia with rather long converging necks. These perithecia enclose numerous delicate cylindrical sacs, or asci, each containing eight sausage-shaped sporidia (16 — 18 × 3-4 mm.), nearly of the same shape as the minute conidia, but many times larger, in which condition the fungus is known as Valsa ambiens, and has been found on Pear and Apple, but also on Maple, Beech, Hazel, Alder, Plum and Cherry, Elm, Oak, Hawthorn, Poplar, Chestnut, Lime, and even on Rose. Hence it is widely diffused and well known. It would be a dangerous enemy if once it became established as a parasite on living fruit trees. The mature condition may be found late in the autumn, in the winter, and the early spring."

Gloire de Dijon Rose proliferous.—Mr. Chapman exhibited flowers having their centres occupied by a green tuft of leaves, &c. He observes that of about two dozen plants, the whole of the flowers this year and for several years previously have developed the peculiarity.

Birch tree bark diseased.—Mr. A. Walker, of The Croft, Needham Market, Suffolk, sent some specimens, which Mr. Saunders undertook to examine.

Cattleya Mendelii malformed.—Flowers were sent by Sir Trevor Lawrence, as well as of Odontoglossum, which Dr. Masters undertook to report upon.

Thistle fasciated.—Mr. Houston showed an abnormally large specimen of this common monstrosity.

Hints for Amateurs.

AQUATICULTURE OR CULTURE OF WATER PLANTS.

This is a branch of horticulture that is coming to the front with great strides, and in a few years it blds fair to be a craze in the world of fashionable gardening. Of course the amateur wbo has a small garden plot cannot always keep up to the tip-top of fashion, but if not a star in the fashionable world, his garden may generally be made equally as effecttive and full of enjoyment as the more pretentious efforts. It is not many amateur gardeners who can boast of a stream or pool ln their garden, but this one great drawback need not prevent them from indulging in the fascinating hobby of aquaticulture. Of course, unless great expense is laid out, it cannot be followed on a large scale; but to those whose only artistic features ln their garden are round beds of common bedding plants, if once started lt will be found double as attractive, not near the trouble, and wbat is generally tbe principal item, just as cheap. The popularity of aquatic plants is becoming universal, and either tbe demand bas created the supply or the supply is creating tbe demand; but wblchever it is, tbey are to be had now in abundance and at very low rates, owing to the facilities for their propagation.

The Roots.—All that is required is ordinary large barrels cut into halves and sunk level with the ground and the water laid on to fill them. All the compost that is required for the bottom is about 4 in. of good loam and leaf mould, with a good sprinkling of cbarcoal. Most aquatic plants delight in plenty of sunshlne, so it will always be best to sink the tubs ln the llghtest position available. Anotber requisite in stagnant water is a few fish to keep it from going green. If gold fisb are used, utility will be combined with beauty. The water should be frequently changed to keep it as fresh as possible, but its condition will point out when it sbould be done.

Water Lilies.—The idea of growing Water Lilies in a balf barrel would bave been laughed at a few years ago, bnt now these fascinating beauties can be grown witb ease ln such positions. Not only have many of the recently raised hybrids a more compact habit, but they possess a far greater range of colours, and may be obtalned from pure, chaste-white through all the shades of red to the richest of crimsons. Many handsome yellows and creams are now seen, also some very fine pale blue varieties, but these latter ones are not advisable subjects for the uninltiated to deal with, as in addition to being very tender they have a nasty habit of going off just wben you think they are flourishing. The stamens of Water Lilies are generally expected to be yellow, at least by tbe amateur wbo takes our common Water Lily as his type, but in the present day varieties the colours are very varions; orange and red combinations of the best kind are often to be seen. Other beautiful varieties bave had their stamens metamorphosed into petals, and have the appearance of huge floating Roses. One foot to 18 in. of water will be quite sufficlent for the varieties suitable for tub planting. The Marliacea varieties are beautiful plants, but are rather too large for tub cnlture. Some of the best for this purpose are Nymphaea Laydekeri and its varieties, N, ellisiana, N. odorata equisita, N. o. rubra, N. o. pumila, N. pygmaea, and N. p. helvola. These last two are very small and handsome varieties; one is pnre white, the other is a pale sulpbur and has bronze marked leaves. They are, without exception, two of the smallest known, and also as profuse bloomers as any, as tbey come into bloom in May and keep up a succession until late in September. In addition to being the two best varieties for tbe amateur's small basin, they are very cheap, and may often be obtained at five shillings the pair. The proper time for planting the corms is from April until June. All that is required ln doing this is to simply cover the corm with the soil at tbe bottom of the tub in the same way as an ordinary plant would be covered when planting its root in a border.

The Cape Pond Weed.—The Aponogeton distacbyon is another beautiful water plant that will thrive in a good warm position, but requires protection from the most severe of the winter frosts. It requires mucb the same treatment as the Water Lilies, and when once established will be a source of beauty and interest throughout the season, especially in the spring time, when it flowers with remarkable freeness. In addltion to this good feature, the flowers are very fragrant, and look pretty when cut and placed in bell jars or dishes in the house.

Limnanthemum.—Tbere are many other beautiful aquatics and semi-aquatics which may be obtained on a trip into a country district. One of the best ls a beautiful little flower much resembling a crested Water Lily known under the name of Limnanthemum peltatum. It is in nearly every respect similar to tbe ordinary Nymphaeas, except in the yellow flowers, and one of the most beautiful of our native aquatics. It is not a very common plant, but can be obtained cbeaply through the trade.

Bog Plants.—If it is desired, many handsome bog plants may be grown round tbe margins of the basins by placing good soil there and tben allowing lt to keep moist by keeping the basin brim-full, so that it soaks over a little. The selection that can be made of hardy plants suitable for bog garden work is amazing, and includes many of the most attractive flowers ln cultivation.

The Mocassin flower. — Tbis beautiful Orchid thrives in a bog garden, so long as it is not too wet at tbe root. Its proper name is Cypripedlum spectabile. It is imported from North America, and may be had cheaply from any of our nurserymen. Seeing what a fasclnatlon there is in Orchid growing, and tbe beautiful results that may be obtained, it ls a wonder tbat tbis hardy variety is not more extenslvely cultivated.

Sarracenia purpurea.—Tbis interesting pitcber plant may also be grown quite easily in a piece of boggy ground, so long as it remains sweet. Means should be adopted to ensure this, for on sour ground there are very few plants that will grow.

Pinguiculas may also be grown if plenty of moss is used. Tbey are, perhaps, better known to the amateur under the name of Butterworts. Their lnsect catching propensities have been spoken of too many times to need any further remark. When well grown tbey glve interest combined with beauty.

Trilliums.—These also make most attractive plants when grown in peaty, damp soil.

Caltha palustris.—This old favourite, known in many parts of the country as the King Cup, is another flower which, if once got to grow in a small garden, will always be a thing to be proud of, and remind the weary mind of country life. It is doubtful if there is another British flower to beat it for colour and slze combined; and even when out of flower the large lustrous leaves have something in them which always makes them welcome. The double varieties are even more effective.

Grasses, &c.—Some of the larger grasses and sedges will also make a very fine effect, and may be collected easily when in the country. The best time to gather them is eitber in the autumn or in the spring. A list of names of the best sorts is useless, unless the reader is acquainted with them, and so far there are not many amateurs who trouble much about the names of our waterside plants.

Bamboos.—These may seem too extravagant for tbe amateur, but small plants of hardy Bamboos can be obtained at very low prices, and when in good moist soil and receiving generous treatment, it is astonisbing what progress they will make. The initial expense of planting a bed of Bamboos would, of course, be heavier than planting a bed of Pelargoniums, &c., but wbereas the latter requires renewing every year, and leave bare beds in the winter, the Bamboo, wben once established, does not need renewing, and what is of far greater importance, instead of leaving a bare desolate bed throughout the autumn and winter, it would be one of tbe most striking objects in the district. Many people are frigbtened to start a new routine of garden decoration for fear of the price, and bence many plants which are far cheaper than those which are used at present, are far more easy to grow, and possess more beauty, are neglected as belng too great a luxury for the amateur. It would surprise many people who yearly spend pounds on their garden, how much money they waste on inferior tender plants which could be replaced often at half tbe cost by bardy and evergreen ones which they have not even ventured to ask the price of. Many amateurs have no idea tbat many Bamboos are perfectly hardy and will not be affected by 20° or 30° of frost. If once they visit tbe Bamboo garden at Kew and take a few notes of the best varieties, they will soon procure some for their own garden, I am sure.

The Giant Horsetail.—Equisetum Telmateia is common in many parts of the British Isles, and although they have no flowers they make ample recompense by way of foliage. Tbey make most graceful plants for growing in moist places, and when in a rich bog they often attain the height of 4 or 5 ft. When grown to this size there is always something fascinating about them, something to remind one of the prehistoric period with its weird trees and plants. Indeed, it is a very low order in the plant kingdom, and has not even got so far in the great evolution as to produce flowers yet, but is content to bear its reproductive organs in the form of cones in the same manner as tbe Pine trees.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

The Electric Shock Plant.—*Doubtful*: It is quite true what you read about tbis remarkable vegetable freak. Its name is Phytolacca electrica. When the stem is broken the hand receives a severe shock. It also has a strong lnfluence on the magnetic needle, and will affect it at the distance of 18 ft. It is said to be remarkably powerful during storms, and is strictly avoided by everything living. It is not the only plant that shows signs of electricity, as many fruits, especially grain, bave, according to Professor Wartmann, a very marked current.

Size of Glass.—*Greenhouse*: A size of 16 × 20 in. will not be too large if you do not live in a district which is subject to too heavy hailstorms, and you do not let any large amount of snow accumulate on it. Many American nurseries have their glass put in in 16 × 24 sheets set the long way, and according to their report the number of breakages is no more than wben smaller panes are used; of course the glass whicb they use is good. The use of large panes has the good quality of admitting a great amount of light, as they do not require so many rafters.

Dividing Primroses.—*S.*: We sbould advise you not to touch your plants until the autumn, or you will have some difficulty with them and weaken their constitution considerably. They will require great attention if you divide tbem now.

When to plant Jasmines.—*F. P.*: Winter time is the best time for shifting them, but take care to cboose open weather for tbe operation, and if severe frosts set in after they have been transplanted, we should advise you to protect the roots with litter or mats.

Gladiolus.—*Planter*: If your soil is light and warm, and your garden is in a warm position, your bulbs may remain ln the ground during the winter. But you must protect them against frost. It is the general plan with most growers to lift their bulbs wben they have ripened, and store them in boxes of sand in a dry shed. By doing this a good succession of bloom may be obtained by planting them at intervals from March to June. They like a rich, open soil, and are always unsatisfactory in beavy soils. By taking up tbe bulbs in winter, the ground can be turned up rough and pulverised by the action of the weather. So long as they do not rob the Roses, the Rose-border makes an ldeal place for them.

Gentiana verna.—*Alpine*: If you have given this plant proper treatment it ougbt to grow well, but you do not say how you bave treated it. It is useless to try and grow it in heavy soil; what it requires is a moist, sandy loam and full exposure to the sun. Allowing it to suffer from drought is usually the cause of many failures, or allowing it to be overshadowed by other plants may be the cause.

Gaillardias.—*Border*: It is only in warm positions and light, sandy soils where these handsome garden plants can be preserved through the winter, but tbey may be treated as half bardy annuals and raised

from seed every year with very satisfactory results. Some people prefer to strike cuttings and propagate them in that way. When this is resorted to, they should be taken off in the winter and treated in just the same manner as Pelargoniums.

Eryngiums.—*Baxter*; The common Sea-Holly does not often exceed 1 ft. 6 in. in height, but is all the same a very striking plant. For a colour effect we should recommend you to try E. amethystinum, which often reaches the height of 2 ft., and is very useful for cuttings, as the flower heads are a beautiful amethyst-blue, as are those of the better known E. planum. E. giganteum makes a noble plant, reaching from 2 ft. to 4 ft. in height, and making one of the most picturesque plants on the border. It is biennial. They do not require any special soil, and will thrive in any ordinary garden mould.

ARABIS ALBIDA FLORE PLENO.

THE ordinary green and variegated forms of Arabis albida are well known garden plants, the former being very widely cultivated in cottage gardens for the sake of the profusion of white flowers which it produces every spring with the least possible attention to its requirements. The variegated one is much utilised for edging purposes in various parts of the country, but proves a little tender in smoky towns during winter, owing to the amount of filth deposited on its leaves. The new double-flowered variety under notice came prominently before the public in 1900, although it must have been grown some little time previously. It was brought before the Floral Committee of the Royal Horticultural Society on April 24th by a number of exhibitors last year, and was accorded an Award of Merit. Since then it has been finding its way into many gardens, and is sure to become a popular plant for spring decoration in the garden. We have seen it flowering a second time in September on the new growths encouraged by the late summer rains. When in thriving condition it produces an abundance of flower spikes from every rosette of leaves; and as the flower stalks elongate and the double flowers expand, the spikes bear no small resemblance to Stocks or the double White Rocket, on a small scale, only the flowers are a little more thinly distributed. The accompanying illustration was prepared from a photograph we had taken in the nursery of Messrs. Barr & Sons, Long Ditton. It represents only a small patch out of a large quantity then in bloom. The plant is admirably adapted for beds or borders, for planting on the rockery, and also for growing in pans in cold frames for early work in the conservatory or any other cool house on the place. Let it have a sunny and open situation, and the cultivator will be amply rewarded.

ARABIS ALBIDA FLORE PLENO.

THE ROCK GARDEN.

PLANTS IN FLOWER.

Papaver alpinum.

WHILE this is closely allied to the Iceland Poppy (P. nudicaule), and by good botanists considered only a form of it, for garden purposes it is very distinct, being dwarfer, with smaller flowers, sometimes of a different colour than is met with in the Iceland Poppy. The Alpine Poppy under notice is a native of alpine and arctic regions and would easily withstand our severest winters, provided the weather would allow it to remain thoroughly at rest. The plant forms a dwarf tuft, not exceeding 6 in. in height, with finely divided glaucous leaves and lemon-yellow, salmon-pink, white or orange-coloured flowers in different varieties. The orange is sometimes intensified to orange-scarlet. For rockwork it is a charming plant and one of the smallest Poppies in cultivation.

Allium narcissiflorum.

Of the several species of Allium in cultivation, this may safely be described as one of the best, even if not by any means so well known as the white-flowered A. neapolitanum, so much used for forcing purposes in winter. The species under notice bears deep rosy-purple, bell-shaped flowers in profusion, in drooping umbels at the apex of the flower stalk. The strap-shaped leaves bear as much resemblance to those of a Narcissus as do the flowers. The plant is of the easiest culture in any well-drained, friable soil, and is admirably adapted for cultivation on the rockery, where it flowers during the greater part of June. It is readily increased by offsets.

Houstonia caerulea.

This may be regarded as amongst the choicest of rock plants, seldom exceeding 3 in. or 4 in. in height and producing a profusion of its blue or blue and white flowers in profusion. Very frequently the flowers are white, tipped with a delightful sky blue. The plant grows readily in a sandy and peaty soil in sheltered nooks of the rockery, and if liable to die out in winter if the soil is badly drained, the loss may readily be made good by saving seeds and by keeping a few plants in a cold frame by way of reserve. It is a native of North America and is known by the common name of Bluets.

Linaria pallida.

Considering the dwarf habit of this plant the flowers are of appreciable size and so freely produced as to be quite conspicuous. They may be described as blue-purple with a large white palate. The stems creep just under the soil as a rule and send up short flowering shoots. This habit makes the plant peculiarly adapted for the rock garden; and it should be planted where it can run through the chinks between one pocket and another in its own free way, as it looks all the more natural when seen so growing. It is of the easiest cultivation and may be propagated by dividing the underground stems.

Silene quadrifida.

In several respects this comes close to S. alpestris and S. quadridentata, but is nevertheless a very pretty rock plant and a stronger grower than S. alpestris. The spathulate dark green leaves are mostly confined to the base of the stems which rise up to a height of 6 in., bearing a profusion of flowers that vary from white to pale pink on the same plant. The short petals are four-toothed or angled at the apex; hence the origin of the specific name.

Jasione perennis.

The general appearance of this plant is closely similar to that of the Sheep's Scabious (Jasione montana), a British plant with round heads of small blue flowers, not unlike those of some species of Scabious. J. perennis is a native of Western Europe, and was introduced as long ago as 1787, but at present it is seldom seen in gardens. The slender stems stand about 1 ft. high, and are leafy in the lower half, while the apex terminates in a head of bright blue flowers, which, though small individually, are very effective in the mass. The plant is of the easiest cultivation in a sandy or friable soil, and can readily be propagated in spring by division of the crowns with the roots belonging to each.

Meconopsis heterophylla.

Some of the species of Meconopsis prove a little troublesome to cultivate, but this is evidently very tractable, and so beautiful as to be worthy of a place on the rockery, even though an annual. The slender, branching stems are 12 in. to 16 in. high, each shoot terminating in a deep orange flower with a maroon centre, the contrast being very marked and charming. The leaves are variously cut, as indicated by the name, and generally light green in colour. It has found its way into several gardens, and was honoured with an Award of Merit recently by the Royal Horticultural Society. It is a native of California and seems to have just been introduced or re-introduced, for it was described in the *Transactions of the Horticultural Society* as long ago as 1835.

Plants that Taint Milk.—It is very remarkable that at this time of the year complaints about tainted milk and butter are much more numerous than at any other time. One of the reasons for this, no doubt, is that during the early part of the year grass is not so plentiful as at a later date, and milch cows when turned out from their winter quarters are not so discriminating in the matter of selecting plants eaten by them as they become later on. Another reason, doubtless, is that at this season of the year a larger number of plants liable to taint

milk and butter are met with than at any other period. Among these plants the most troublesome at this season are Crow Garlic and Hedge Mustard, both of which are notorious for imparting a very objectionable flavour to the milk and subsequently to the butter produced by cows consuming them. These plants are very common in many parts of the country. The Hedge Mustard bears a pretty white blossom and is at present to be found in full bloom wherever it becomes established.—*Farmers' Gazette.*

BEST TWELVE KINDS OF VEGETABLES FOR COMPETITION.

(*Continued from p. 707*).

SCARLET RUNNER BEANS.

To grow these well, a trench should be taken out 2 ft. wide and 2 ft. deep. In the bottom of it put about 10 in. of good rotten manure. Then put on the top of that about 4 in. of manured compost from an old Cucumber bed or a spent Mushroom bed. In fact, anything of that nature will do, the object being to get the plants to root well in this kindly compost before travelling down to the stronger stimulating manure at the bottom of the trench. Tread all this firmly down, putting on the top 6 in. of soil. This will leave you a trench 4 in. deep, which will be just suitable for holding the water long enough in suspense to soak into the roots when you mulch them later on. The trench should run north and south, and then your plants will have the sun on both sides during the day. The Beans should be sown about the second week in April in boxes, about 3 in. apart each way, that, when they are lifted out there may be a nice ball of earth clinging to each Bean. Place them in a frame near the glass, giving them plenty of air so as to have them as sturdy as possible. About the 10th of May they will be ready for putting out in the trenches. It is a wise plan to put in the stakes first so as to avoid breaking the roots in staking. A single row of stakes, 6in. from one stake to another, does very well. The plants should be 12 in. apart in single rows to give them light and air. There will thus be a plant at every second stake. Water freely after planting. By the end of June you may mulch with manure on each side of the row. Soon after this you may give them manure water, weak, but plenty of it, and increasing in strength as the plants get used to it, which being now tall and branching can take more. Towards show time (in August) you can hardly, in reason, give two much manure water, as they can then absorb a great deal.

PEAS.

A good dish of Peas is not only a strong feature in a collection of show vegetables, but it is one of the dishes that cannot be done without. To grow Peas successfully, the ground must have been well manured the previous year, for such a crop as Celery. The ground must be well trenched, and if, in your opinion, there is not enough manurial elements left in the ground, you can help it by digging in some at a depth of about 15 in. in the trench. This is deep enough to allow the Peas to have rooted well before reaching the manure. The trenching should be done early, and before the Peas are sown a good dressing of lime or soot, well forked in so as to clear the ground of worms and slugs, would be very beneficial. To make sure of having two good dishes of Peas for the first week in August, three sowings should be made, say on the 1st, 7th, and 14th of May, but for a later show then sow about the 21st of May. The seed-drill should be 4 in. wide and 4 in. deep, planting a double row, the Peas 2½ in. apart each way and 2 in. deep. If you find every seed has come up and they are too thick for your purpose, take out one here and there along the lines As a rule, varieties which are grown for exhibition are strong growers and require plenty of room. When the plants are about 2 or 3 in. high, draw a little soil in around the plants with the hoe. It will help to strengthen them. When they are about 4 in. high they should be staked. If you plant two rows side by side, which is not a good plan, there should be not less a distance than 5 ft. between them. If you can spare the room, 6 ft. would be better. About the first week in July the ground should be mulched with manure, after which give a good watering which will keep the ground damp enough for some time. As to the best kinds to grow for exhibition, I have found Duke of Albany and Alderman answer very well, as they are fine long-podded and broad-podded varieties of good constitution, and look well on the show table.

TURNIPS.

The Turnip is a more important vegetable in the show collection than is sometimes supposed. The great consideration in growing Turnips for show is to grow them quickly. The ground should be well trenched and a fair amount of manure put into it. About a week or ten days before sowing, give the piece a good coating of soot, lime, or wood ashes, forking it well in. Before sowing the seed rake the ground over thoroughly. Draw out your drills 15 in. apart and about 2 in. deep. Give the drills a good dusting with wood ashes, sow the seed, and cover it nicely over. When the seedlings appear give them a dusting with wood ashes, syringing beforehand with clean water to make the ashes stick to the foliage. The foliage must be kept in a healthy, dark green condition if you want to have fine Turnips, as you cannot have the one without the other. When the seedlings are large enough to handle, thin them out to 6 in. apart. When you see that all is well with them make another thinning by taking out every second plant, thus leaving them 12 in. part. The ground can hardly be hoed too often. Before the foliage covers the ground give the rows a little artificial manure and hoe it in. If it does not rain within a day of giving the manure then water. The best aspect to grow Turnips on is a northern one so that they do not get scorched by the sun. Some gardeners like the Snowball type for exhibition, but I have always done better with Veitch's Red Garden Globe, which, when well grown, is difficult to beat. The seed should be sown about ten weeks before the show. In very dry weather you will have to water about once a fortnight, and when it is necessary to water, let it be a good soaking.

TOMATOS.

The importance of a good dish of Tomatos in a collection is not to be thought lightly of, for the fine bit of colour it gives adds greatly to the effect on the show table. The first consideration in growing this vegetable—for, although it is really a *fruit*, it is also classed and recognised as a *vegetable*—is to consider well where you are going to grow it, for if in a hot-house the seed need not be sown so early as if grown in a cold house. They can be successfully grown in either, and, for an August show, a house with no artificial heat will do very well. For a show early in August the seed should be sown about the third or fourth week in February. Sow Tomatos in a light sandy compost and place them in heat as soon as the young seedlings appear well above the soil. Keep them as near the glass as possible, and when they have got well into the rough leaf, pot them off singly into thumb pots. The compost used should be equal parts of loam, leaf mould, and silver sand. The soil should be warmed to the same temperature as that in which the seedlings are growing, and the water used should be tepid or nearly warm. When potted, place them on a shelf near the glass, and when the roots fill the pot have the plants shifted into 4½-in. pots, using a little more loam and less sand than in the first potting. From the day you sow until the time of fruiting, everything must be done which will encourage sturdy vigorous growth. The next shift should be into 7-in. pots, and the final into 10 or 12-in. pots. The best soil for the final shift I have found to be good fibrous loam, a little leaf mould, and a little coarse sand to keep the soil porous. The pots must be well drained and the plants firmly potted at this final stage, otherwise the flowers will probably fall off, and, of course, the fruit will not set. When the plants are in their final pots they must be secured to the trellis near the glass, as they will soon begin to travel. I grow them on the single stem system, and I think I get better exhibition fruit by that means. All lateral growths should be removed as fast as they appear. When the plants are in flower they should be lightly brushed at mid-day with a light camel-hair brush to distribute the pollen. This ensures free setting. When the plants are well set with fruit, they must be watered with manure water and top-dressed with good turfy loam, mixed with any good chemical manure. Once the fruit is set, Tomatos will stand strong feeding, and on no account must the plants ever want for water. It is a difficult thing to say which variety is the best for exhibition purposes, but I may state that I have found a good selection of the Perfection variety answer my purpose very well. It is not the heaviest cropper, but it has the great advantages of a plump, smooth skin, a fine deep crimson colour, a good average size, and very fine quality.

(*To be continued.*)

POISONOUS GARDEN PLANTS.

LIKE as are the spring poets, perennially moved by the re-awakening of Nature and the resuming of her garlands and mantles, so are also gardeners inspired by the same sentiments—at any rate, we take the matter for granted. Who is he that has not soul enough to be roused to cast off the effects of his hibernation by the new birth of our spring flowers as they come one by one forth from the cold bosom of Mother Earth? If autumnal golden tints have a pleasing melancholy to our minds, truly vernal beauty has quite the opposite—just the kind of thing we require to brace us up for the arduous duties the following seasons demand of us.

It is on this assumption that we take this opportunity of saying a few words on the nature of some of those beautiful harbingers of spring and life. All that is fair to look upon is not good nor safe to handle indiscriminately, and some of the loveliest of our garden plants, for some reason which is impossible to tell, are very treacherous in their natures. It has happened not infrequently that through carelessness and ignorance very alarming effects have resulted from using improper caution when working among them. Some of them have proved over and over again how deadly they are if they should be inadvertently used as eatables. Happily, such cases are each year becoming less common, in proportion to the growth of knowledge regarding such plants, except, perhaps, in the cases of children, who are always allured to eat everything that has the appearance of being good. This latter case is not so easily remedied, until our schools shall see their way to take the subject more earnestly to heart by making botany, especially the economic side of it, an obligatory subject in the higher standards.

One of the most common and prettiest of our garden plants is the Monkshood or Wolf's Bane (Aconitum Napellus), so-called from its helmet-shaped flowers. On account of the partial resemblance the roots have to Radishes or small Turnips, it is easy to see how it has been so frequently the cause of poisoning.

The leaves are very much cut, a typical character of the family to which it belongs—the Crowfoots, and in general it resembles that other beautiful species, the Delphinium, which is probably also poisonous. The poisonous record of the Monkshood is well known, but the terrible instance which occurred forty-five years ago in Dingwall is enough to illustrate its virulent properties. In this case the roots were mistaken for Horse Radish, with the result that all who partook of the preparation were poisoned, three fatally. We remember how with a pious terror we used in our childhood to read the monuments over two of the illfated clergymen in a neighbouring cemetry. Monkshood at this period was expelled from gardens in northern counties, and when the writer began his apprenticeship, it was a botanical curiosity. There are cases on record where the mere handling of this plant caused suspicious symptoms. All the Aconitums are more or less virulently poisonous.

Another beautiful garden plant of a very poisonous nature is the White Hilla or Hellebore (Veratrum album). There are two other varieties common in our gardens (V. nigrum and V. viride), and while they may not be sufficiently destructive to the casual observer by their foliage, they are easily known by their flower, as the specific name indicates. The first has a white flower, the second black, and the last green. For a herbaceous border their beautiful corrugated large leaves have no rival. The flowers are on a stout branching spike, and are rather demeaning to the foliage. They are members of the Saffron family, Melanthaceae. All parts of the plant are poisonous, and said to be extremely virulent.

Baneberry (Actea spicata) is a charming garden plant when all covered with its white mistletoide berries, otherwise it is devoid of beauty. It is, however, very poisonous, and we believe it has been several times taken for the Elder, to which it has a faint resemblance. It belongs to the Crowfoots or Ranunculaceae. Common Hellebore or Christmas Rose (Helleborus niger) is too well known for its

poisonous properties to require notice. We use it freqnently as an insecticide, especlally for caterpillars. It is nevertheless very poisonous, and demands our greatest caution in its use either in the natural or prepared state. It also belongs to the Crowfoot family.—*D. C.*

LARGE HORSE CHESTNUT.

SCOTLAND can hoast of many large trees, many of her specimens being the largest in the British Isles. We have not seen a Chestnut anywhere to beat the old veteran at Moncrieffe, Perthshire, which ten years ago measured 20 ft. 6 in. at 1 ft. from the base, and at 5 ft., 19 ft. in circumference. At about 15 ft. from the ground it diverges into three masslve limbs, one of which has bent down wlth its own ponderous weight and has again taken root, thus largely adding to the majesty and spread of the tree. It has suffered severely at times from the effects of storms, but never more than in that memorable storm which wrecked the Tay Bridge, when a piece of solid limb which was rent off weighed over two tons.

SOCIETIES.

RICHMOND HORTICULTURAL.—*June 26th.*

THIS flower show is always one of the great events of the season, and when favonred with propitious weather the show ground presents a scene of charm and animation. Richmond, Surrey, is pre-eminently at its best when full of smiles, and on this occasion the weather was all that could be wished for—a bright day with a pleasant breeze keeping up a refreshing circulation of air. Thls year the show had additional heauty and importance, as the southern section of the National Rose Society held their show in conjunction with the ordinary show, thus largely augmenting the number of exhibits. The Old Deer Park makes a delightful show ground, and the radiant surroundings seemed to vouchsafe a boundless compensation for the dark days of byegone winter. The warm air was redolent with the vivifying fragrance of wild flowers growing in the translucent greenery of the surrounding pastures. The crowd of visitors was both great and select; and the visitors seemed to thoroughly enjoy themselves, caring nothing, anticipating nothing, living only for the present in contentment and enjoyment, and were gay in that refined manner so characteristic of Richmond people. To hear the sound of that inimitable ventriloqnist, the "land crake" in the adjoining meadows, the mysterious bird whose movements are invariably carried out under the enchanted garb of invisibility that defies the promptings of curiosity, and in the evening to hear the pheasants give their final crow before whirling up to their roost in the thick foliage of the Queen's Cottage Grounds, carried one's mind away farther into the country than twelve mlles from London Bridge. But still Richmond has all the charms of the country, and even in the crowded tents we noticed the huge happy noisy bumble bee endeavouring to secure a foothold on the diminutive platform of slender flowers, while he extracted their nectar. In the early part of the day a tiny blue butterfly was husy in one of the tents also nectar collecting, adding to the kaleidoscopic variety of the scene. So perfectly dld its colour agree with the turquoise tints of the sky that it was almost possible to picture it as a visitant from the azure infinitudes that go beyond the golden canopy of the sun; thus, perhaps, emphasising the philosophic truism that all finite forms of life, however transient, have their own proper affinities wlth the infinite. The following is an account of the exhlbits and prizes in the large classes:—

MISCELLANEOUS.

The non-competitive groups and exhibits were a feature of the show. Messrs. Hugh Low & Co., Bnsh Hill Park, Enfield, staged a large group of flowering and foliage plants snch as Palms, Orchids, Anthnriums, Carnations, Ferns, Spiraeas, Caladiums, &c., and although showing a great variety of colour there was perfect harmony.

Messrs. Laxton Brothers, Bedford, the Strawberry specialists, exhibited two boxes of luscious Strawberries, including their newest and best varieties, all in handsome and presentable condition.

Messrs. J. Carter & Co., High Holborn, London, had an interesting table of pigmy trees in the open grounds.

Here also Mr. John Russell, Richmond, set up a large exhibit of variegated Ivles in different sitnations about the tents. The plants were grown in pots.

Messrs. J. Veitch & Sons, Ltd., also set up a group of trained Ivies in pots, making a fine display in an outdoor situation. (Silver Gilt Medal.)

Messrs. J. Hill & Son, Lower Edmonton, made an effective display with some of the most handsome of his Fern specialities. Pteris Childsii, Lomaria attenuata, Adiantum tinctum, Davallia pentaphylla, and Lastrea erythrosora were shown in fine form. (Silver Gilt Medal.)

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, exhibited herbaceous cut bloom and alpines. Some handsome varieties of double and single Begonias were staged of a handsome strain, and well worthy of notice. As they were not named, but staged as mixed seedlings, lt is impossible to give a detailed account, we can only say they were all of excellent quality. (Silver Medal.)

Messrs. J. Veitch & Sons, Ltd., Chelsea, brought an extensive group of Roses in pots, wnlch were staged in a large crescent-shaped group near the entrance to one of the large tents. They also exhlbited a large batch of thelr Kalanchoe flammea. (Gold Medal.)

On the other side of the entrance to the large tent Messrs. Carter & Co., High Holborn, London, put up a large and tastefully arranged group of their Invincible Prize Gloxinias, includlng such fine varieties as Emperor William, Emperor Frederick, Fire King, a rich crimson-magenta throat with fimbriated rose margins; Cyclope, Queen Victoria, a pure, chaste, white flower. (Gold Medal.)

Facing the entrance and between the two preceding groups was a fine group of foliage plants, chiefly Palms, from Mr. W. Thompson, Sheen Nurseries, Richmond. (Silver Medal.)

Mr. John Russell, Richmond Nurseries, Surrey, showed a very striking group of Codiaeums, also a miscellaneous group of foliage and flowering plants. (Silver Gilt Medal.)

Messrs. H. Cannell & Sons, Swanley, brought a blazing group of Cannas, including most of the best varieties. (Silver Gilt Medal.)

Messrs R. Green, Ltd., Staines Road, Hounslow, put up a large and highly coloured group of Codiaeums, amongst which we noticed Wilsonii, Jupiter, Chelsonii, Reidii Golden Queen, Evansianum, Adonis, Diamond Jubilee, Mrs. R. Green and Euterpe. (Silver Medal.)

One of the most conspicuous features of the show was a group of Malmalson Carnations, grown by M. J. Jennings, gardener to Leopold de Rothchild, Esq., Ascot, Leighton Buzzard. They focused the attention of visitors more than any other exhibit. (Gold Medal.)

Mr. William Iceton, Putney, put up a large centre group of foliage and flowering plants. (Silver Medal.)

Messrs. J. Peed & Son, West Norwood, London, exhibited a large number of alpines, Sweet Peas, and herbaceous plants, amongst which we noticed a fine new Gaillardia Primrose Dame. There were also some fine show cases of Gloxinias and Streptocarpi. Spiraea astilbe Lemoinei we also noticed as new. Some new Carnations were also to be seen in thls attractive collection. (Silver Medal.)

Messrs. Barr & Sons, Covent Garden, exhibited a large number of Paeonies, Iris, and other choice herbaceous plants; also several choice Water Lilies, of which we made a note at Regent's Park last week. (Silver Medal.)

Sir. F. Wigan, Bart., put up a large and beautiful group of Orchids, not for competition. (Gold Medal.)

Messrs. Paul & Sons, Cheshunt, had a large exhlbit of Paeonies.

Messrs. Low & Co., Bush Hill Park, also exhibited Roses and their new Schizanthus wisetonensls; also two pots of Vines in fruit. (Silver Medal.)

Messrs. Young & Co. also received a Silver Medal for herbaceous cut hloom.

Mr. S. Eida created a large amount of interest with a collection of pigmy trees from his famous Japanese nurseries at Acton. (Silver Medal.)

Messrs. Geo. Jackman & Son, Woking, Surrey, received a Silver Medal for a beautiful collection of Roses and herbaceous cut blooms.

Mr. William Rumsey, Waltham Cross, received a Silver Medal for cut Roses.

COMPETITIVE EXHIBITS.

For six Ivy-leaved Pelargoniums, H. Little, Esq., (gardener, Mr. Watts), Baronshalt, Twickenham, took the lead; and was followed by H. T. Michaels, Esq., Kingston-on-Thames.

For a group of flowering plants and follage, the first prlze group was of exceptional merit and great praises is due to Mr. Trusseller for his tasty arrangement. It was not a large group, neither did it contain many plants, but what there were, were of good quality and shown off to the best advantage. They belonged to Mr. H. Fordham, The Nurseries, Twickenham. The second prize group in this class was a very unique arrangement, water and a cork arch figuring in lt. The plants used were all of good quality and made a very worthy and close second. It was exhibited by Mr. W. Lock, gardener to C. Swinfen Eady, Esq., K.C., Weybridge.

For slx stove and greenhouse plants, Mr. W. Farr, gardener to Andrew Pears, Esq., Isleworth, was first.

For six foliage plants, Mr. W. Howe, gardener to Lady Tate, Streatham Common was first with some fine Crotons and a beautiful speclmen of Cycas revoluta. For a single specimen plant in flower, C. Swinfen Eady, Esq., K.C., was first with a fine Ixora; Mr. J. Sallows, gardener to Mrs. Coles, Twickenham, was second with a Stephanotis; and Andrew Pears, Esq., third, with an Acalypha.

For a single foliage plant, Mr. W. Lock, gardener to A. A. Chancellor, Esq., Weybridge, was first with a tremendous specimen of Nepenthes Mastersii standing over 8 ft. high and with extra good pitchers. Lady Tate was second with a large plant of Thamnocalamus Falconeri.

For a group for effect Mr. Want, gardener to Sir F. Wigan, Bart., East Sheen, was first. Mr. Castle, gardener to J. W. Haker, Esq., Ham Common, was second; and Mr. Hicks, gardener to C. M. Bartlett, Esq., East Sheen, was third.

For six pots of Liliums, Mr. F. Wyatt, gardener to Max Wacchter, Esq., J.P., was first.

For six exotlc Ferns, Lady Tate was first with some remarkable specimens; A. Pears, Esq., was second, also with a very good selection.

For six exotic Ferns in division B, Sir F. Wigan, Bart., was first. In this lot we noticed an extra fine plant of Adiantum tenerum roseum.

For six Palms, Mr. J. Allsop, gardener to W. Cunard, Esq., Twickenham, was first with some very fine speclmens of Howea belmoreana.

For six Caladiums C. M. Bartlett, Esq., was first; and W. Cunard, Esq., second.

FRUIT AND VEGETABLES.—For six dishes of fruit, Mr. Lock, gardener to W. Cunard, Esq., was first; and Mr. T. Osman, gardener to L. J. Baker, Esq., J.P., second. There was not much to choose between them, both being of a very high standard.

For the best brace of Cucumbers, Sir F. Wigan, Bart., was first; Mrs. Coles, second; and J. W. Hilditch, Esq., third.

For four dishes of frnit, Mr. F. Conway, gardener to Earl Dysart, Ham House, Petersham, was first.

For three bunches of black Grapes, Earl Dysart was first; also for white Grapes. Mr. A. Meator, gardener to J. B. Hilditch, Esq., was a very good second for white Grapes. For three bunches of white Grapes, C. Swinfen Eady, Esq., was first; and L. J. Baker, Esq., second. For three bunches of black in Division A, the Earl of Onslow, Guildford (gardener, Mr. H. Blake), was first with some handsome bunches of Madresfield Court; and L. J. Baker, Esq., J.P., second.

For six dishes of fruit Earl Dysart was first; Mr. W. Ford, gardener to W. H. Ellis, Esq., was a good second. For nlne Nectarines W. Cunard, Esq., took the lead. For nine Peaches Mr. H. H. Brown, Engleford Green, gardener to J. C. Raphael, Esq., was first; and Mr. Ellis was a very close second.

For two dishes of Strawberries Earl Dysart was again to the fore; and J. Parker, Esq., Isleworth, was a good second. For a dish of Tomatos W. H. Ellis, Esq., took the lead. For the best Melon, Sir F. Wigan, Bart., carrled off the first award.

For twelve dishes of vegetables Mr. C. Bentley, gardener to Lt.-Col. W. Bosworth, Roehampton, took the lead with a fresh even lot. Mr. F. H. Bolton, gardener to Bernard Weguelin, Esq., won the leading prize offered by Messrs. James Carter & Co.

For the twelve best bunches of herbaceous flowers Messrs. A. W. Young & Co., Stevenage, Herts., were first, and Mrs. H. L. Ward, Petersham, second.

The prizes offered by Messrs. Sutton & Sons, Reading, for the six best Gloxinias were won by Max Wacchter, Esq., J.P., and C. Swinfen Eady, Esq., K.C. They also offered substantial prizes for the best six Begonias. The first was won by D. H. Scott, Esq., Richmond; second, J. B. Hilditch, Esq.

For six fancy Pelargoniums, Mr. Charles Turner, Slough, was first. For six zonal Pelargoniums, Mr. Watts, gardener to H. Little, Esq., J.P., Twickenham, was first. The blooms were of fine quality, and would have been shown off to much better advantage if not contorted and arranged on framework.

For twenty-four bunches of hardy herbaceous flowers, Messrs. Young & Co., Stevenage, Herts, were first. Messrs. Paul & Sons, Cheshunt, Herts, were a very close second. For six exotic Orchids, Mr. A. Howard, grower to H. Little, Esq., Twickenham, was first, and Sir F. Wigan, Bart., second.

Decorations.—There was a large display of floral work, and many unique designs were seen, but the almost universal fault was *too heavy*. Messrs. A. W. Young & Co. offered several prizes for Sweet Peas, which were keenly competed for. Bernard Weguelin, Esq., was first, and Lady Helen Vincent second.

Mr. Robert Sydenham also offered prizes for Sweet Peas, which attracted a large number of beautiful exhibits. Bernard Weguelin was also first in this, and Miss C. B. Cole second.

NATIONAL ROSE (Southern Section).—*June 26th.* The southern exhibition of the National Rose Society was held at Richmond, Surrey, on June 26th, in conjunction with the Richmond Horticultural Society, which generously assisted by furnishing a spacious marquee, 210 ft. long by 50 ft. wide for the accommodation of the Roses. The hon secretary, Edward Mawley, Esq., found every other convenience and ready assistance from the officers of the Richmond Society, and being also favoured with splendid weather and good company the first show of the season by the National Rose Society was a decided success.

Competition was keen in the class for forty-eight distinct varieties of Roses, and the premier honours (the Chancellor Challenge Cup and £6) were secured by Messrs. Benjamin Cant & Sons, Colchester, with a splendid array. Some of their finer blooms were Mrs. J. Laing, White Maman Cochet, Comtesse de Nadaillac, Madame Eugenie Verdier, Souv. de S. A. Prince, Bridesmaid, Lady Mary Fitzwilliam, Muriel Grahame, Marchioness of Downshire, Bessie Brown, Mme. de Watteville, &c. Messrs. D. Prior & Son, Colchester, were a good second; and Messrs. Frank Cant & Co., Colchester, were third. With those that did not obtain prizes and these three splendid exhibits a whole length in the large marquee devoted to them was made into a beautiful rainbow of soft colours.

For twenty-four distinct varieties, Messrs. Harkness & Son, Hitchin, took the lead; Mr. Charles Turner was second; and Messrs. J. Burrell & Co., third. This class was also well contested, and several excellent collections had to remain without prizes.

For the twelve best Rose blooms, Messrs. Alex. Dickson & Sons, Newtownards, Co. Down, Ireland, were first with Mildred Grant. Messrs. D. Prior & Son were second with some excellent blooms of Mrs. John Laing; and Messrs. F. Cant & Co were third with Bessie Brown.

For twenty-four distinct varieties, Messrs. D. Prior & Son were first with some very well formed blooms. Mr. G. Prince, Longworth, Berks, had some very fine blooms, and received the second prize. Messrs. F. Cant & Co. were a very good third, in fact, there was not much to choose between the first, second, and third. For twelve distinct blooms, Mr. John Mattock, Oxford, took the lead; Mr. Charles Turner, second; and J. Burrell & Co, Cambridge, third.

Decorative Roses were much in evidence, and made one of the prettiest pictures in the show.

Messrs. Paul & Son, Cheshunt, were first. Time would not allow us to give a detailed description, but we could not fail to note the beautiful Lady Battersea, Camoens, Mdme. Falcot, Mdme. Jules Grolez, L'Ideal, Mdme de C. Guillot, and Mdme. E. Resal. Mr. John Mattock was a very near second. Papa Gontier, Ma Capucine, Lawrence Messimy, and Papillon were amongst the most exquisite of the varieties. For eighteen distinct varieties, Mr. G. Prince was first; Messrs. F. Cant & Co., second; and Mr. Charles Turner was third.

In Class VIII. for seedlings, there were many beautiful blooms, and a new H.P. named Ben Cant was awarded a Gold Medal.

For twelve distinct Tea or Noisette varieties, Mr. G. Prince was first; Messrs. Ben Cant and Sons, second; and Messrs. D. Prior & Son, third.

For twelve blooms of any one variety, first, Messrs. B. Cant & Sons with Mdme. Cousin. Mr. George Prince was second with some good blooms of Comtesse de Nadaillac. Messrs. D. Prior & Son were third with Maman Cochet.

For twelve distinct varieties, Messrs. F. Cant & Co. were first; Mr. Charles Turner, second, and Messrs. G. Cooling & Sons, Bath, third.

For twelve distinct varieties in another class, first, O. G. Orpen, Esq., Colchester, one of his blooms, Mrs. John Laing, receiving a Silver Medal. E. B. Lindsell, Esq., Hitchin, was second, and Mrs. Haywood (gardener, Mr. C. J Salter), Reigate, third.

For twenty-four distinct blooms, E. B. Lindsell, Esq., was first, the Rev. H. Pemberton, second, and Alf. Tate, Esq., (gardener, Mr. W. Mease), Leatherhead, third.

For eighteen distinct blooms, R. Hobbs, Esq., Worcester, was first; E. M. Bethune, Esq., Horsham, second; and P. G. Burnand, Esq., third.

For twelve distinct varieties W. Kingston, Esq., Bedford, was first; G. Moules, Esq., Hitchin, second; and F. Wellesley, Esq., third.

For eighteen distinct Tea or Noisette Roses, O. G. Orpen, Esq., was first; second, the Rev. F. R. Burnside; third, E. M. Bethune, Esq., Horsham.

For twelve distinct varieties of Teas, the Rev. Lowley, Scudamore, was awarded the Prince Memorial Cup.

WINDSOR ROSE SHOW.—*June 29th.*

The annual exhibition of the Windsor, Eton and District Rose and Horticultural Society was held in the grounds of Eton College on this occasion, and was favoured with splendid weather. The Roses were, as a rule, very fine, though some of them were showing the influence of the drought. We have also seen more numerous entries in some of the classes. The non-competitive exhibits were numerous, and made a conspicuous feature of the show.

The Queen's Cup, presented by her late Majesty Queen Victoria, for forty-eight distinct varieties of Roses was secured by Messrs. Benjn. R. Cant & Sons, The Old Rose Nurseries, Colchester. Some of his finest blooms in this exhibit were Mrs. John Laing, Maman Cochet, Bessie Brown, Souvenir d'Elise, Le Havre, Catherine Mermet, Duchess de Morny Ulster, The Bride, Ellen Drew, Marchioness of Londonderry, Her Majesty, Mrs. W. J. Grant, Madame Eugene Verdier, Ernest Metz, Bridesmaid, Innocente Pirola, Charles Lefebvre, and Muriel Grahame. Messrs. D. Prior & Son, Colchester, took the second place, with fine blooms of Bessie Brown, Mrs. John Laing, Marchioness of Londonderry, &c. Messrs. Frank Cant & Co., Braiswick Nursery, Colchester, took the third place, Suzanne Marie Rodocanachi, being very fine. Messrs. Harkness & Sons, Bedale, came in fourth; and an extra prize was awarded to Messrs. A. Dickson & Sons, Newtownards.

In the class for eighteen varieties of Tea Roses, the leading award was secured by Mr. Geo. Prince, Longworth, Berks, who had fine blooms of Maman Cochet, Souvenir d'Un Ami, Souv. de S. A. Prince, Ernest Metz, E. V. Hermanos, and Mrs. E. Mawley. He was followed by Messrs. B. R. Cant & Sons, whose finest blooms were Maman Cochet, Ernest Metz, &c. Messrs. D. Prior & Son came in third.

For twelve distinct Roses, the premier award was secured by Messrs. A. Dickson & Sons, who had the best Rose in the show, namely, Mildred Grant, in this stand. Other good blooms were Alice Lindsell, Mrs. Edward Mawley, Bessie Brown, and Mamie. The second award went to Messrs. D. Prior & Son; and Messrs. B. R. Cant & Sons, Colchester, came in third.

Messrs. Frank Cant & Co. had the best twelve blooms of any H.P. or H.T., showing Bessie Brown in fine form. Messrs. D. Prior & Son were second with Mrs. John Laing; and Messrs. A. Dickson & Sons were third with Mildred Grant.

Messrs. D. Prior & Son took the lead with twelve blooms of any Tea or Noisette, showing Maman Cochet in fine form. Mr. George Prince was second with Comtesse de Nadaillac; and Messrs. B. R. Cant came in third with Madame Kusin.

Mr. George Prince had the best exhibit of eighteen bunches of garden Roses, which were set up in handsome bunches. Messrs. Paul & Son, Cheshunt, were a very good second; Mr. C. Turner was third; and Messrs. Frank Cant & Co. came in fourth. The garden Roses were a good feature of the show.

In the amateur classes for twenty-four distinct varieties of Roses, the Rev. J. H. Pemberton, Havering-atte-Bower, took the lead. Some of his finest blooms were Mrs. W. J. Grant, Ulrich Brunner, Charles Lefebvre, Helen Keller, Maman Cochet, Bessie Brown, &c. P. G. C. Burnand, Esq. (gardener, Mr. A. Humphrey), was a very good second, and Mrs. Haywood (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate, took the third place with smaller but solid blooms.

E. B. Lindsell, Esq., Hitchin, had the best eight blooms of one variety in Bessie Brown. The Rev. J. H. Pemberton was second with A. K. Williams, and R. Foley Hobbs, Esq., took the third place with Mrs. W. J. Grant.

The Rev. F. R. Burnside took the leading place for twelve Teas or Noisettes, showing grand blooms of Maman Cochet, Comtesse de Nadaillac, &c. R. Foley Hobbs, Esq., was second, and R. E. West, Esq., Reigate, came in third.

C. Romaine, Esq. (gardener, Mr. J. Guttridge), took the lead for twenty-four varieties of Roses, and was followed by R. Foley Hobbs, Esq.

E. B. Lindsell, Esq., had the best six Roses in triplets, being followed by Rev. J. H. Pemberton and P. G. C. Burnand, Esq., in this order. The Rev. J. H. Pemberton had the best garden Roses. Mrs. Irving (gardener, Mr. T. Elisha) was second.

The Silver Medal presented by the National Rose Society for the best Rose exhibited by an amateur was secured by C. Romaine, Esq., who had a fine bloom of Gustave Piganeau.

The Windsor Medal and a money prize for the best eighteen distinct Roses was also secured by C. Romaine, Esq., some of his best blooms besides that above-mentioned being Her Majesty, Etienne Levet, Mrs. S. Crawford and Francois Michelon. F. E. Layton, Esq. (gardener, Mr. F. Bloodworte), took the second place, and A. Wigan, Esq. (gardener, Mr. T. Jacobs), came in third.

The leading honours for a group of plants were taken by A. Gilbey, Esq. (gardener, Mr. D. Phillips), for a rather light arrangement, in which flowering plants were very conspicuous. N. L. Cohen, Esq. (gardener, Mr. A. Street), took the second award.

Non-Competitive Groups.

In the centre of one of the large tents Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham, exhibited a group of Orchids, which was quite unique, being the only display of this class of plants in the show. He had massive pieces of Cypripedium grande and C. barbatum grandiflorum, both well flowered. Attractive, interesting and well flowered plants were Cattleya Warscewiczii sanderiana, C. Mendelii, C. Mossiae, Miltonia vexillaria, Cypripedium Curtisii, C. superbiens, C. lawrenceanum, C. harrisianum superbum and various forms of Odontoglossum crispum. Even more choice in their way were numerous plants of Vanda teres, with samples of Disa Veitchi, Epidendrum macrochilum album, E. prismatocarpum, Laelia grandis tenebrosa, Cypripedium caudatum, C. Stonei, Oncidium macranthum and Bulbophyllum barbigerum, the curious lip of the latter being constantly in motion.

Messrs. James Veitch & Sons, Ltd., Chelsea, set up a large group of cut flowers of hardy herbaceous plants, including grand bunches of Paeonies, Oenothera speciosa, Heuchera sanguinea, Eryngium ollvierianum, Delphinium formosum, long trails of Tropaeolum polyphyllum, the uncommon Morina longifolia, a group of a beautiful pink variety of the cup and saucer Canterbury Bells, and other Campanulas in season. Noticeable also were the Foxgloves, Lychnis calcedonica, Lupinus arboreus, Gillenia trifoliata and a host of others.

Messrs. John Peed & Sons, Roupell Park Nurseries, West Norwood, exhibited a fine collection

of Sweet Peas, and herbaceous as well as rock garden plants. Amongst the newer plants were Gaillardia Primrose Dame, pale yellow, and Mule Pink Emilie Paré, pink. Amongst Carnations they had Lady Grimstone, Churchwarden, Miss Clara Measures, Calypso, &c. Fine tree Carnations were Mr. R. H. Measures and Primrose Queen. Other interesting plants were Delphinium grandiflorum, D. g. album, some hardy Opuntias, and the pretty pink flowered Convolvulus althaeoides, with silvery divided leaves. Campanula turbinata Chad Valley Gem was distinct.

Messrs. Titt & Son, 24, Thames Street, Windsor, staged a collection of hardy herbaceous cut flowers such as Delphiniums, Irises, Coreopsis, Gladioli (early flowering), and vases of Roses. They also had floral decorations in various designs, the central piece of which represented a cross, done chiefly in white Sweet Peas.

Messrs. Smith Brothers, Clewer Nurseries, nr. Windsor, staged a group of Carnations on the grass, mixed with Ferns and other plants.

Messrs. Barr & Sons, Covent Garden, London, had a bold array of hardy herbaceous cut flowers, including herbaceous Paeonies, Delphiniums, showy bunches of Iris Dorothy Forster, I. Monneri, I. orientalis, English Irises in great variety, early flowering Gladioli, Brodiaea laxa, Eryngium laxum, Heuchera micrantha and various other subjects. They also had four trays of Water Lilies, including N. marliacea chromatella, N. m. albida, N. m. rosea, N. Laydekeri fulgens and various others.

Messrs. Wm. Cutbush & Son, Highgate, London, N., set up a table of hardy herbaceous flowers, and an attractive display of Carnations, including the new border varieties Herbert J. Cuthush (scarlet), Minerva (white), Cecilia (yellow), Robin Measures (crimson), and Kirdford (crimson streaked white). They also had such fine Malmaison varieties as Calypso, Mercia, Baldwin, Lady Grimstone, and Maroon King, the darkest of this race.

Mr. Charles Turner, Slough, had a group of Caladiums, Palms and Ferns on one side of the entrance to the large tent; and on the other he staged a group of show and fancy Pelargoniums of moderate size but well flowered.

Messrs. B. S. Williams & Son, Upper Holloway, London, staged a collection of herbaceous plants, consisting largely of English Irises, and fine varieties of the Persian Ranunculus in many colours.

Messrs. T. S. Ware, Ltd., Hale Farm Nurseries, Feltham, London, exhibited a collection of hardy herbaceous plants in the Rose tent. Very conspicuous were the Delphiniums, Phloxes, Campanulas, Brodiaea volubilis, Gaillardias, Calochortus, Malva moschata alba, Campanulas, including the relatively new C. persicifolia Moerheimi, with double flowers. Primula Forbesi sown in February has been flowering for six weeks. Delphinium cardinale was about 4 ft. high. They also staged cut flowers of tuberous Begonias.

Messrs. Laxton Brothers, Bedford, exhibited some boxes of Strawberries, including Trafalgar and Mentmore, two grand varieties of their own raising. They also had plants in pots of Laxton's New Fillbasket.

Messrs. Jones & Sons, Sweet Pea and Dahlia specialists, Shrewsbury, exhibited a very tastefully arranged collection of Sweet Peas in glass vases. Some of the most charming were Gorgeous, Alice Eckford, Lady Grisel Hamilton, Venus, Little Dorritt, Countess of Powis, Prince of Wales, Emily Eckford, Salopian, &c.

Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, staged a large group of herbaceous cut flowers, including Irises, Lilies, Campanulas, Sedum kamtschaticum fol. var. and many others. He also had a very interesting tray of hardy Water Lilies, amongst which we noted Nymphaea marliacea albida, N. m. chromatella, N. odorata rosea, N. o. rubra, N. rubra punctata, and others.

Messrs. Geo. Jackman & Son, Woking, Surrey, staged a very interesting lot of garden and other Roses, including a box of blooms of Mrs. W. J. Grant, one of Kaiserin Augusta Victoria, one of Marechal Niel, and various others. The Roses were backed up with herbaceous cut flowers of various kinds.

Messrs. E. F. Such, Maidenhead, exhibited a collection of cut flowers of herbaceous plants.

ROYAL HORTICULTURAL.—*July 2nd.*

THE meeting on Tuesday last was practically the Rose show of the Royal Horticultural Society, in conjunction with the National Rose Society. Other subjects were confined to new plants for certificates. The Roses were very fine indeed, and drew a large concourse of people, so that the hall at times was quite crowded.

ORCHIDS.—Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, exhibited Cattleya Mendelii albescens and C. gaskelliana alba, two handsome white flowered varieties. The latter carried nine flowers on three spikes, and was accorded a Cultural Commendation.

Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking, exhibited a small group of interesting as well as showy Orchids. Very noticeable and attractive were Renanthera imschootiana superba, Schomburgkia thomsoniana, Aeranthes dentens, and Cypripedium wiertzianum Burford var. The flowers of Renanthera were compared to an insect by visitors.

J. A. Timmis, Esq., Stone Hall, Oxted, exhibited well-flowered plants of Cattleya Warneri and C. Mossiae.

ROSES IN COMPETITION.—In Class I. for twenty-four single trusses some very good blooms were put on the boards. Messrs. B. Cant & Sons, Colchester, were successful in carrying off the first prize with blooms of remarkable texture; the second prize went to Mesrs. D. Prior & Son, Colchester. There were several other well-known Rose growers exhibiting in this class, but as only two prizes were offered good collections had to go without any award, but if praise from the visitors could be any reconciliation they did not lack that.

In Class II. for eighteen single trusses, O. G. Orpen, Esq., was first with some very beautiful and well grown varieties, which included such show favourites as Mdme. de Watteville, The Bride, Killarney, Her Majesty, Ulrich Brunner, and Maman Cochet. The Rev. J. H. Pemberton, Havering-Atte-Bower, Romford, brought a very showy and well grown collection of blooms, which well deserved the place of second, which they attained. There were seven good deep-coloured ones, such as Victor Hugo, A. K. Williams, Charles Lefebvre, and Comte Raimbaud.

In Class III., Mr. Charles Turner, Royal Nurseries, Slough, was first with some exquisite blooms, amongst which we noticed Prince Arthur, Charles Lefebvre, Mr. J. Laing, Gustave Piganeau, and Maman Cochet.

Class IV. drew a large number of exhibits all of a very high standard, and showed what amateurs can do in the way of Rose growing. The first prize went to T. Halstead, Esq., Reigate, and the second to F. Wellesby, Esq., Woking. It must have been a difficult matter to select the two best out of such a close lot.

In Class V. for six distinct, single trusses, G. H. Baxter, Esq., Brentwood, took the lead, closely followed for second place by J. Thompson, Esq., Bounds Green, N. This class attracted no less than seven exhibits.

For nine single trusses of any one variety, Mrs. Haywood, Reigate, staged Her Majesty, and received first prize for it. The Rev. J. H. Pemberton was second with some symmetrical and well coloured blooms of A. K. Williams.

In Class VII., J. Bateman, Esq., received premier honours for six fine blooms of Marchioness of Londonderry. The Rev. F. Page Roberts, Sevenoaks, was second with Mrs. Sharman Crawford, which was staged in fine form.

TEAS AND NOISETTES.—The amateurs' class for eighteen single trusses of Teas or Noisettes, brought up some very good blooms, those shown by O. G. Orpen, Esq., Colchester, being large, fresh, and beautiful. Fine blooms were Maman Cochet, Cleopatra, White Maman Cochet, and Comtesse de Nadaillac. He was accorded the first award.

In the open class for eighteen single trusses of Teas or Noisettes, the premier honours were carried off by Mr. George Prince, Longworth, Berks, who had grand blooms of Bridesmaid, Maman Cochet, Mrs. E. Mawley, Souvenir d'Un Ami, The Bride, Comtesse de Nadaillac, Muriel Grahame, and various others. Messrs. D. Prior & Son, Colchester, took the second place with some equally as good blooms of Maman Cochet, Innocente Pirola, Bridesmaid, &c. There were five competitors in this class.

E. M. Bethune, Esq., Denne Park, Horsham, Sussex, took the premier award for twelve trusses of not less than nine varieties. He had very fine blooms of Bridesmaid, Catherine Mermet, Ethel Brownlow, Maman Cochet, &c. The second prize went to the Rev. F. R. Burnside, Great Stambridge Rectory, Rochford, Essex, who also had some fine blooms. There were five entries.

In the class for six trusses, Miss Beatrice H. Langton, Raymead, Hendon, N.W., took the lead, showing handsome blooms of Maman Cochet, Madame Cusin, and Comtesse de Nadaillac; G. A. Hammond, Esq., Cambrian House, Burgess Hill, was second.

For nine trusses of any one variety O. G. Orpen, Esq., took the lead with large and handsome blooms of Maman Cochet, one or two being spoiled, however; G. H. Baxter, Esq., Hutton Park, Brentwood (gardener, Mr. H. Holloway) was second with Innocente Pirola.

In the open class for thirty-six bunches of garden Roses, a magnificent display was made by Messrs. Paul & Son, Cheshunt, taking the leading prize. They had large and handsome bunches of Lady Battersea, Dawn, Paul's Carmine Pillar, L'Ideal, Celine Forestier, Madame Falcot, Blanche Double de Coubert, &c. Messrs. Frank Cant & Co., Colchester, came in second with a splendid array, perhaps a little more formal.

E. M. Bethune, Esq., had the best six trusses of one variety, the Rev. F. R. Burnside being second.

A section was set apart for exhibition Roses in vases. In the open class for nine varieties, so set up, the leading award was taken by Mr. Geo. Prince with fine vases of Madame Cusin, Marquis Litta, Fisher Holmes, Bridesmaid, &c. Messrs. B. R. Cant & Sons, Colchester, were second.

In the amateur class for six vases of Roses the Rev. J. H. Pemberton had a very good lot, taking the first prize.

Mr. Geo. Prince had the best six Teas or Noisettes, shown in vases, his white Maman Cochet and Catherine Mermet being very attractive. He was followed by Messrs. B. Cant & Sons, with an even and good lot.

O. G. Orpen, Esq., was accorded the leading prize in the amateurs' class for six varieties of Roses in vases, his Madame Cusin being splendidly coloured.

NON-COMPETING GROUPS OF ROSES.—Messrs. W. Paul & Son, Waltham Cross, Herts., made a grand show with a large collection of excellently well grown Roses. The species exhibited were some of the best that the world of Roses could produce, and showed every transition of colour from the purest white to the deepest of velvety red, and from the palest primrose to the deepest orange. One that seemed to be more fancied than any in this large exhibit was their new decorative Tea Rose, Sulphurea. It is really a handsome thing, being of a light sulphur colour and with beautiful coppery foliage. They also exhibited a new climbing Rose bearing the name of Golden Queen, and a better name could not have been chosen for the blooms, especially when half open, as they are of a beautiful old gold colour. A decorative Tea Rose bearing the name of Corallina, also new, ought to soon become a favourite as its remarkable coral-red colour and floriferous habit ought to recommend it to every lover of Roses. Alexandra, another new decorative Tea Rose, has a good form and colour when in the bud, but is somewhat ragged when it opens.

Mrs. Kitto is another decorative Tea which ought to soon become a great favourite with connoisseurs owing to its graceful form and beautiful blending of colour. Tennyson, a new H. T., is a flower of very symmetrical form, and is almost white but for the unfolded petals which are suffused with a delicate flesh colour. Boadicea, a new H. T., is both good in the bud and when fully out; in the bud the predominating colour is deep rose, but as the flower opens the handsome shell shaped petals change from rose to cream towards their centre, while at the base they are a pure primrose.

Other exquisite blooms were Souvenir de Catherine Guillot, Papa Gontier, Blushing Bride (new), Mdme. Ravary, Abel Carriere Amore, Captain Haywood, Ma Capucine, Jersey Beauty, a handsome pale sulphur yellow single with very bright foliage which has the appearance of being polished.

Messrs. James Veitch & Sons, Chelsea, made a

bright patch of colour with the hybrid Queen Alexandra which has Crimson Rambler and R. Multiflora as its parents. It is a very showy thing and produces some very handsome foliage. A new hybrid, Briar Rose, was also shown, under the name of Lucy; it has very large flowers of a very deep clear rose colour. Its parents are Macrantha and Charles Lawson. On the same table as these and also belonging to Messrs. Veitch were two very good Delphiniums; one bearing the name of Strada is a very deep violet colour and has large flowers which are borne in very tall spikes; the other which is named Monument has flowers of a light purple colour marked towards the base with electric blue. A basket of Isalis glauca was also shown, it is a very floriferous plant and produces flowers of a bright canary yellow.

Gardening Miscellany.

THISTLES.

When plants rely on vegetative propagation for the continuance of their species, they often lose the power of seed bearing altogether, and the vegetative process becomes hereditary. This is so with many Thistles, especially the common Cnicus arvensis, which rely mainly on the distribution of pieces of their fine underground stems for propagation. This has been proved over and over again by many farmers who have allowed their Thistles to seed for want of time to mow them, but instead of an increased crop during the next season, they have been surprised to see it diminished. This has been brought about by the stock being weakened by producing the flowers, whereas if the flowers had been cut, the energy would have been directed to the runners.

RUDBECKIAS.

This handsome genus of plants, which are named after a professor of botany at Upsal, named Olaf Rudbec, are natives of N. America, and furnish a good supply of bloom for cutting. Not only are they useful for cutting, but when massed on the herbaceous border they are amongst the most attractive of the hardy perennials. Rudbeckia speciosa, better known, perhaps, under the synonym of Newmanii, is, as its name denotes, showy, the orange-coloured ray florets making a beautiful contrast with the black disc. R. pinnata is another beautiful species, with bright yellow drooping ray florets, which make a graceful arrangement when cut. R. maxima is a very fine species for the border, and often grows to 8 ft. or 9 ft. in height. It has an elongated disc, the florets are pure yellow and drooping. No herbaceous plants are easier to grow if provided with a rich soil and plenty of moisture.

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends *the most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. J. C. Dick, The Gardens, Champfleurie, Linlithgow, for his paper on "Inarching Vines," p. 702. Three others were very nearly of equal merit, and one other good article was over the limit as to the number of words.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

Photographs of Plants. — The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in The Gardening World. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "The Editor," 4, Dorset Buildings, Salisbury Square, Fleet Street, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Watering Vines after the Berries Change Colour.—*L. M.*: The question very much depends upon the condition of the Vines or more particularly of the way they have been treated for some weeks past. If they have been allowed to get very dry at the roots and then deluged with water the probabilities are that some of the berries would crack, particularly those of Madresfield Court. On the other hand if they have been regularly watered and not allowed to get dry for any length of time, the berries will have continued to swell regularly, so that water applied after they commence to colour will not act injuriously at all. Therefore, if you have regularly watered your Vines up to this time, you may continue to do so till they are ripe, without danger of cracking. The generally accepted reason for the cracking of the berries of Vines is that, if allowed to get dry for even a short period, the skin of the berries hardens, so that when water is afterwards given the skin is unable to extend fast enough for the swelling berries thus supplied with an extra amount of water. You will have to judge whether yours have been kept steadily moist, and, if so, you may safely continue.

American Magazine on Gardening. — *Gilbert Pullen*: We think that *American Gardening*, published by Mr. James W. Withers, at 136, Liberty Street, New York, would meet your requirements, as it is got up in a style calculated to meet the interests of amateurs, and is not a commercial paper. It is published weekly at 6s. 3d. annually in America, but at 8s. 4d., that is two dollars, to subscribers in this country or any others in the postal union. We much appreciate the expression of the high opinion you entertain towards The Gardening World and shall endeavour to retain your good wishes.

American Book on Carnations.—*Gilbert Pullen*: An American book on Carnations is published by The A. T. De La Mare Printing and Publishing Company, Limited, Rhinelander Building, Cor. Duane and Rose Streets, P.O. Box 1697, New York. Its title is *American Carnation Culture*, and the price $1.50, that is, 6s. 3d., but postage would be extra we suppose. It contains the Classification, History, Propagation, Varieties, Care, Culture, &c., of the Carnation, and is in the third edition at least.

Gland and Scale of Ranunculus.—*E. C. H. D.*: The gland and scale of certain species of Ranunculus are small bodies such as you describe at the base or near the base of the petals and on the inside of the flower. The scale is merely a small appendage which you can clearly see, however, with the use of a pocket lens, and you can further assure yourself about the scale by lifting it with the point of a pin while looking through the magnifying lens. It is found in Ranunculus repens, R. acris, and R. bulbosus. A small swelling known as a gland is situated beneath the scale.

Orders of Plants 1-sexual.—*E. C. H. D.*: There is no glossary of terms, as you say, in the *Students' Flora of the British Islands*. You can tell whether a plant is 1-sexual or 2-sexual by a careful examination of the flowers and their structure. If only stamens are present, then the flower is 1-sexual or unisexual. The same may be said of a flower which contains only a pistil, that is, an ovary with its stigma, and a style if there is one. Tamus communis (ord. Dioscoreae) is a good British example. The female flowers consist of an inferior ovary surmounted by six perianth segments, enclosing three short styles. The male flowers have no ovary, but consist of six perianth segments, each having a stamen inserted upon it. By carefully examining a good sized plant you will find both of these forms of flowers growing upon different parts of it. The male flowers are numerous in a raceme, and the females much fewer on a short stalk. If you examine a number of wild Hollies in bloom you will find the flowers very frequently 1-sexual, but the sexes on different trees. If you examine the flowers of any Potamogeton (ord. Naiadeae) you will find they contain stamens and an ovary, being 2-sexual. A more common flower for you to examine is the Red Campion (Lychnis diurna) or the White Campion (L. vespertina). Some of the flowers contain only a perfect ovary, others contain only perfect stamens. Usually these flowers are on different plants, and are 1-sexual. The other type you mention, namely, 2-sexual flowers, are more common. Besides Potamogeton, above mentioned, you can find them in Ranunculus, Poppy, Water Lily, Dianthus, Stellaria, Rose, Potentilla, Geranium, Pea, Bramble, Apple, Pear, Honeysuckle, Carrot, Parsnip, and many others. For 1-sexual flowers, again, you will find a very good example in Carex, where many species have male spiklets at the top of the stem and female ones lower down. The grasses are 2-sexual, as a rule, in Britain.

Swarm of Bees not going into the Hive—*Query*: I have a swarm of bees that came off last Friday. I put them into a standard frame; but they are not taking with the hive and hang in a mass at the entrance. Please let me know what to do with them and what is the matter.—*Auchinleck.*

Answer: More than likely your correspondent threw them down, in front of hive and allowed them to run in. If the entrance was small a great many of the bees instead of entering the hive would climb up the face of it underneath the porch, and the queen being with them, they would stay, although as a rule they go inside. Where they are inclined to gather underneath the porch give it a sharp blow with the fist on the top or brush them down with a goose feather, giving a little smoke at the same time and you will soon have them safely inside.—*Doonfoot.*

Names of Plants.—*T. H.*: 1, Sidalcea candida; 2, Sidalcea malvaeflora; 3, Lychnis chalcedonica; 4, Veronica longifolia; 5, Galega officinalis; 6, Thalictrum flavum.—*G. T. B.*: 1, Ligustrum ovalifolium; 2, Kerria japonica flore pleno; 3, Malva moschata; 4, Weigela Eva Rathke; 5, Hemerocallis fulva.—*R. M.*: 1, Ficus falcata; 2, Ficus repens minima; 3, Acorus gramineus variegatus; 4, Oxalis nutans; 5, Begonia evansiana; 6, Begonia weltoniensis.—*A. M.*: 1, Oncidium sphacelatum; 2, Oncidium flexuosum; 3, Laelia grandis tenebrosa; 4, Oncidium Papilio.—*L. C*: 1, Doodia aspera; 2, Lomaria ciliata: 3, Litobrochia vespertilionis; 4, Polypodium plesiosorus; 5, Pteris straminea; 6, Nephrodium lepidum.—*W. B.*: 1, Campanula rhomboidalis; 2, Campanula garganica; 3, Campanula Van Houttei.—*R. A. D.*: Azara microphylla.—*R. G., Wimbledon*; Melilotus officinalis.

Communications Received.—J. C., F., Chard.—D. McGregor.—Horticultural College, Swanley.—A. C.—W. M.—A. L.—T. B.—W. R. H —Douglas A. Gilchrist.—H. E. B.—W. Davids.—A. T. C.

TRADE CATALOGUE RECEIVED.

James Douglas, Edenside, Great Bookham, Surrey. —List of Carnations, Tree Carnations, Picotees and Auriculas for Autumn, 1901; and Spring, 1902.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

July.

8.—United Horticultural Benefit and Provident Society Committees' Meeting; N.C S. Annual Outing to Leatherhead.
9.—Wolverhampton Floral Fete (3 days); Gloucester Rose; Harrow Rose.
10.—Formby Rose; Stambridge Rose; Worthing Rose.
11.—Bath Floral Fete and Rose Show; Brentwood Rose; Eltham Rose; Helensburgh Rose; Woodbridge Rose.
13.—Royal Botanical and Horticultural Society of Manchester Rose Exhibition.
16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S., Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Hoddesdon Exhibition; Royal Botanical Society Meeting; Halifax Rose.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days); Tibshelf Rose.
24.—Strathbane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Prescot Exhibition; Selby Exhibition; National Sweet Pea Society (2 days).
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts Exhibition.

August.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldearn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley; Beddington, Carshalton and Wallington.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
15.—St. Andrews Horticultural Association.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.

"Gardening is the prrest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, JULY 13th, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.,** where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 16th.—Royal Horticultural Society's Committees meet at Chiswick, and Conference on Lilies at Chiswick 2 days).

WEDNESDAY July 17th.—National Rose Society, at Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).

THURSDAY, July 18th.—Hoddesdon Exhibition; Royal Botanical Society Meeting; Halifax Rose Show.

FRIDAY, July 19th.—National Carnation and Picotee Society at the Crystal Palace.

SOME POINTS OF THE NATIONAL ROSE SHOW.—Success has crowned the innovation of the National Rose Society in taking its metropolitan show into such a central position as the Inner Temple Gardens on the Thames Embankment. The day was dry throughout, and with the exception of being rather too warm at times in the tents, was an ideal one for a Rose show as it encouraged the attendance of visitors, who came in large numbers throughout the day, considering that this has been the first show of its kind held in the Temple Gardens. About half-past eleven her Majesty Queen Alexandra gave the example by attending the show, and deliberately inspecting every section of the same. She is evidently an admirer of Roses, and on entering the tents was presented with a handsome bouquet, consisting of Her Majesty and Queen Alexandra Roses, the latter being new, and the whole design very appropriate. She was escorted round the tents by the president, the Very Rev. the Dean of Rochester, D.D., V.M.H., by Captain Holford and several ladies. Both the honorary secretaries, the Rev. H. Honywood D. Ombrain, V.M.H., and Edward Mawley, Esq., were present and actively engaged in their duties, though the former had to be taken round the tents in a bath chair. As soon as the gates opened to the public, the show lost its private character by the thronging of the tents, and the ancient war of the Roses was renewed under the more peaceful aegis of modern times. The legend of the red and white Roses, the badges of the houses of York and Lancaster, is reputed to have had its origin in the Temple Gardens, which would seem to have been more notable for the cultivation of the Rose in those far off times than they are at present. The Earls of Somerset, Suffolk and Warwick, Richard Plantagenet, Vernon and another lawyer are reputed to have had an animated discussion amounting to a brawl, whereupon Plantagenet plucked a white Rose and Somerset a red one; and Shakespeare makes Warwick prophesy in this fashion—

> This brawl to-day,
> Grown to this faction, in the Temple Garden,
> Shall send between the red Rose and the white,
> A thousand souls to death and deadly night.

Last week's strife drew a much greater number of litigants together, and the Roses, we opine, were never more diversified at any previous time in the history of the gardens, and though the discussion was sufficiently animated, many times during the course of the day, yet there was no brawl, nor any party strife. The relative merits of the Roses were a source of continual discussion throughout the day by a vast number of visitors and others taking an intelligent interest in Roses.

Three large and roomy tents enabled the throng to closely inspect the Roses, and from what we could see and hear the bulk of the assemblage were more or less intense admirers of the Rose, and having nothing but the music of a band to distract their attention, we calculate that all had ample opportunity to examine a unique display of Roses, according to their inclination or taste. While connoisseurs agreed that the exhibition as a whole was a very fine one, there were several features and many Roses that call for special comment. The premier blooms were the objects of frequent attention. Mrs. John Laing and Her Majesty claimed this honour amongst hybrid perpetuals, and though neither is new, both were grandly shown and in quantity. The best Tea in the nurserymen's section was Souv. d'Elise Vardon; and in the amateurs' section White Maman Cochet, the latter being a splendid bloom but had lost its character towards the close, the heat of the day flattening it out. Mildred Grant, a new hybrid Tea, secured the premier honour for its class amongst the exhibits of nurserymen; while Bessie Brown, another Rose of large size for this section, was the best in the amateurs' division. Both of these hybrid Tea Roses are of massive proportions and tend to out-distance their relatives in the matter of size. We should like to see some highly coloured varieties in this class so as to contrast with the many pale ones now seen on the show boards. Bessie Brown is a pointed, globular Rose of a creamy white, and Mildred Grant is flesh-coloured, especially in the centre, but otherwise similar. Florence Pemberton is flesh-coloured, tinted with cream, and was in good form, though rare in the show. It belongs to the same class. Other hybrid Tea Roses worthy of note were La France, Caroline Testout, Mrs. W. J. Grant, Lady Mary Fitzwilliam, Marquise Litta (carmine-rose) and Kaiserin Augusta Victoria, most of them being well and frequently shown. Marquise Litta is the darkest of its class.

Tea Roses were plentiful and good. In many cases they might have been described as small and in a few instances paler than usual, but that might have been due to the recent drought. We have on previous occasions noticed much damage to the outer petals owing to the influence of the weather, but on this occasion there was little or no evidence of it. Besides the premier Teas above mentioned there were many grand blooms of Mrs. Edward Mawley, a globular bloom, with a high centre, and of a beautiful carmine-pink. An unusually large and handsome bloom occurred in the stand that gained the Silver Cup presented by Captain Ramsay. Though rather too far expanded by afternoon it was nevertheless a grand bloom. Many visitors noted the prevalence and conspicuous character of Catherine Mermet and its sports, as they are mostly always of very frequent occurence in small as well as large exhibits. They are globular and pointed Roses with a beautiful centre. That just named is rosy-flesh. Bridesmaid is a deeper coloured sport; while Muriel Grahame is cream, and The Bride, lemon-white, the three sports and their parent making a choice and handsome quartette. Comtesse de Nadaillac was plentiful but not so highly coloured as we have seen it. Niphetos was not particularly plentiful. On the other hand Maman Cochet was abundant and attracted a great amount of attention and admiration, much more indeed than its sport White Maman Cochet, which only the connoisseurs seem to appreciate. It is white tinted with lemon, and the outer petals a little blushed. On the whole, however, these long pointed Roses seem to be attracting more attention than older, globular, and rather smaller flowers such as Souvenir d'Un Ami, Souv. de S. A. Prince, Innocente Pirola, and Madame Cusin, though it must be admitted all of these were frequent on the stands. In our opinion Madame Cusin was admirably coloured and beautiful, as was Marie Van Houtte. Amongst Noisettes Caroline Kuster and Marechal Niel were frequently shown

The hybrid perpetuals call for no special attention though there were handsome blooms of Horace Vernet, Sir Rowland Hill, Ulster, Gustave Piganeau, Marchioness of Londonderry, Helen Keller, A. K. Williams, Dupuy Jamain, Charles Lefebvre, Comte de Raimbaud, Duchess de Morny, Etienne Levet, Duke of Edinburgh, Marie Baumann, Ulrich Brunner, Suzanne Marie Rodocanachi, and various others. Of some of them, the blooms were good, but not particularly plentiful.

Sweet Briers usually now spoken of as the Penzance Briers are well represented at modern shows, but particularly those of the National Rose Society. For beauty and distinctness we do not consider that Anne of Gierstein and Lady Penzance have yet been superseded. Amy Robsart and Meg Merrilies may be considered as good rivals to the former, but Amy Robsart, when grown strong, has a tendency to produce a few small, ragged petals in the centre, which spoils the symmetry. Lady Bertram, and Brenda (pale pink with a white centre) are also good Briers. The last named is one of the prettiest of the pale varieties; and though Minna was shown as a pure white one we do not regard it as a Sweet Brier at all. It has evidently no botanical connection with Rosa rubiginosa, but is more in keeping with a white variety of the Dog Rose. These Briers belong to the great class of garden Roses which were indeed one of the most glorious features of the show, a fact that was admitted by every one who has any sympathy whatever with this section of the great Rose family. From a very small section they have annually grown in importance that their omission from the schedule would constitute a serious loss to the show, though only two classes were set apart for them in the nurserymen's section, two in the open section and four in the amateurs' section, or eight in all exclusive of the floral decorations, which might be furnished with buds of Roses that ordinarily come into the Tea and Noisette class. Handsome single Roses of other types included grand bunches of Carmine Pillar, Himalaica, Paul's Single White, Rosa multiflora (otherwise polyantha simplex) R. Andersoni, R. macrantha, and Paul's Single White, a beautifully cup-shaped Rose. Many of the above were as good at the end of the day as any of the doubles. Amongst the climbing polyantha types we must not overlook Crimson Rambler and the new Queen Alexandra, which may be considered as a rosy-pink, floriferous and beautiful variety of the former, which was, indeed, one of its parents. It is a most floriferous and lovely Rose of which we shall presently see plenty in the garden.

A Promising Refrigerating Machine.—The Royal Agricultural Society of England has awarded a special prize to Messrs. J. & E. Hall, Ltd., of Dartford, for a small refrigerating machine suitable for dairies, and for the storage of perishable farm produce generally. It is interesting to note that farmers are beginning to realise the importance of refrigeration as a means of enabling them to preserve home grown produce, so that enhanced prices may be obtained during the winter months.

Irritability.—Archotis aspera and A. calendulacea have irritable styles in the same way as the column of Stylidium, and are doubtless concerned in the function of pollination.

Royal Warrant for Messrs. Sutton & Sons. — *The Times* of July 6th, announced that Messrs. Sutton & Sons who have been seedsmen to the Crown for many years, have now been appointed by Royal Warrant seed merchants to his Majesty King Edward VII.

Crystal Palace Fruit Show.—Schedules of the eighth annual fruit show to be held at the Crystal Palace, Sydenham, on October 10th, 11th, and 12th are now ready, and may be obtained on application to the Secretary, Royal Horticultural Society, 117, Victoria Street, Westminster, S.W. Applicants should enclose a stamp.

National Carnation and Picotee Society.—It has now been definitely fixed that the annual show of this society will be held on Friday, July 19th, at the Crystal Palace. Entries must be sent in at least four clear days before the day of the show, to Mr. G. Caselton, Superintendent of Gardens, Crystal Palace, Sydenham, London, S.E.

An M.P. and his Orchids.—As we announced last week the action brought by Mr. John Rutherford, M.P., against L'Horticole Coloniale, Brussels, was not finished as we went to press. This was a breach of warranty of a plant sold to plaintiff as Odontoglossum crispum Rambouillet, for which he gave £80. When it bloomed four years ago it proved to be a variety not worth £5. Verdict for plaintiff for £114 and costs.

Lily Show and Conference.—The Royal Horticultural Society will hold an exhibition of Lilies in their gardens at Chiswick on Tuesday and Wednesday, July 16th and 17th. The committees will meet at 11 a.m., and plants, &c., for certificate will be placed before them as at the usual meetings in the Drill Hall. The gates will be opened at 12 noon on July 16th, closing at 7 p.m.; at 11 a.m. on Wednesday, closing at 6 p.m. Fellows admitted free on showing their tickets. A conference on Lilies will be held at 2 p.m.

Gardener's Royal Benevolent Institution.—The annual report and balance sheet for the year ending December 31st, 1900, has just been published and affords some interesting matter, including the account of the proceedings at the anniversary dinner at which His Grace the Duke of Portland, K.G., P.C., G.C.V.O., presided. There is a long list of subscribers but nothing nearly long enough considering the large number of gardeners there are and the good aims of the institution. For instance, in Kent, the home of gardeners, there are only ninety-two subscribers. Surrey has the largest number of subscribers, the total being 194.

Motor Cars and Strawberries.—It will doubtless be of interest to purchasers of the luscious "English-grown" Strawberries from Messrs. Keartland Mole to learn that the fruit, which finds so ready a sale at the well-known fruiterers in the Crescent, is conveyed direct to the shop from Farndon day by day in a motor van. The utilisation of this new means of conveyance for the carriage of such a perishable product as ripe Strawberries is the best possible proof of the wisdom of the contention of automobilists that for moderate distances from great centres the motor van, car, or waggon is invaluable, serving the purpose to which it is put most effectually. By the system adopted with regard to the transportation of the Farndon fruit direct to the city distributor, the Strawberries avoid the injurious handling necessitated by railway conveyance, and what this means can be understood by remembering that the fruit would be loaded on to carts, wheeled to the station, unloaded direct into the railway waggon or on to trucks prior to being stowed on the waggon, run through with the incidental jars of a railway journey, unloaded from the railway van into carts or trucks, which in the latter case necessitates extra handlings, and finally arrives at the store to be sold. As it is, the baskets are loaded on the motor car at the Strawberry beds, and are delivered into the hands of the shopkeeper. This trial will doubtless lead to a wide adoption of the system throughout the district.—*Liverpool Journal of Commerce.*

The Force of Swelling Seeds.—Dr. D. T. MacDougal has, after careful experiments, ascertained that the pressure exerted by Peas on being wetted is equal to eight atmospheres or 120 lbs. per square inch.

A Remarkable Settle.—A large swarm of bees while passing over a road suddenly selected a mail-cart, in which two children were seated, as a settling place; the most remarkable thing is that the children were not stung although they were much frightened.

Emigration.—This is the best season of the year to emigrate to Canada, where there is a good demand for competent farm labourers in nearly all parts, except British Columbia. There is a good demand for female servants everywhere, but persons having no particular trade or calling should not emigrate to Canada unless they have means of their own. The Emigrants' Information Office who supplied us with this information also warns all persons against going to South Africa at present in search of work, for unless they have ample private means to meet the very high cost of living they will not be allowed to proceed up country.

Boycotting.—We often hear of instances of prejudice and boycotting through political differences, but none seems more ridiculous than the recent changing of the name of a Cypripedium in France. Until lately it has been known as C. chamberlainianum but so distasteful has this name become in sunny France that it is unbearable, and nurserymen have found it the best policy to change the name to obtain a sale for the plant, and hence in the future it will be known as C. punctatum, a name suggested by its foliage. If our nurserymen retaliate by altering the names of flowers in their nurseries which bear political meaning the result will be confusing, especially if they do not all bear the same political views.

A Warm Day.—It was unnecessary to consult the thermometer on Friday the 5th inst. in order to know that it was the hottest day we have had in London this year. To be brief, we may state that the thermometer registered 84° in the shade, just 14° higher than the maximum on the previous Tuesday, after which it continued to rise till Friday as stated. Curiously enough the same figure was reached on the same date at Hamilton, N.B., which a correspondent describes as terrific heat. We know that 80° is high enough for Scotland with its moister atmosphere. At London we may yet have 90° to 96° in the shade. On the same date as above (5th inst.) the temperature at Leeds was 85° in the shade.

Death of a Veteran Strawberry Grower.—Mr. John Sim, well known to a wide circle of friends in the counties of Aberdeen and Kincardineshire, died at his residence, West Cults, Aberdeen, on the 24th ult. in the 77th year of his age. He commenced his career as a gardener, and like many enthusiastic Scotchmen of that period, gave much attention to the study of botany, embracing both flowering and flowerless plants, particularly sphagnum, for which he had a great liking. He went further than many do, and published a complete flora of Scotston Moor, in the vicinity of Aberdeen. Early in the sixties he commenced work of a more utilitarian character, settling down at Gateside, Strachan, up Deeside, where he made plantations of Strawberries for market purposes, increasing them as the demand grew. The venture was a remarkable success, and induced many of the local farmers and crofters in the district to imitate his example, so that the remarks of the late Mr. W. E. Gladstone were not far-fetched when he referred to the possibilities of Strawberry culture and jam making in Aberdeenshire. Twenty years later, Mr. Sim purchased a small property known as The Temple, Drumlithie, Kincardineshire, where he also grew Strawberries and florists' flowers for market, and kept a green-grocery of his own in Stonehaven, the capital of the county, where he retailed some of the produce of The Temple. Mr. Sim had several sons, some of whom attended to the business on Deeside. He himself lived much at The Temple till quite recently, and we have met him going about his business at Stonehaven. He was a genial-hearted and active business man and enjoyed much respect at the hands of those with whom he came into frequent contact. Two of his sons are in the Forestry Department, South Africa.

Britain only grows enough grain to make enough bread to last her ten weeks.

A Royal Honour.—We learn that the King has been graciously pleased to grant Messrs. James Carter & Co., High Holborn, London, the Warrant of Appointment as seedsmen to his Majesty. We congratulate the Messrs. Carter upon their success, and hope they will long enjoy the well-merited honour.

Royal Horticultural Society. — At a general meeting of the Royal Horticultural Society, held on Tuesday, July 2nd, thirty new fellows were elected (making 614 since the beginning of the present year), amongst them being Lady Margaret Boscawen, Lady Bickersteth, Lady Tennant, Lady Whitehead, and Surg.-Col. Arthur Sanderson, A.M.C.

Curious Transformation.—In a recent number of the *Berichte der Deutscher Botanischen Gesellschaft*, there is an account of an interesting transformation of the root of Crocus vernus into a leaf. Prof. R. A. Philippi received some bulbs from Holland, and as they did not show signs of growth after having been in the pots for some time they were turned out. On one of the corms a piece of root had grown, this the professor took off and planted it partly above and partly below the soil. After several weeks the side of the root which received the most light began to develop into a leaf-like body which carried on the function of assimilation perfectly. When this took place new roots were formed, and subsequently four more leaves.

Accident in the Cricket Field.—Mr. Thomas Button, for some years a departmental foreman in the establishment of Mr. James Walker, Ham Common, Kingston-on-Thames, met his death on June 25th, while having a turn at batting on the common. He was not a regular cricketer, but having finished his dinner, went on to the common, where some of his assistants were playing, and wishing to try his hand at batting, was served with a few balls, one of which struck him behind the ear as he was turning his head on one side. He fell and very soon expired, causing great distress amongst his assistants, but particularly to the bowler. At an inquest a verdict of accidental death was given. Deceased was thirty years of age and leaves a wife, but no family.

A Sparrow-Hawk's Speed. —"The sparrow-hawk does not more than any other like a long 'stern chase,' but prefers to attack with the advantage of a surprise when darting from a tree or around the corner of a wood, or when stooping with splendid speed from a poise several hundred yards above the grounds." So writes Mr. C. A. Witchell in the current number of *Knowledge*, under the heading, "The Relative Speeds of some Common Birds," and he goes on:—"We, seeing a finch or a starling taken in a moment, often do not weigh the fact that the victim was hardly on the wing, and probably rising, when the bird of prey came like a whirlwind and overwhelmed it. Even if the hawk discovers its prey when traversing the country at a lower elevation, it has still the power of a fair momentum to take full advantage of the chance of a swooping rush at the prey, which is probably on the ground. Of course, when a rook is watched chasing a sparrow-hawk across the sky, there is nothing to show that the latter is seriously trying to fly at speed. On the contrary, it generally seems in such a case that the hawk is relying mainly on its soaring powers to avoid the attack. And it is remarkable indeed with how little apparent effort the hawk will soar up and up from the rook, which, all the while, is obviously exerting itself frantically. On the other hand, it is generally to be seen that when the birds are flying at a level, the rook has no difficulty in overtaking the hawk, who, after a turn or two, begins to go up, as already stated. The kestrel seems more often to evade its enemies by a turn of speed, though it also takes to the soar readily. Last autumn I saw a fine female kestrel harried by two peewits, which swooped at it alternately very prettily and with surprising persistence. At last the hawk, seemingly tired of 'putting out' (as a falconer would say) these active birds, went straight ahead, apparently as hard as it could; and then one could see that the peewits were not able to overtake it, though they followed to some distance. The same thing happened with the crow: the latter chased the hawk, but was at last outflown in a sheer straight flight."

Hellebore Powder is an effective remedy for all insect pests, and if dusted on plants will prevent butterflies from laying their eggs on them.

Messrs. Webb & Sons at Wolverhampton.—At the Wolverhampton Floral Fête on Tuesday last, Messrs. Ed. Webb & Sons, Wordsley, Stourbridge, were awarded a large Gold Medal for their splendid floral display, and likewise an Award of Merit.

A Mimetic Pelargonium.—No doubt many of our readers have either heard of or have seen the Cactus Pelargonium. Now we have another which closely mimics or resembles a Pink, a laced Pink to wit. It is an Ivy-leaved Pelargonium, with semi-double flowers, the petals of which are toothed at the apex, so that we fear the florists will disown it for that flagrant disregard of their canons. The petals have likewise a scarlet lacing round the apex and some of them have a crimson blotch at the base. It is named Mrs. H. J. Jones, and appeared in the exhibit of Mr. H. J. Jones, Ryecroft Nursery, Lewisham, at the Drill Hall, on Tuesday, the 2nd inst. Having carried away a bloom in our coat, almost everyone who saw it took it for a small Pink until the calyx at the back of the flower revealed its true nature.

St. Andrew's Horticultural Association.—This association, which also embraces Gorleston, Southtown, and Cobholm, is to hold its first annual show and fête at Gorleston on August 15th. There are 350 prizes offered, which give a great chance for the amateur competitor, who ought to turn in upon full force, seeing what a populous district it embraces, and most fishermen have a good garden. A large number of special prizes are offered by the following individuals and firms.—His Worship the Mayor; Messrs. Daniel Brothers, Ltd., Norwich; Messrs. J. Carter & Co., High Holborn, London; Messrs. Brunning & Co., seed merchants, Yarmouth; Messrs. Lever Brothers, Ltd., Port Sunlight, Cheshire; Mr. W. Poole, Gorleston; Mr. R. J. Disney, Bradwell; Mr. W. Herbert, Gorleston; Mr. W. J. Benns, Yarmouth; Mr. G. N. Spencer, Gorleston; also Messrs. J. Tolver Waters, H. A. Blagg, E. Palmer, S. W. Benns, T. Saul, Mrs. W. W. Cook, and the Rev. Forbes Phillips.

United Horticultural Benefit and Provident Society.—The monthly committee meeting of this Society was held on Monday evening last at the Caledonian Hotel, Adelphi Terrace, Strand. Mr. C. H. Curtis occupied the chair. The minutes of the last meeting were read and confirmed. Seven new members were elected. Nine members are on the sick fund at the present time. Mr. John Fairey (No. 239) was granted £1 10s. from the Convalescent Fund. A letter of thanks from Mr. George Clinging for assistance from the Convalescent Fund was read. A cheque for £6 5s. 11d. being the amount standing to the credit of the late Richard Smart (a lapsed member) was granted to his widow. Cheques were granted to Messrs. G. Mouland and J. M. Barry, being quarterly allowances from the Benevolent Fund, also cheques for Messrs. Pollett's account and the secretary's salary. The treasurer reported that he had £187 3s. 6d. in hand. The proof for new rule books was then gone through and passed for the printers.

Workmen's Compensation Act.—During the past few years the methods of agriculture have so changed that they are now in a large part mechanical, and the introduction of machinery has brought additional risks to the farm servant. A man who was a few years ago a simple ploughman is now required to be more of an engineer, and this being the case the Legislature is of opinion that the time has come when the protection afforded to other workers should now be extended to workmen in agriculture. The expression *agriculture* includes horticulture, forestry, and the use of land for any purpose of husbandry, inclusive of the keeping or breeding of live stock, poultry or bees, and the growth of fruit and vegetables. The Act came into force on July 1st, 1901, and is without doubt a great boon to gardeners, etc., but will not of course meet the approval of their employers. Whether they approve of it or not they will now have to pay heavy compensation for injury in case of accident. All the conditions and working of the Act can be obtained in pamphlet form from Mr. John Griffiths, solicitor, The East Gate, Chester.

Preservation of Wild Birds.—The number of useful birds that are destroyed on the Continent has begun to have a detrimental effect on agri-horticulture. In many countries legislation has been brought to bear on the subject, and every means is being adopted to again encourage the useful feathered friends of the crops.

Honour to the Brave.—Amongst the many young gardeners and men connected with the agri-horticultural trade who have recently returned from the seat of war, none have had a more enthusiastic reception than what was accorded to Corporal James W. Watt, of the Lothians and Berwickshire Yeomanry. The gallant young corporal is the eldest son of Mr. James Watt, J.P., the head of the great Carlisle seed firm known as Messrs. Little & Ballantyne. When he arrived at Carlisle he found

Polyantha Rose Miniature.

an enthusiastic crowd awaiting him, who quickly unharnessed the horse in the cab which was to convey him home, and hundreds of willing hands dragged the cab round the town. Corporal Watt in a few well chosen words thanked them for the honour they had done him, but although he felt proud of his reception his heart was full to think of the many old friends he had left behind him never to be seen again as they had fallen in the great fight for their country. Mr. Watt senior, in response to loud calls, assured the gathering that it was the proudest moments in his life, but he hoped his son would now turn his sword into a ploughshare, and would succeed him in the business and be their neighbour for a great many years. He concluded in the true John Bull style of inviting everybody to come and partake of refreshments with him, an invitation which was enthusiastically responded to.

A tree which is believed to have its roots in an old nest, may be seen growing from near the top of a very high mill chimney in one of the main streets of Dover.

The Future of our Parks.—Parks, as a rule, are provided to keep the people in good health, and are often known as the lungs of a town, but Bideford people have found a new use for them, and that is as a space wherein they can beat their carpets. Thus, instead of promoting the health of the people and making a place of refuge from the dust, they are to be utilised as a medium for spreading disease, and instead of people resorting to the park to get out of the dust from the roads, they will have to go out on to the roads to escape from the dust of the park. When the matter was put before the District Council, it received considerable opposition, and after a stormy debate it was only passed by a majority of one. One councillor, during a speech in defence of the practice, said there was no other place so convenient as the park for the purpose, and as many a poor man earned a little extra money by beating carpets, if the Council prohibited the use of the park for that purpose, they should immediately provide a suitable place. So in the near future the Bideford people may expect to have the privilege of strolling in a park in which the air is made crisp by the flying dust and the ears are gratified by the melodious rattle of carpet beating, while under foot, instead of the ugly green grass, there will be a soft sand to walk on, much softer than that at the fashionable seaside resorts. We think there are great possibilities in the scheme, of failure we mean, of course.

Publications of the Syndical Chamber of Belgian Horticulturits.—In a pamphlet before us we note that the above society has published accounts of their various proceedings during 1900. On the left hand page the report is printed in Flemish, and in French on the right hand page. The pamphlet is published from Ghent, the headquarters of the society. The first account relates to the proceedings and the situation of the Syndical Chamber of Belgian Horticulturists during 1900, and is described as the report of the permanent committee. This is followed by the report of the commission of the monthly horticultural exhibitions; the statutes; the bye-laws of the office for the settlement of instruction and disputed points; the regulations for the exportation of living plants to the United States of America, &c. At the end of the pamphlet is an account of the monthly horticultural meetings held during 1900, including the various awards made by the jury. The Certificates of Merit granted for plants are fairly numerous and recorded under each month, commencing with January. Some of the plants mentioned are known on this side of the German Ocean, and, no doubt, many of them have since found their way to our shores. Orchids come in for a large share of attention, particularly Cypripediums, Odontoglossums, Cattleyas, Laelias, Miltonias, &c. Anthuriums come in for a greater share of attention than in this country, where nurserymen never seem to have been very active in raising them. Other plants have been honoured by Certificates for Culture, the equivalent of our Cultural Commendation; also for culture and flowering; and for the variety. The award of "Honourable Mention" has no exact equivalent on this side of the water. Certificates of Merit are also granted for the novelty of the respective plants shown. Lists of the various members of the society are also given, including honorary and corresponding members, and corresponding societies. The secretary is M. Henri de Wilde.

POLYANTHA ROSE MINIATURE.

Amongst the many pretty garden Roses that claim attention at the present time is the variety under notice. The small flowers are pale rose when they open, fading to white with age, and as the plant is very vigorous they are produced in great profusion. They are also charming in the bud state, just as they show their brightest yet delicate colouring. Besides its use for covering walls, fences, pillars, the front of cottages, &c., the variety is also suitable for forcing in spring, either for cut flowers or conservatory decoration. It was sent out in 1885, but might be more frequently seen than it is. The accompanying illustration shows a spray of it.

DELPHINIUMS FROM LANGPORT.

MANY gardeners have seen and most have read or heard of the splendid exhibits of perennial Larkspurs or Delphiniums exhibited at public shows by Messrs. Kelway & Son, Langport, Somerset. As a reminder of the flowers in season, the firm just mentioned has sent us a boxful of spikes of these glorious modern forms of Delphinium. Twenty to thirty years ago connoisseurs of this class of flower were busy collecting the double forms which then prevailed. They were double in the truest sense of the term, for the flowers were densely packed with petals, but the individual flowers were like tiny buttons. Most of the named varieties sent us were semidouble with huge flowers, which Messrs. Kelway have now led us to expect in a Delphinium. As they commence to bloom pretty early in June, the flowers sent us practically represent the end of the first period of blooming, yet the individual flowers measured 1½ in. to 1¾ in. across, and these being closely arranged in spikes we have in them grand pillars of bloom fit for the King's garden and eqnally at home in the cottage garden, to which we hope they will presently spread to swell the floral pageant of June and July.

SEMIDOUBLE VARIETIES.

Many of the semidouble varieties have two colours in the flower, some of them three. One of the most charming was that named C. B. Fry, having the inner sepals rosy mauve, and the outer ones rich clear blue. The small central petals are black but mostly absent, only a stray one showing itself occasionally. Somewhat similar was Wonder, but the centre was occupied with a great bunch of small black petals. The dark blue sepals of Imperial Majesty were nearly hidden by the broad rich purple inner series, the petals being almost obliterated. Britain's Pride was a charming light coloured variety, with the mauve inner sepals nearly hlding the dark sky blue outer ones, while the small petals were white, variegated with yellow and manve.

One of the very finest of the dark ones was that named Lord Chesham, with dark blue-purple inner sepals, the dark blue outer ones rivalling the colour of the Gentian. The flowers stand well in the cut state. John Thorpe was a little paler, but, nevertheless, a very dark flower, the small white petals being bearded with yellow as in Lord Chesham. The Rev. J. Stubbs had the blue and purple of the inner sepals more intimately blended. Some of the small central petals were of the palest lilac, and the rest black—a strange combination indeed. The dark purple and blue of St. Paul was fairly evenly balanced and brightened by the yellow-bearded, white petals in the centre. The large flowers of Captain Lambton had the dark purple and blue about equally proportioned on the inner face of the sepals, the black petals being bearded with yellow. The lightest coloured of all the varieties sent us and the most distinct in its way was that named General Baden Powell. The inner sepals were of a soft, rosy mauve, while the outer ones were several shades paler and tipped with sky blue. As a Delphinium, this has almost discarded the blue colour so common to the race, yet we consider it a beautiful contrast to the others and indispensable to a good representative collection. The blue tips to the outer sepals give the impression of a Picotee edge at a short distance away.

SINGLE VARIETIES.

Qneen of Huish is not decidedly single, but forms a connecting link between the two groups. The flowers have six or seven sepals instead of five, and the supernnmeraries are dark pnrple, leaving much of the brilliant blue of the rest of the flower exposed. The darkest of the truly single varieties was J. S. Sargent, a dark indigo blue flower, with two blue-purple sepals, and a good brush of black petals bearded with yellow on the centre. The lightest of all the singles was Ragged Robin, of a pale sky blue with a tint of mauve in the fading flowers, the small petals being white, bearded with yellow. It is merely a matter of taste, but we should rather prefer Captain Holford having two or three of the inner sepals of a soft mauve, contrasting beautifully with the pale sky blne of the rest of the flower. In this case the small petals were black, and bearded with yellow, making on the whole a choice and delicately coloured variety. Miss Gower was modelled on the same plan as the two just named, but the two leading colours were several shades darker, the inner sepals tinted with blue, and the small petals white with a yellow beard. This and Ragged Robin might be termed bicolors amongst the singles. Amongst the doubles we should place St. Paul, Britain's Pride, Lord Chesham, and John Thorpe in the same category, the small central petals being white offer such a marked contrast to the rest of the flower. It is difficult to see where this modern strain of Delphiniums, whether single or semidouble, can be improved. Possibly Messrs. Kelway could give us some truly double ones of the same giant type, as it might improve their durability in the cut state.

ARAUCARIA BIDWILLII.

THE greenhouse forms of Araucarias are amongst the most ornamental of green foliage plants for house furnishing when used in a small shape. This is seen by the frequency one meets with A. excelsa and its glaucous form. But the kind above named is seldom met with, although it was introduced from Apetal in 1840. It is quite distinct from A. excelsa, more graceful and has not the flat branches that A. excelsa has. The pins are prickly, and if caught loosely in the hand quite hurt it.

We have a pair of plants growing in 12-in. pots in the clolsters. They are about 8 ft. high, and are of a glaucous green colour, drooping down over the pots. The wood of the stem is a nut-brown, and when the bark scales off the surface beneath is very shiny-brown.

It is much slower in growth than excelsa. Our plants are from twelve to fifteen years old. These Araucarias are to be recommended for cold structures, where the frost is just excluded. As showing they bear confinement, these remain in our cloisters nine months out of the twelve. Although most useful in a small shape, they are equally beautiful when planted out in a bed of soil in a cold house, as they attain to 50 ft. high.—*J. C., F., Chard.*

ANTHURIUM SCHERZERIANUM.

THE numbers of stove plants now in cultivation are legion; but the number of really good ones which are at the same time of easy culture, is not so numerous. The above mentioned useful and interesting plant may, however, be included amongst the easily grown and also valuable species, as it may be grown by any one who can command an ordinary stove temperature. It thrives best in a compost of fibrous loam, peat and sand, mixed with a little charcoal and broken potsherds; and requires plenty of drainage. After it has been potted into this compost glve it plenty of water and it will grow splendidly without any extra trouble. The magnificent and unusually attractive scarlet spathes of the plant are very pretty amongst the other objects in the stove; and either cut or on the plant, they endure the trying atmosphere of rooms for weeks without showing the least sign of injury. It can be raised from seed, but dividing the old plants when they are repotted is the best way to multiply them. There are a number of varieties in commerce, the flowers of which both differ in shade of colour and size, but the large and deep coloured sorts are to be preferred, as they do not require much shade in summer, except in very bright weather. They are sometimes molested with aphis, but their thick leathery leaves can be easily cleaned with a sponge, soft soap, and tepid water.—*J. C. Dick, The Gardens, Champfleurie, Linlithgow.*

LAYERING CARNATIONS.

No time should now be lost in commencing this very important operation, because some varieties of Carnations are very shy in producing roots, and therefore require a greater length of time to root properly. The plants that it is intended to layer (we will assume) have been exposed to the sun for some time, so that the wood will be more robust, as this is a matter of vital importance. Before starting to layer, a compost should be prepared, consisting of equal parts of good loam, leaf mould and sand passed through a fine sieve. All the leaves up to the third joint from the tip should be cut away, the spent soil removed from the pot to the depth of 3 in., and some of the fresh soil placed in the pot. Then by means of a sharp knife make an even slit from one joint to another, taking care not to cut right through the wood. The tongue so formed will eventually put forth roots. It must be placed in the fresh soil, and pegged down to keep it secure. Some use wire pegs, but I prefer those made from the common Bracken Fern. After all are layered, they shonld be slightly covered with fresh soil, and well watered with a rose watering can. Attend to them in the matter of watering, and in about a month or six weeks the majority will be rooted; they should then be lifted and potted into 60's.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

CARNATIONS.

THE Carnation is one of the most beautiful flowers of the garden. A fine display can be obtained from seedlings but seed should be saved from the finest varieties. The flowers should be cross-fertilised. This is done by using the pollen of flowers of a decided colour. The seed should be sown about the beginning of April, and when large enough planted out in deep rich soil 14 ins. apart, so that the plants have a full season to make their growth. They will begin to flower in July the following season. Plants can also be raised by layering now (July) and by October they shonld be well rooted, and should be planted out 14 in. apart where they are to flower. They should be planted in masses, so that a group of one colonr is obtained. In some places they do not stand the winter well out of doors; in those places it will be better to pot up the plants in 2½-in. pots, and place them in a cold frame. The lights may be kept close for about a week bnt when fresh roots are formed they should be removed whenever the weather is favourable. They shonld only get sufficient water to keep the soil from becoming dust dry. They should be planted out about the end of March and treated the same as those planted in October. Four good kinds are Duchess of Fife, pink; Raby Castle, pink; Mrs. Muir, white; Uriah Pike, crimson.—*F. Ross, Strathtyrum Gardens, St. Andrew's, N.B.*

THE DESTRUCTION OF CODLIN MOTH.

THE best, and in fact only effectual method of destroying these caterpillars is by poisoning their food, arsenic being generally used on account of its cheapness, either as Paris-green, London-purple, or lead-arsenate. The first two should be obtained as paste, using 1 lb. to about 200 glns. of water. About 2 lbs. of quick lime added will greatly diminish the risk of scorching by these insecticides, by neutralising any free acid there may be in them. The lead-arsenate, which is the best of the three, because there is no risk of scalding, is prepared in the following manner:—Dissolve 4 ozs. of sodium-arsenate in water in one pail and 12 ozs. of white commercial lead acetate in another; then add the sodium-arsenate to 100 glns. of water and stir well, afterwards adding the lead-acetate and stirring well again, mixing also with it about 2 lbs. of agricultural treacle to make it sticky. Apply as soon as the buds break in spring, when a large number of winter moth larvae will also be killed, and then again as soon as the flowers fall so that the insecticide collects in the "eye" of each Apple, thus poisoning the spot at which the young larva usually first attacks the fruit. Whenever using arsenates of any kind always be very careful to put away safely any that may be left over, as they are very deadly poisons.—*C.J.G.*

BEGONIA GLOIRE DE LORRAINE.

THIS beautiful Begonia should be grown more than it is; flowering at a time when bloom is scarce, with its rosy-carmine flowers, it has a very pleasing effect. It is a continuous bloomer, very useful and conspicuous. This Begonia is propagated by cuttings of young shoots from the bottom of the plant; the top growths do not make such good specimens as those from the base. These should be inserted in small pots, in equal parts of peat, sand, and leaf soil, and placed on a hot bed, or on a shelf in the stove until rooted. Pot up again in 60's when large enough in a compost of equal parts loam, peat, and leaf mould, with enough silver sand to keep it porous, and grow on in the intermediate house. Finally pot into 48's, affording them good drainage; and if suspended from the roof, or placed on the stage, they are sure to please the most fastidious taste. Keep the plants on the dry side, and they should be stopped, and all flowers taken off until the

autumn. Having finished flowering in the spring, take off the tops to excite growths from the bottom to make plants for the following season. There is also a white variety, viz., Caledonia.—*Wargraveian.*

SOUVENIR DE LA MALMAISON CARNATIONS.

To secure good plants of these before the autumn, layering should be done as soon as flowering is over. Select the strongest plants, and thin out the weak growths, at the same time removing the lower leaves from the ones intended to be layered, and stand them outdoors for a few days to get hardened. In most gardens it is the practice to layer them in frames, but we have obtained far better results from the following mode of treatment: Select a piece of ground, any position will suit them, providing it is in partial shade; turn the plants out of the pots, and plunge them sideways to such a depth that they are low enough to be tongued in the usual way, place a little mound of soil consisting of two parts loam one part leaf mould, round each plant, making each layer firm with a strong peg as the work proceeds. The old plants should be well watered before turning them out of the pots, and water with a fine rose can after the layering is done. Syringe them frequently; and never let them get dry at the roots. In a month or six weeks you will have fine sturdy plants, large enough to be potted into 5-in. pots.—*Walter Hopkins, Leighton, Westbury, Wilts.*

A MONTH OF PLEASURE.

July is more or less a month of rest and pleasure to the horticultural world for most of the hard work has been completed and the labour of the winter and spring deserves to be rewarded with rich and refreshing results. The flower garden is looking its best, the Rose border is most glorious, and the soft green, velvety lawns are thanking Nature for the recent rains. The herbaceous borders are presenting a grand and stately appearance, while the Carnation beds are just revealing their glory to the world and clusters of sweetly-scented Peas are displaying shades from the purest white to the deepest scarlet. And all this out of door splendour will be rendered more exquisite if the sunny weather prevails. The conservatory, too, is magnificent with its Liliums looming from banks of Spiraea, and the lovely-coloured Gloxinias, proudly peeping above delicate carpets of Maidenhair Ferns; and everywhere are arranged Balsams, Fuchsias, Campanulas, tuberous Begonias and Palms, while hanging from the rafters are baskets of Asparagus, Fern or Davallias twisted into all manner of curious shapes. Who now can, after seeing the glories of Nature in full swing, dare to despise the sunny days of July, which will be followed by weird autumn tints?—*G. W. Dickson, 107, Belsize Road, W. Hampstead, N.W.*

ANTHROPODIUM CIRRATUM.

This plant belongs to the Lily family, is an herbaceous perennial and resembles Chlorophytum in habit, requirements and foliage. The leaves are about 2 ft. in length and 2 in. broad, and the flowers to the number of sixty or seventy are borne on a panicled inflorescence about 2 ft. high. The individual flowers are about 1 in. in diameter, the petals are pure white, with stamens delicately tinted with pink and yellow. It will now have finished flowering (it is at its best in June), and if grown in pots these should now be placed outside in a sheltered position, or in a spare frame if possible without lights and plunged in ashes; previously potting all those which require it. It should have a free allowance of water and should be syringed freely, which will keep down green fly, about the only pest which troubles this plant. It is easily propagated by seeds which it produces freely, or by division which is the best method. The old plants should be split up after flowering, and each growth potted in a 4-in. pot, using a light mixture of loam, leaf-mould and sand. They should be kept close for a few weeks until established, when they could be placed with the rest of the stock, bringing them to the shelter of the greenhouse in the autumn as they are not at all hardy.—*F. W. M.*

Sixty Three Per Cent. of the surface of Spain is wild and barren land.

THE PLANT HOUSES.

This is generally a dull time under glass; there is so much to be seen to outdoors, that the plants that delight the eye in the winter are now almost forgotten. Although they are overlooked by many sightseers they must by no means be so treated by their attendants, for it is now that many plants are busy building up sound shoots to bear the blooms in the dull season, and need a large amount of skilful attention.

Gloxinias.—Probably no flower from the stove has been more popular during the past few months than this handsome free-flowering Gesnerad. It is a flower that has been wonderfully altered by the skill of the florist since it was first introduced from South America. The original form, Gloxinia speciosa, had a deflexed tube, which considerably handicapped the flower from showing the exquisite marking and harmony of colours in its throat. The race of plants with the erect tube originated in a garden sport which showed that characteristic. The endeavours to perpetuate this feature were successful and the result is the remarkable forms which have been gracing shows throughout the country for the past few years. A great mistake is often made by drying them off too rapidly, which inevitably injures the corms. So long as there is any vitality left in the leaves the soil must not be allowed to get dry or the corm is very liable to be attacked by the destructive dry rot. Many people rely on seed for increasing their stock, but this is very risky when it is desired to keep them true. A far better way is to make leaf cuttings. There are not many plants which lend themselves to this method of propagation more readily than the Gloxinia family does. Some people prefer to use the whole leaf and a small piece of the stalk with it, but when the stalk is allowed to remain they are most liable to rot. All they require is that the main ribs should be cut three-parts of the way through and the leaf pegged down firmly on compost of light, sandy soil and placed in a warm, but not too moist atmosphere. A plan resorted to in establishments where a large stock is required is to cut the oldest and firmest leaves into sections about 1 in. square and then insert them as cuttings in shallow pans. They should be dibbled into about half way. They strike very freely in this way, if care is taken in their preparation and they are not kept too wet. By starting them in successive batches, a succession of bloom may be obtained throughout the summer, especially if they are transferred to a cool house to finish their blooming, and the old blooms are cut off as soon as they are past their best. They are helped considerably during their flowering period by an occasional application of manure water made from sheep droppings. It should not be too strong and should be continued for some time after flowering to help to make a good corm.

Achimenes.—A good companion to the handsome Gloxinias is this closely allied genus. Those who started their plants early have now a good show of bloom if they have been careful in their management. To get them in flower now they should not be started later than the end of February. They are best started in pans of very light soil, and then transplanted into whatever they are to be grown. Nowhere can they be seen to better advantage than when in baskets. Some should be encouraged to grow through the bottom, and with those that hang over the sides a pretty picture is made, which will last for many weeks and come in very useful towards the end of the summer when there is often a lack of flowering stuff. They are very susceptible to the attacks of red spider, and must be frequently syringed, for if once it gets a hold on them it is almost impossible to eradicate it. Like the Gloxinias, they may be kept much longer in bloom by transferring them to a cool conservatory where they will get plenty of air and protection from direct sunshine. They should be fed both during the time they are in bloom and for some time after, until they show signs of going to rest, when they should be allowed to die down naturally, but by no means try to force them to die down or next year's crop of bloom will be forfeited.

Azaleas.—These should all have finished their growth by now, and will be greatly assisted in the ripening of it and the setting of their buds if they are placed outdoors in a sheltered position, but one which is fully exposed to the sun. Many people make a great mistake when their plants are outside by neglecting to syringe them, especially if it is showery weather. Red spider is not much affected by rain, as it generally selects the underside of the leaves, and thus when rain is allowed to take the place of the syringe they can multiply without interference. When they are syringed they are often only wetted over head; what is required is a thorough, close, upward syringing with the nozzle on.

Camellias.—Those plants which are of such dimensions as will allow of their being moved will ripen their wood much better if placed outdoors for a month or two now. Even if they are some trouble to shift, the result on the plants' constitution will amply repay the labour, for they will not be so likely to drop their buds, a habit they have when the wood is insufficiently ripened. Manure water should be given at intervals, but it must be very clear, so that it does not clog the soil, as Camellias do not like to be repotted too often.

Propagation.—Now that the propagation cases are somewhat empty, such plants as Codiaeums, Dracaenas, &c., may be readily struck in light soil without any trouble.—*C.*

Hardy Fruit Garden.

One of the chief things that seems to be occupying the spare time of the gardener is the summer pruning of fruit trees. Where disbudding has been carefully carried out there is not so much need for the knife and shears, but where the growth is in the least inclined to be crowded the superfluous shoots should be shortened back to about six leaves. This will leave more space for the useful wood to develop and allow the air and light to penetrate to it to ripen it. If it is not thoroughly ripened it cannot be expected to bear very much fruit. Wherever the fruit is hid by the foliage it should be exposed by either tying back the foliage, or if it will allow it, cut it out altogether. There is not much need to thin crops in many parts of the country, but where the trees are over-loaded it should be carried out.

Pears.—When summer pruning of these is started care must be taken not to cut them in too close as the buds will push into growth and thus destroy the prospects of next season's fruit. They should never be cut in closer than to six or eight leaves, the spur may then be shortened in the winter.

Plums.—Disbudding should always be practised as far as possible as no fruit tree in the garden is more impatient of the knife than what the Plum is. If cut about much it often has a tendency to gum, or if checked too much it has a nasty habit of disposing of its surplus sap by forming root suckers. Many trees are benefited by applications of liquid manure during the growing season, but this must be used very judiciously where Plums are concerned as they soon run away into vigorous sappy growth, which is an undesirable feature in all trees, whether they be fruit or ornamental specimens. When they are planted against a wall they are more liable to make these rank growths than when planted in the open. The only remedy is to check their progress and endeavour to distribute the sap more evenly. Those shoots which it is intended to retain on the tree should be carefully fixed in their positions as they grow, for if left for any length of time they are sure to grow away from the wall and will be difficult to bring back again without injuring them.

Peaches.—The growths which are left on Peach trees are often too numerous to tie or nail in individually; when this is the case they may be fixed securely and neatly in their positions by pieces of thin Willow about 1 ft. long, or by pieces of Philadelphus. These should be put across from branch to branch of the secured ones and thus hold the young shoots in position under them. It is a very simple process, and when the tree is taken down and pruned in the spring they will be found much more handy to deal with than what nails and shreds would be, and as economy is always a recommendation they will be found much cheaper and quicker than nailing.—*F.J.*

Twenty-Three Per Cent. of British farms are below five acres in extent. Less than one per cent are over 500 acres.

Hints for Amateurs.

Care of Plants During Holidays.—This is often a bad month for the flower garden, not through the weather but through the negligence of the owner. July and August are essentially holiday months and some grim contrasts may be seen every day, especially at the London termini, of beaming faces, happy at the thought of leaving the scorching city for the cool and refreshing seashore, and the hurrying throng hustling and perspiring and not daring to give their mind to such a luxury. When these people go away they find time in the general hurry to pack off all the family pets into neighbours' hands, but somehow, the poor flowers which have as much life and are as easily injured by neglect as the pet "pug," are forgotten in the scramble. It may seem strange but there are few exceptions to this rule. A thoughtful housewife will sometimes give a thought to her favourite house plants, and try to mitigate the evil results of long absence by standing their pots in several inches of water. This practice cannot be too strongly condemned, for if the roots are left for a time submerged in water they are bound to rot. Another plan is to draw down all the blinds and leave the plants in semi-darkness; those who have done this know the result too well to do it again, for those plants with small leaves generally show their resentment of such vegetable barbarity by dropping the whole of their leaves, and those with larger ones, such as Palms, Aspidistras, &c., manifest their dislike for such treatment by assuming the most sickly colour possible, and often succumbing to the effects when winter comes on. The question naturally arising "How shall we treat our plants?" I will deal with the principle of watering first. If you do not care to trust them to the tender mercies of a neighbour, or a plant nursery is not within easy distance where you can have your plants looked after by skilled hands for a very small charge, you should give them a thoroughly good soaking with water by allowing them to stand in a pail for several minutes. After they have been allowed to drain for a few minutes they should have their pots buried to about 1 in. above the surface of the soil in moist sand, but not so moist that the water will run from it and become stagnant in the bottom of the box. Treated thus they will remain for several weeks without requiring attention, that is, if they are not in a hot or draughty place. Of course it is a recognised rule to draw down the blinds when the house is shut up, but the difficulty may be surmounted by putting all the plants in a light upper room. Then there are the outdoor plants, which generally have but one chance, and that is that rain comes to their assistance; and it is almost certain that they would be denied this chance if their owners were consulted about the disposal of the rains during the weeks they are holiday making. Give the beds a thorough soaking again and again as late as possible before leaving home, and then when the water is settled down sufficiently to leave the soil workable stir the surface with the hoe. This will be a great aid to check excessive evaporation.

Mulching.—All choice plants should be mulched, that is, their roots covered by an inch or two of decayed leaves or manure if they are liable to suffer from drought.

Lilies, especially Lilium auratum and such species as L. longifolium, which not only easily suffer from drought but are very liable to suffer from heat at the roots, should be mulched. If success is to be obtained in outdoor Lily culture, they must be kept cool at the root and also moist, but not too much so or they will rot. As mentioned before, they are best planted in a rich, light soil amongst low, open bushes, but where suitable bushes are not available, they can be grown to perfection, with a little additional trouble in open beds. I must again point out the mistake which is too often made by professional gardeners, and that is having too much fresh manure in the soil. The roots emitted from the base of the bulbs should never come in contact with fresh manure, but should have a light, sandy soil to ramify in. The roots which require the manure are produced from the base of the stem, and are only just below the surface of the soil; these are the main feeders of the plant and must be well catered for, as not only have they the duty of supplying matter to the growing stem, but they have also to supply matter to be elaborated by the leaves and stored away in the bulb for use during the next season.

It is these surface roots which are liable to suffer from drought more than those at the base, whose chief function is to assist the bulb as a storehouse for food. I recently saw some plants of Lilium auratum growing in a novel and picturesque position; the bulbs had been planted in tall drain pipes, which were stood on either side of the back door of a suburban villa. The pipes were hidden and protected from the sun by having some of the luxuriant growths of a creeper trained over them. The plants were in a flourishing condition, and an inquiry elicited the information that they were from bulbs of the owner's raising. It was five years since he first bought his stock of three bulbs, and from these he now has not an extensive collection, but certainly a good many, and it was with no small amount of pride that he remarked, "If these two youngsters produce as many blooms as their sister bulbs did last year, it will mean a round dozen blooms on each plant," and certainly there was every appearance of his expectations being realised. He informed me that it was always good soil which he used, a bushel of which he purchased for his numerous pipes every year from a neighbouring nurseryman. The pipes were three parts filled with stones and crocks, and the remaining portion was filled with light soil. The bulbs when put in were placed on a layer of silver sand, 1 in. thick, and then covered with soil to the depth of 2 in. above the crown of the bulb. The result has so far been so gratifying that I urge all readers of these columns to try the plan. One thing must always be borne in mind, and that is, keep the pipe shaded so that the roots can remain cool, and also see that the drainage does not get stopped up. If you select your own soil, be careful what loam you choose, for new loam is often infested with wireworm, and as they evince a special liking for Lilies one or two in the soil will soon make their presence felt, but not until it is too late to save the growth. Whether it is new or old loam, it will always pay to examine it carefully to see if there are any of these pests in it. Another thing that must be guarded against, especially when the pipe is trailed by creepers, is the depredations of creeping marauders, such as snails and slugs. A good plan to keep them off is to syringe the foliage with some quassia compound or keep the surface of the soil and the bottom few inches of the plants sprinkled with soot or soot and lime mixed in equal proportions.

Roses After Flowering.—When the Roses go out of flower, no further attention is given them, as they are generally considered finished for the season, and call for no further attention. This depends upon the kinds. The old fashioned garden Roses, such as the Damask, Provence, Cabbage, and similar sorts with their varieties bloom only once a season. The hybrid perpetuals or many of them bloom a second time in September or even later. The Tea and hybrid Tea Roses are most persistent bloomers, keeping on till frost cuts them down There can be no object in keeping faded Roses, and less necessity for retaining the fruits, so that whenever they go out of bloom the stalks with the faded Roses should be cut down to a good side bud but no further. Loosen up the soil and cover it, if not already done, with stable manure of any kind or in any state compatible with tidiness. Grass mowings will answer in the absence of manure. This done, give the Roses a good watering, and they will start into growth again and flower more or less abundantly according to their kind from September onwards. Those who have a difficulty in flowering their Roses a second time should plant some of the hybrid Teas.

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Passion Flower with Edible Fruits. — *Upton*: Passiflora edulis is the name of the Passion Flower which bears the edible fruits. The flowers are blue and white and the fruits a dull purple colour. It grows best in a light greenhouse, and delights in a rich soil with plenty of manure water while growing. It is a very vigorous doer and will quickly cover a large space on a greenhouse roof, and not only cover it, but make a pretty picture in doing so. A good companion for it is P. sanguinea, which has a crimson, violet and white flower.

Climbing Fern.—*Fernery*: For an intermediate fernery we should recommend you to get either Lygodium japonicum or L. scandens. Both are easy to grow and may be obtained very cheaply in the markets. They require about the same treatment as ordinary Ferns, but must be kept syringed or they will become eaten up with red spider. They are invaluable for training up unsightly pillars in the fernery or warm greenhouse. A rich light soil suits them best.

Isolepis gracilis. — *Rex*: You will find this a very easy subject to propagate, and if you have a few large pots you will have no difficulty in raising sufficient to make a big batch for next summer. The best time to set to work is in the spring, just before it starts into new growth. But you can pull it to pieces now if you are careful about the after treatment and do not allow it to suffer from drought. All it requires is turning out of the pot, pulling to pieces and potting up the divisions in small pots of light soil. If a little higher temperature than that of the greenhouse can be afforded when they have been divided, they will start away much quicker. They are very susceptible to drought and will not thrive unless plenty of moisture is given to them when the pots are full of roots.

Hydrangeas.—*Butler*: From now until the end of August is the best time to take the cuttings. They should be of half ripened wood and about 3 in. long, with all but the top leaves removed. They strike best in a little bottom heat and must be shaded from the sun until they have rooted. Care must be taken not to excite them into growth too soon or they will soon become leggy. When the small pots are filled with roots they should be potted on into 48's or 6-in. pots, and then induced to flower, which they will generally do freely in the spring and early summer. They must be kept as cool as possible without actual frost during the winter, but not, as is often done, also kept dry at the root.

Hibiscus.—*F.*: If you take off some of the half-ripened shoots and insert them in pots of sandy soil under a bell glass they will strike easily now.

Tomatos not Setting.—*G. D.*: By what we can gather from your account of the plants, we should ascribe the reason to too generous treatment in the way of manures. They have started into growth with such vigour that it will be difficult to check them. Thin out all the growth that is not required, and encourage the bloom trusses as much as possible. On bright days they should be gone over carefully with a camelhair brush, gently touching the centres of all the flowers. This will be of great assistance to them in setting.

Fly on Roses.—*A. G.*: A good wash to cure this is made by mixing a tablespoonful of common petroleum with a handful of soft soap. When the oil has been thoroughly kneaded into the soap dissolve the mass in two gallons of cold soft water. This will be found very effective for all kinds of blight, and unless the growth is very tender it will not hurt any trees or shrubs. If a handful of sulphur is mixed in the soap with the oil it will also answer as a check and preventative to fungoid diseases.

Dictamnus Fraxinella.—*S. S.*: This old garden favourite is best propagated by pieces of the fleshy root in the spring or by seeds. When seeds are resorted to they should be sown as soon as they are ripe. Propagation by the root is by far the best means, as they produce better plants in a shorter time.

Maidenhair Fern in Baskets.—*S. P.*: It is not a very satisfactory basket plant unless the proper conditions are available; these are a warm and moist, shady house. The plant never does well when grown in baskets in the dwelling house, and will not usually live under those conditions many weeks.

TEA ROSE MRS. B. R. CANT (see p. 737),

As exhibited at the National Rose Show in the Temple Gardens, July 4th, by MESSRS. BEN. R. CANT & SONS, Colchester

otographed expressly for
THE GARDENING WORLD.

NEW RAMBLER ROSE QUEEN ALEXANDRA (see p. 737),

As exhibited at the National Rose Show in the Temple Gardens, July 4th, by MESSRS. J. VEITCH & SONS, LTD., Chelsea, S.W.

ographed expressly for
THE GARDENING WORLD.

The best species for basket work is Adiantum cuneatum, the common variety. A far better Fern for basket work is Nepbrolepis exaltata; a basket suits it better than a pot. The best time to transfer the plants from pots into baskets is in tbe early part of the year, before they commence to make their new growtb.

ROSE REVE D'OR.

Possibly because this is a climbing Rose of vigorous habit it is less frequently found in gardens than its merits deserve. Tbere seems to us no reason wby it should not be as common as William Allan Ricbardson, also by tbe same raiser. The last named was put into commerce by Ducber in 1878. The variety under notice was sent out in 1869, and, though one of the older Noisette Roses, is still a grand variety eitber for covering a wall, a fence, or similar object with a sunny aspect. Tbe small and charmingly pretty Roses are pointed, globular, buff-yellow, and produced in large buncbes. The plant is one of the most vigorous and free flowering climbers we have, while the leaves are nearly evergreen. The flowers are useful for setting up in vases, or for covering the objects against which they are planted with a living drapery of verdure that is of an ornamental character whether in flower or not. When we speak of its being little cultivated we mean that it is popular enough in certain districts, and little known in others. In any case it is highly appreciated by many in Berkshire, probably also in tbe neighbouring counties. Even the farmers and cottagers speak bighly of this Rose, and grow it upon tbe walls of their bouses to which it constitutes a really grand object of adornment. It is also much appreciated by Mr. George Prince, of Longworth, Berkshire, wbo has also long been noted for his famous Oxford Roses, chiefly Teas and Noisettes. We are indebted to him for the photograph from which the accompanying illustration has been prepared. The huge bush is growing upon a thatched shed, and is 23 ft. long, that is from one side of the shed to the other, and 15 ft. high. It has not been subjected to any special training, but has been allowed to ramble at its own sweet will.

Rose Reve d'Or, on old thatcbed shed. Growing in Mr. George Prince's Nursery, Longworth, Berks.

ROSE QUEEN ALEXANDRA.

There have been several attempts to get Polyantha Roses, having the same general character and free flowering propensities as Turner's Crimson Rambler, but until now the so called ramblers bave scarcely come up to expectations in the matter of flowering. The new Rose Queen Alexandra is the result of crossing Crimson Rambler with tbe pollen of Rosa multiflora simplex, tbat is, the single flowered form of R. multiflora. From a botanical point of view, the additional name of simplex is unnecessary, as tbe plant is simply the wild parent of the Polyantba Roses. Queen Alexandra seems to approacb Crimson Rambler in every respect, except in colour, tbe flowers being deep rose wben they first expand, fading to pink with a light, nearly white, centre. They are produced in remarkable profusion in large buncbes. This new Rose was raised by Messrs. J. Veitch & Sons, Ltd., Chelsea, about five years ago. In the third year from seed tbe plant produced a few flowers, but young plants worked upon stocks bave grown much more vigorously and flowered profusely. Tbe original plant lifted from the open ground, and also a group of cut flowers in handsome bunches were exhibited by tbe Messrs. Veitcb at tbe Temple Show of the National Rose Society on tbe 4th inst., and received an award of a Gold Medal for the new Rose. The firm also supplied the blooms which formed part of the bouquet presented to her Majesty Queen Alexandra, who opened the show. The accompanying illustration (see Supplement) was prepared from a photograph of one of the bunches at this exhibition. We think it a lovely Rose.

The Cottage Garden.—It is as easy to create a pretty effect in a garden of twelve square yards as it is to create one in a palace pleasure ground. It is analagous to picture painting—the size of the canvas is a mere detail, it is the arrangement of the matter and the artistic harmonising of the colour which gives the effect in both instance . Just as brevity is the very essence of poetry, so may the limitation of space be contributory to tbe finest expression of gardening.

TEA ROSE MRS. B. R. CANT.

This may be described as one of the two new Gold Medal Roses exhibited at the Temple Show of tbe National Rose Society on the 4th inst. It was sbown in tbe class for new seedling Roses or distinct sports, either not yet in commerce or not distributed before November last, and was judged worthy of a Gold Medal. We first made its acquaintance on September 25th, 1900, at a Drill Hall meeting of the Royal Horticultural Society, when the Floral Committee bonoured it witb a unanimous Award of Merit. The plant is very bardy, graceful in habit, and of extraordinary vigour of growth, while at the same time it is one of the freest flowering of Tea Roses, in tbis respect excelling many of the older and well known exhibition Roses. It commences to bloom early in the season and keeps up a continual supply of bloom till frost or very cold weather puts a stop to growth. Under average conditions it may be relied upon to produce an abundance of flowers either for garden decoration or for cutting from up to the end of October. The blooms are globular, the broad, outer petals being of a rich rose, deepening more or less to salmon-red when in first-class condition, while tbe inner petals are silvery-rose, suffused with buff. On several occasions this year we have seen exhibits or vases of it put up by Messrs. Benjamin R. Cant & Sons, The Old Rose Gardens, Colchester, as at the Richmond, Windsor and Temple shows, and the accompanying illustration is prepared from a photograpb of the Temple exhibit. The flowers last well in the cut state, and the variety is bound to find its way into many gardens.

FAUNA AND FLORA OF GREENWICH PARK.

It must always be interesting to naturalists proper, as well as to all the more intelligent of the community at large, to note that the fauna of London's open spaces is not yet reduced to cats and sparrows. There are, of course, many exotic birds in the various ponds and lakes in public parks, in a semi-domesticated condition ; but that a considerable

number of British birds should still breed in the public parks is matter for congratulation.

The above heading formed the subject of a paper read by Mr. A. D. Webster, superintendent of Greenwich Park, before the West Kent Natural History, Microscopical and Photographic Society in January last. The paper is now printed in pamphlet form, and shows not only that Mr. Webster is a keen observer of plants, birds and beasts, but that he is a sympathetic admirer and staunch preserver of all these objects of natural history. No doubt many of them are on the increase through the presence of one so deeply interested in natural history and the influence he brings to bear upon all subordinates, and to some extent upon the general public which visits the park.

Upwards of 150 native plants have been catalogued as growing wild in the park or naturalised, while thirty-four out of seventy-six species of birds observed are known to breed in the park, and may justly be considered as residents. The fauna and flora bear a more or less evident relationship to one another, inasmuch as several of the plants, particularly aquatics, have evidently been introduced through the agency of aquatic and other birds. Amongst these the Water Ranunculus, Water Thyme, Service Tree (Pyrus torminalis), the Thorn Apple (Datura Stramonium), figured in our pages some little time ago, the Lent Lily, Euonymus, and various bulbs may be mentioned, and which have been introduced to the park, or from one part of it to another. The birds mentioned in that connection are the lesser grebe, moorhen, kingfisher, teal, rook, crow, jackdaw, blackbird and missel thrush. The presence of various insects would also account for the residence or the visits of certain other birds.

Mr. Webster is also of opinion that Blackheath Common was at one time covered with Heather, Broom and Gorse, the host plants of the Dodder and Broomrape; and seeing that the common has undergone vast changes and so-called improvements, Greenwich Park has become, so to speak, the refuge of these plants, the stranded remains of a flora once common to the Blackheath district. That these interesting subjects have not become entirely exterminated is matter for congratulation; and the residents of that part of London should be all the more proud of their beautiful and interesting old park, and that the superintendent should sympathetically protect what must contribute largely to their enjoyment.

RISE AND PROGRESS OF THE STUDY OF PLANTS.

SKETCH III.

THEOPHRASTUS, it would appear, was, in accordance to the knowledge of the time, a close observer of nature. Whether or not it was him who first became acquainted with the theory of grafting, it is difficult to say, but it is evident that it was a phenomenon of nature that did not evade his notice. There is every reason to believe that indeed the process of union was to him no more than a phenomenon, for like his attempts to arrange plants, his inferences and conclusions in explaining phenomena were, as would be expected, far from the mark. Still, who can deny but, defective though his efforts were, that he made a grand advance on his ancestors, and that much is in those efforts to incite our highest admiration for a man who presaged an idea that was not actually accomplished for at least twenty centuries later. Truly, Theophrastus may well be honoured with the title of "Prince of ancient botanists."

His labours are of interest only, in so far as they throw light upon the state of the study of the subject at that time. His works, though full of defects and errors, contain many valuable facts. The atmosphere in which this philosopher lived does not appear to be so favourable for the propagation of this study as it seems to have been in the time of his great master.

At any rate, he was unfortunate in making any marked impression on his successors, of the importance of the subject. Anything which indeed was acquired by himself and his forerunners would seem to have lapsed for ever into insignificance among the Greeks, after this period. But the reason is not far to seek. The disintegrating influences which ultimately overwhelmed the glorious nation of the Hellenes was already stalking about like a dread goblin.

Like many of the other arts and sciences cultivated and perfected by the Greeks the study of plants after the downfall of the empire made its appearance among the Romans. We learn from several writers of Roman literature that a considerable taste for the cultivation of plants was in evidence. Virgil shows us that agriculture was not unknown, Caesar that arboriculture was studied to some extent, and Tacitus that not only was agriculture and gardening carried on in Italia but also in the Roman provinces, Britain not excepted. He says of Britain that, with the exception of the Vine and Olive and other vegetables requiring a hotter temperature, the soil of Britain readily bears all fruits and grain, and is very fertile. "*Solum praeter oleam vitemque et cetera calidioribus terris oriri sueta patiens frugrum, fecundum*, Agricola., cap. 12." From this we necessarily infer that the Vine, Olive, and a variety of vegetables were cultivated by the Romans and their dependents. It is, however, another thing to infer the extent, if any, to which the subject of plant life was made a study. Not until the days of Discorides and Pliny, can it be said that botany engaged the attention of the Romans to any very remarkable degree. The former wrote a herbal treating of plants' medicinal virtues. The latter wrote a work which is perhaps only interesting as a source from which we get a glimpse into the ancient customs and plant knowledge of the Druids. The Mistletoe receives important attention. From this period down to the fifteenth century, the study of plants, as did all other arts and sciences, lay under the awful cloud of ignorance and superstition which marked the Dark Ages. Some are of opinion that the study of plants, during that protracted period of darkness, was nurtured and kept in progress by the Arabians and Asiatic Greeks. Among these the names of Galen, so often quoted by succeeding herbals, and Avicenna, are very prominent.

On the revival of learning about the beginning of the fifteenth century the study of plants was among the subjects which occupied attention. The works of Discorides and Pliny were studied with great zest and diligence throughout Europe. The Germans then as now appear to have entered with enthusiasm into the matter, for we find Brunfels attaining to a stage of proficiency hitherto unknown to botany. He wrote a history of plants, "Historia Plantarum." The labours and success of this botanical pioneer naturally soon roused emulation among others of his countrymen; this zeal in due course spread to other nations. Mathiolus was the first to embrace the subject in Italy, Delachampe soon followed in France; and in our own country, never slow to adopt a good thing, the names of Turner and Gerarde are familiar to all, as the pioneers of the subject. Both wrote herbals, and if they are now of little value, save for curiosity, they assuredly testify to the great labour and attention the compilers must have given to the study of plants.—*Antiquus.*

(*To be continued.*)

NOTICE OF BOOK.

CASSELL'S DICTIONARY OF GARDENING. Edited by Walter P. Wright, Horticultural Superintendent under the Kent County Council; author of "Pictorial Practical Gardening," editor of *The Gardener*, &c. With specially prepared coloured plates and other illustrations. Cassell & Co., Ltd.: London, Paris, New York and Melbourne. [All rights reserved.] Parts I. and II., price 7d. each.

The editor, in his preface, says that in adding to horticultural literature a dictionary of nearly 1,000 pages, graced with upwards of 1,000 illustrations, that editor and publishers base their hopes of success on the increased interest in gardening, the scarcity of books in this simple form, the giving of value for money, and on the "absolutely practical nature of the publication, which caters neither for the scientist nor the dilettante, but merely for the cultivator."

Two parts of it are before us, and we understand that the work will run to twenty parts, which will be bound in two volumes. A glance at the style of the dictionary will show that the name of each genus of plants is followed by a general description of the characteristics of the members it includes, then the methods of propagation, the most suitable soil or compost, and, lastly, by other cultural points, the amount of information given being dependent upon the number of species in general cultivation, or, in other words, upon their importance in garden decoration in its various phases. Below these details comes a list of the species most useful to the general cultivator, usually followed by a more or less lengthy list of species of lest importance, but usually found in one garden or another. The prominence given to the "principal" species is intended to aid the cultivator whose knowledge of plants is limited in making a selection of the best. The various species given are briefly described by means of abbreviations showing the height of the plant, the approximate period of flowering, to wit, the month, months or season, their relative hardiness, colour of the flowers, &c. The abbreviations are relatively few, and explained at the end of the preface of Part I., so that "he who runs may read." An illustrated glossary is promised at the end of the dictionary. In case of difficulties as to the correct names, the *Genera Plantarum*, *Index Kewensis* and the Kew *Hand Lists* have been consulted and regarded as decisive and authoritative.

The above information is given in a double column on each page, and the extent of the same may be gauged by the fact that the page measures 11 in. by 8 in. Each part contains a very good coloured illustration, besides numerous reproductions from photographs, all of the first order of merit. Thick, rolled paper, with a smooth and softly glossy (not shiny) surface, has enabled the printer to bring out the details of each photograph to the best advantage, thus holding the mirror up to Nature. The amount of detail that can be seen with the naked eye in a portion of the dense spike of Agave attenuata is remarkable. Photographs of the dense-habited coniferous trees also come out beautifully; while the leaves and phyllodia of Acacias, the lobing of the leaves of Maples, the small pinnules of Maidenhair Fern, the venation of Alocasia thibautiana, and the exact forms of the leaves of other plants, afford ample aid to their identification. The so-called leaves of Asparagus verticillatus are shown in wonderful *fac simile*, while the berries, not merely a half dozen, but practically myriads, are as clearly seen as the stars that stud the firmament on the brightest of nights.

Our first school dictionary cost 6d., the next ran to 5s., and in those days was considered a foolishly extravagant price for a school book, but we soon found it the better investment. In gardening books, likewise, we find that one good book, got up in the best modern style, is worth a great many small ones of limited scope, meagre in detail and devoid of attraction. This work is cheap at the price.

EXAMINATION IN HORTICULTURE, 1901.

(*Concluded from p. 718.*)

SCHOLARSHIPS.

SIR TREVOR LAWRENCE, BART., president of the society, and master of the Worshipful Company of Gardeners, very kindly offered a scholarship of £25 a year for two years, to be awarded after the examination of the Royal Horticultural Society in 1894, to the student who should pass highest, if he were willing to accept the conditions attaching thereto. The main outline of these conditions is that the holder must be of the male sex, and between the ages of eighteen and twenty-two years, and that he will study gardening for one year at least at the Royal Horticultural Society's Gardens at Chiswick, conforming to the general rules laid down there for students. In the second year of the scholarship he may, if he likes, continue his studies at some other place at home or abroad which shall be approved by the master of the Worshipful Company of Gardeners, and by the council of the Royal Horticultural Society.

A similar scholarship was presented by Baron Schröder, V.M.H., after the 1895 examination.

The Worshipful Company of Gardeners continued this scholarship to the end of 1896.

Another similar scholarship was given after the 1897 examination by N. N. Sherwood, Esq., V.M.H., master of the Worshipful Company of Gardeners.

Another was given for 1898-9 by G. W. Burrows, Esq., a member of the court of the same Worshipful Company of Gardeners.

Another was given for 1899-1900 by the Right Hon. the Lord Amherst, who presents it also through the Gardeners' Company.

Another is promised for 1901 by Henry Wood, Esq., which will be continued in 1902 by F. G. Ivey, Esq.,

both gentlemen being members of the court of the Worshipful Company.

SCHOLARS:—

1894-5-6	.. ..	Mr. W. N. Sands.
1895-6-7	.. ..	Mr. G. F. Tinley.
1897-8-9	.. ..	Mr. H. S. Langford.
1898-9	.. ..	Miss Harrison.
1899-1900	.. ..	Mr. C. J. Gleed.
1900-1	.. ..	Mr. B. Smith.
1900	.. ..	Mr. Charles H. Buck.

If the student who is at the head of the examination is for any reason unable or unwilling to accept the scholarship, it is then offered to the next highest on the list, and so on throughont the first class. And in case of two or more eligible students being adjudged equal marks, the council reserve to themselves the right to decide which of them shall be presented to the scholarship.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society on the 2nd inst.

Orchid Committee.

SCHOMBURGKIA THOMSONIANUM. — The sepals and petals of this pretty species are narrowly oblong, wavy and deep yellow. The lip is three lobed, the middle lobe being deep purple, and the side lobes creamy, tinted and streaked purple. (Award of Merit.) Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford, Dorking.

AERANTHES DENTENS.—The flowers of this curious Orchid are green or yellowish-green. The specific name seems to have been suggested by a small tooth on either side of the petals above the middle. The lip is hinged. (Botanical Certificate.) Sir Trevor Lawrence, Bart.

Floral Committee.

SCOLOPENDRIUM VULGARE SAGITTATO-CRISTATUM. —The fronds of this pretty variety have lateral lobes at the base of unusual length, spreading horizontally and crested at the apex. The rest of the edges of the frond is occasionally lobed, and the apex is heavily crested. (Award of Merit.) C. T. Druery, Esq, V.M.H., 11 Shaa Road, Acton, W.

ROSE BELLEFLEUR.—The flowers of this hybrid perpetual are large, fragrant, single, or with a double row of carmine petals fading to rose at the base. (Award of Merit.) Mr. George Prince, Longworth, Berks.

DELPHINIUM DOROTHY DANIELS.—The flowers of this handsome variety are large, with purple sepals, more or less tipped with blue; while the small petals occupying the centre are pale lemon-yellow, making a beautiful contrast. (Award of Merit.) Messrs. Kelway & Son, Langport, Somerset,

MALMAISON CARNATION MAGGIE HODGSON.—The large flowers of this variety are beautifully formed, fragrant, and of a rich maroon-crimson. (Award of Merit.) Messrs. Wm. Cutbush & Son, Highgate, N.

PINK MRS. H. YOUNG. — The flowers of this Pink are large, very full, and light purple, with a crimson blotch at the base of the petals. (Award of Merit.) Mr. H. Young, Pansey Nursery, Cheshunt.

SHIRLEY POPPIES.—The strain of this beautiful race of the Corn Poppy is yet undergoing improvement, several very handsome colours having been shown by the Rev. W. Wilks, Shirley Vicarge, Croydon. Some were salmon of different shades and edged with white; others were white with a deep salmon edge; while a third set had a white base and edge with a middle band of salmon. There were also selfs, and pale salmon varieties with a yellow blotch at the base. (First-class Certificate.)

CANNA MISS KATE GRAY.—This is one of the largest flowering types of Canna, the race being known as Orchid Cannas. The flowers are of a rich scarlet-orange, with a few yellow streaks in the centre. The plant has broad, glaucous-green leaves, and is only 3 ft. high, the usual run of this race being 5 ft. or 6 ft. (Award of Merit.) Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham.

SPIRAEA ASTILBOIDES SILVER SHEATH. — The leaves of this plant are ternately divided and similar to those of Astilbe. The flowers are in pyramidal terminal panicles and of a faintly blush tint. It will make a handsome and serviceable decorative plant, grown and flowered in pots. (Award of Merit.) Mr. H. J. Jones.

Fruit and Vegetable Committee.

STRAWBERRY GIVON'S LATE PROLIFIC.—The fruits of this variety are of large size, rich red, very juicy and fragrant, the flavour not being decidedly high, however. They are also very often flattened or cockscomb-shaped. (Award of Merit.) H. P. Sturgis, Esq. (gardener, Mr. Wm. Peters), Givon's Gardens, Leatherhead.

THE ROCK GARDEN.

PLANTS IN FLOWER.

Erodium trichomanefolium.

THERE is a certain amount of satisfaction in the fact that many alpine or rock garden plants are so dwarf that they afford nothing for the cut flower basket, so one must needs let them alone to the great advantage of the rock garden. Erodium trichomanefolium is one of those plants, dainty at all times, and closely covering the soil with a cushion of finely cut gray foliage with its bright sprinkling of rosy and blotched flowers. It grows slowly, but may be propagated at the present time by cuttings of the younger wood, yet fairly if not quite firm at the base. These must be carefully dressed with the knife in the ordinary way, and firmly inserted in sandy soil and placed under a handlight in a cold, north aspect frame.

Campanula pulla.

Whether on the rockery or on the front of the herbaceous border, this constitutes one of the neatest growing and prettiest of all the many Bellflowers in bloom at the present time. The erect flower stems seldom exceed 3 in. in height, and bear a solitary, drooping, dark, purple flower. Its cultivation is of the easiest in friable, fairly moist soil in which its underground stems can ramble at will and form a carpet of verdure from which the numerous flowers arise and make this one of the most charming of the miniature Bellflowers. Almost every stem flowers and for this reason it is often difficult to get cuttings for this method of propagation. A patch on some of the narrow borders in the garden, however, will furnish the means wherewith to increase the plant by division in spring, when growth is commencing.

Aphyllanthes monspeliensis.

The season of this liliaceous plant is just over, the month of June being its proper time; but one may allude to a pretty rock plant that is seldom seen. The slender stems are leaf-like from the fact of their being green, leafless, and grassy in appearance. They do, indeed, carry on the function of leaves, and form a close, neat tuft surmounted by a head of deep blue flowers about an inch in diameter. The plant may be propagated by seeds or by division of the tufts towards the end of March or the beginning of April. It should be grown in sandy peat in a sunny and sheltered position on the rockery.

Achillea tomentosa.

So many of the smaller species of Achillea bear white flowers that a different colour proves welcome. The heads, including the rays, are bright yellow, and produced in umbellate cymes on stems 6 in. to 9 in. high; while the leafy portion of the plant lies close to the soil, forming, as it were, a leafy carpet. The plant is well adapted for exposed situations on the rockery, and is of the easiest cultivation. Increase may be effected by a careful division of the pieces or by making cuttings of the shoots, which root readily in sandy soil placed under a handlight or frame at this season of the year.

Heuchera micrantha.

Under ordinary treatment this plant grows about 18 in. in height, the slender stems being red, and thus forming a pleasing contrast to the myriads of small white flowers, more or less tinted with pink on the outside or on the calyx. The height of the plant makes it suitable for planting towards the top of the rockery in order not to intercept the view of the smaller growing subjects. For mixing with cut flowers in vases it is well adapted, as the slender stems and graceful, miniature flowers constitute a foil to flowers of a heavier nature.

Ramondia pyrenaica.

Those who attempt the cultivation of this plant on the rockery must select a cool and shady position for it, where the sun will not shine directly upon it for a lengthened period during any part of the day. Under such conditions it is easily kept moist at the roots even when the water has to be supplied by artificial means. The position selected for it may be more or less perpendicular, so that when its roots are inserted between moisture holding stones the hairy leaves will be so disposed that the superfluous water will run off or at all events not lodge in the crown of leaves. When the proper position has been given it, the plant is not particularly delicate, but forms healthy rosettes of leaves, from amongst which the flower scapes rise up for a few inches and keep up a display of bloom for weeks. Offsets may occasionally be obtained for separation from the parent, and larger numbers may be raised from seeds, if a little care is exercised in nursing the lants in cold frames during their earlier stages of growth. The white variety (R. p. alba) is pretty by contrast with the type.

Linaria alpina.

The Alpine Toad-flax is one of the gems for rockwork, owing to its neat habit and distinct appearance. Six inches may be considered its usual limit of growth, the arching shoots being very numerous and forming a dense, neat tuft. The leaves are of a decided glaucous hue, which adds in no small degree to the beauty of the plant. The flowers are produced in succession along the top of the stems, and are of a rich blue-purple with a striking orange palate. It should have a light, friable soil in an open position on the rockery. Plants may be raised from seeds in sufficient quantity to meet all demands for increase.—*Alchemilla.*

THE NATIONAL ROSE SOCIETY.

JULY 4th.

THE Metropolitan show of the National Rose Society was held in the Inner Temple Gardens, by permission of the benchers, on this occasion instead of at the Crystal Palace with which it had been associated for many years. The show was favoured with fine weather throughout, and likewise with the presence of her Majesty Queen Alexandra, who was taken round the tents by the Very Rev. the Dean of Rochester, about half-past eleven, and stayed about an hour inspecting the show. The Roses were accommodated in three large tents, and on all hands were pronounced to be very fine. The great heat told somewhat heavily upon them towards the close, but not more than might have been expected. The initial experiment of holding a Rose show in these gardens has every appearance of being an unqualified success, and we hope the society will continue to enjoy prosperity for many years to come.

NURSERYMEN.

GENERAL SECTION.—There were four entries in the class for seventy-two blooms, distinct, for which a Champion Trophy, Gold Medal and money prize were offered. The premier honours were secured by Messrs. Harkness and Sons, Hitchin, Bedale, who had many magnificent blooms in their stands. Amongst hybrid perpetuals they had splendid blooms of Mrs. John Laing, Alfred Colomb, Mrs. Cocker, Charles Lefebvre, Dupuy Jamain, Suzanne Marie Rodocanachi, Captain Hayward, Marie Baumann, Francois Michelon, Comte de Raimbaud, Ulrich Brunner, A. K. Williams, Horace Vernet, Marchioness of Londonderry, Her Majesty, Sir Rowland Hill, Paul Neron, Gladys Harkness, Gustave Piganeau, Mme. Delville, Mme. E. Verdier, Madame Joseph Bonnaire, Fisher Holmes, Grand Mogul, Duke of Edinburgh. Amongst Teas and Noisettes they had likewise handsome blooms of Maman Cochet, The Bride, Madame Cusin, Lady Mary Fitzwilliam, Medea, Marechal Niel, Bessie Brown, Niphetos, Innocente Pirola, Kaiserin Augusta Victoria, Mrs. Edward Mawley, Ethel Brownlow, Caroline Kuster, Ernest Metz, Souv. de S. A. Prince, &c. The second award was secured by Messrs. Ben R. Cant & Sons, Colchester, whose blooms were considerably smaller than the first prize lot, but fresh and beautiful. They had grand blooms of Her Majesty, Madame de Watteville, White Maman Cochet, Prince Arthur, Caroline Testout, Bessie Brown, Souvenir d'Un Ami, Comtesse de Nadaillac, Ethel Brownlow, Countess of Oxford, Marchioness of Londonderry, Mme. Hoste, Catherine Mermet, &c. Messrs. Frank Cant & Co., Colchester, came in third with large and well formed blooms of Caroline Testout, Gustave Piganeau, La France, Cleopatra, Her Majesty, Killarney, Etienne Levet, Kaiserin Augusta Victoria, Ulster, Ulrich Brunner, &c.

Messrs. Alex Dickson & Sons, Newtownards, Co.

Down, Ireland, took the lead in the class for forty varieties of Roses in triplets. Very fine were their blooms of Her Majesty, Mildred Grant, Mrs. W. J. Grant, Lady Moyra Beauclerc, Madame Cusin, Alice Lindsell, Florence Pemberton, Mamie, Robert Scott, Mrs. John Laing, La France, Marchioness of Londonderry, Suzanne Marie Rodocanachi, &c. The second award in this class was taken by Messrs. B. R. Cant & Sons, who had an even lot with superior blooms of Bessie Brown, Her Majesty, Helen Keller, White Maman Cochet, Golden Gate, Caroline Testout, Souvenir d'Un Ami, Duchess de Morny, Ethel Brownlow, Marchioness of Londonderry, and magnificent blooms of Madame Cusin. The third award in this class was taken by Messrs. Frank Cant & Co., who showed Bessie Brown, Ulster, Conntess of Caledon, and Killarney in fine form.

Messrs. J. Townsend & Sons, Lower Broadheath, Worcester, took the lead in the class for forty-eight blooms, distinct, showing Comte Raimbaud, Innocente Pirola, Madame Joseph Combet, Souv. de S. A. Prince, Mrs. Ed. Mawley, and Killarney in fine condition. Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, exhibited fine blooms of Bessie Brown, Waltham Standard, White Maman Cochet, La France, Maman Cochet, and others, taking the second award. Messrs. G. & W. H. Burch, Padholme Road, Nurseries, Peterborough, came in third with some very fine blooms.

The lead in the class for twenty-four distinct varieties was taken by Mr. Geo. Prince, Longworth, Berks, who staged fine blooms of Bessie Brown, Mrs. W. J. Grant, Mrs. E. Mawley, Rubens, Ulster, Muriel Grahame, Maman Cochet, Bridesmaid, &c. Mr. C. Turner, Slough, took the second place with fine blooms of Ulster, Ulrich Brunner, Maman Cochet, Caroline Testout, &c. Mr. John Mattock, New Headington Nursery, Oxford, came in third with some grand blooms.

Messrs. George Cooling & Sons, Bath, secured the leading prize in the class for twenty-four varieties in triplets. Very fine were his Marchioness of Londonderry, Mrs. Ed. Mawley, Caroline Testout, Kaiserin Augusta Victoria, Bessie Brown, Ulster, Her Majesty, Killarney, White Maman Cochet, &c. The second award went to Mr. John Mattock, who had pretty blooms of Mdme. Caroline Kuster, Maman Cochet, Killarney, Comtesse de Nadaillac, &c. Mr. C. Turner came in third.

Tea and Noisette Section.—Messrs. D. Prior & Son, Colchester, took the lead in the class for twenty-four blooms, distinct, of Tea or Noisette Roses. They had shapely blooms of The Bride, Madame Hoste, Caroline Kuster, Maman Cochet, Souvenir de S. A. Prince, Catherine Mermet, Francisca Kruger, Souv. d'Un Ami, Bridesmaid, and Ethel Brownlow. Mr. George Prince took the second place with Bridesmaid, Maman Cochet, White Maman Cochet, Comtesse de Nadaillac, Muriel Grahame, Madame Cusin, &c. Messrs. Ben. R. Cant & Sons came in third with some very fine blooms, including Innocente Pirola, Muriel Grahame and Madame Cusin.

Mr. John Mattock had the best twelve blooms of distinct varieties of Teas and Noisettes, including grand samples of Souvenir d'Elise Vardon (the best Tea or Noisette exhibited by a nurseryman), Comtesse de Nadaillac, Madame Cusin, Marie Van Houtte, Maman Cochet, The Bride, &c. He received the N.R. Society's Medal for the fine bloom mentioned. Messrs. J. Burrell & Co. took the second place with grand blooms of Maman Cochet, and others of that group. Mr. C. Turner came in third.

For sixteen varieties, three blooms of each, Mr. George Prince took the lead with fine triplets of Maman Cochet, Mrs. E. Mawley, Bridesmaid, Ernest Metz, Innocente Pirola, &c. He was followed by Meesrs. Benj. R. Cant & Sons, with fine triplets of Madame Hoste, Madame Cusin, The Bride, Souv. de S. A. Prince, Edith Brownlow, &c. Messrs. D. Prior & Son came in third.

Roses in Vases.—Mr. George Prince, Longworth, Berks, took the lead in the class for twelve distinct varieties, seven blooms of each, set up in vases (to include not more than six varieties of Teas or Noisettes). Very fine were his vases of Maman Cochet, Comtesse de Nadaillac, Souv. d'Un Ami, Kaiserin Augusta Victoria, Captain Hayward, and A. K. Williams. Messrs. Harkness & Sons, Hitchin, and Bedale, took the second place, with fine vases of Ulrich Brunner, Mdme. Gabriel Luizet, Mrs. John Laing, Maman Cochet, and Mrs. W. J. Grant. Messrs. Paul & Son, The Old Nurseries, Cheshunt, Herts, were a good third, but their Roses were a little too far expanded.

Mr. George Prince again secured the leading place, with five vases of Maman Cochet, Mrs. E. Mawley, Bridesmaid, White Maman Cochet, Mdme. Hoste, Souv. de S. A. Prince, and Souv. d'Un Ami. Mr. J. Mattock, New Headington Nursery, Oxford, was second, having amongst others a charming vase of Marie Van Houtte.

Garden or Decorative Roses.—The display of garden Roses was a decided feature of the show, set up as they were in great sloping banks of brilliant and varied colour. Old-fashioned Roses, more recent productions, both single and double, small Teas and Noisettes, Moss Roses, and others of that stamp were all brought together in a most glorious array.

Messrs. Paul & Son, Cheshunt, took the premier honours for thirty-six bunches of garden Roses, as they have done at the two other important metropolitan Rose shows this year. They had grand bunches of Lady Battersea, Camoens, Carmine Pillar, Rosa macrantha, R. rugosa atropurpurea, R. lucida plena, the new Polyantha Leonie Lamesch, Rosa alba (semi-duplex), R. wichuriana Pink Roamer, William Allan Richardson, Rosa Mundi, Grand Duc de Luxembourg, Killarney, Marqnis de Salisbury, Cora (China), Crested Moss, Mdme. Pernet Ducher, Dawn, Gruss an Teplitz, Alister Stella Gray, Mdme. A. Chatenay, Old Red Damask, Julie de Mersant (Moss), Wallflower (a new Rambler Rose), and many others. Messrs. George Cooling & Sons, nurserymen, Bath, secured the second place for a grand display. They had magnificent bunches of Helene, Bardon Job, Crimson Rambler, Cooling's Himalaica, Mdme. d'Arblay, Homer, Queen of the Belgians, Ma Capucine, Gruss an Teplitz, Rivers' Musk, and others.

Mr. John Mattock also had a splendid exhibit of garden Roses. but was disqualified because he had a bunch of Francisca Kruger, an exhibition Tea Rose, though rather a small one.

Mr. George Prince took the leading place in the class for eighteen distinct varieties, showing fine bunches of Crimson Rambler, Mdme. d'Arblay, W. A. Richardson, Moschata alba, Marquis of Salisbury (dark crimson), Souv. de Catherine Guillot (rich salmon), White Provence, Rainbow, and various others not named. The second place was secured by Messrs. Frank Cant & Co., Colchester, who had magnificent bunches of Rainbow, Queen Mab, Mdme. Jules Grolez, Killarney, Marquis of Salisbury, Mdme. Pernet Ducher, Himalaica, &c. Mr. Charles Turner, Royal Nurseries, Slough, took the third place with a fine display, but rather formally set up. He had good bunches of Blanche Double de Coubert, Gustave Regis, Bardon Job, William Allan Richardson, &c.

Open.

A number of classes were set apart for nurserymen and amateurs alike. Messrs. Alexander Dickson & Sons, Newtownards, Co. Down, had the best twelve blooms of hybrid Teas, very fine being Caroline Testout, Mrs. W. J. Grant, Lady Mary Fitzwilliam, &c. Mr. Hugh Dickson, Royal Nurseries, Belfast, was second. He had charming blooms of Marquise Litta and Caroline Testout. Messrs. B. R. Cant & Sons and Messrs. D. Prior & Son took equal thirds.

For twelve blooms of any white or yellow Rose the lead was taken by Messrs. D. Prior & Son, with a stand of Bessie Brown. Mr. George Prince was second with a pretty lot of Comtesse de Nadaillac. Mr. John Mattock came in third with Marie Van Houtte.

Messrs. B. R. Cant & Sons had the best twelve blooms of a crimson Rose in A. K. Williams. Messrs J. Townsend & Sons, Lower Broadheath, Worcester, were second with Captain Haywood. Messrs. D. and W. Croll, Dundee, were third with Duke of Edinburgh.

Messrs. G. and W. H. Burch, Padholme Road Nurseries, Peterborough, had the best twelve blooms of a pink or rose-coloured variety, showing Her Majesty. Messrs. Perkins & Sons, Park Nurseries, Coventry, were third with a fine stand of the last-named variety; and Mr. Hugh Dickson came in third with very fine Caroline Testout.

For twelve blooms of any Tea or Noisette, the lead was taken by Messrs. Alex. Dickson & Sons, who had a magnificent stand of Mrs. Edward Mawley, the largest we have seen. Messrs. Harkness & Sons were a very good second with Maman Cochet. Mr. George Prince came in third with the last named variety.

In the class for the best nine blooms of any new Rose, Messrs. Alex. Dickson & Sons took the lead with magnificent blooms of Mildred Grant, a new blush-coloured hybrid Tea Rose. They also had the best bloom of a hybrid Tea in the nurserymen's section, in this stand (Mildred Grant) taking the N.R. Society's Silver Medal. Messrs. Frank Cant & Co. were second with Bessie Brown; and Messrs. B. R. Cant & Sons came in third with Papa Lambert, a pink Rose.

For twelve new Roses, distinct, the lead was taken by Messrs. Alex. Dicksons & Sons with fine blooms of Lady Moyra Beauclerc, Mamie, Robert Scott, Bessie Brown, Mrs. F. W. Sandford, Duchess of Portland, Mildred Grant, Ulster, &c. Messrs. Perkins & Sons took the second place with fine blooms of Gladys Harkness, Tennyson, Bessie Brown, Exquisite, Ulster, &c. Messrs. Frank Cant & Co. came in third with Killarney, Mrs. Cocker, Mrs. Edward Mawley, &c.

A Gold Medal or card of commendation was offered for new seedling Roses or distinct sports, either not in commerce or not distributed before November, 1901. The Gold Medal was secured by Messrs. James Veitch & Sons, Ltd., Chelsea, for their new Polyantha Rose Queen Alexandra, which was raised from Turner's Crimson Rambler, crossed with Rosa multiflora simplex. The individual blooms are small, and of a rich rose, fading to pink, with a lighter centre, and produced in the greatest profusion. A Gold Medal was also awarded to Messrs. B. R. Cant & Sons for their new seedling Tea Rose, Mrs. B. R. Cant, having globular blooms of a pleasing salmon-rose colour.

Decorative Classes.—For a decoration of cut Roses for dinner table, arranged with any cut foliage, the leading award was taken by Miss West, Reigate, who had a graceful arrangement of apricot, yellow, and white Roses on ornamental stands. Mrs. Patrick R. Green, Kinsale, Beverley Road, Colchester, was second; Mr. John Mattock came in third; and an extra prize was awarded to Mrs. Green, Harrold Wood, for salmon Roses in silverised ornamental stands.

For three sprays, suitable for ladies' wear, the leading award was taken by Mr. John Mattock, who had apricot, blush and white buds in separate sprays. Mrs. O. G. Orpen, West Bergholt, Colchester, was a good second, and Messrs. Perkins & Sons came in third.

Garden or Decorative Roses.—Messrs. Paul & Sons took the lead in the open class for twelve distinct varieties of single-flowered Roses, staging grand bunches of Himalaica, Paul's Carmine Pillar, Penzance Brier, Leuchtstern, Rosa macrantha, R. rugosa alba, R. r. atropurpurea, R. brunonis, Pink Roamer, Paul's Single White, Rosa sancta, &c. Messrs. Frank Cant & Co. took the second place with a very fine exhibit, including a beautiful white Rose having shiny dark foliage. Mr. C. Turner came in third with a good exhibit of these single Roses.

Mr. John Mattock had the best nine distinct varieties of Roses suitable for buttonholes, and was followed by Mr. George Prince.

Amateurs.

General Section.—E. B. Lindsell Esq., Hitchin, was first in this class and his thirty-six blooms showed to what a high state of perfection amateur's care can bring Rose culture. Besides the prize of £3, the First Prize collection in this class also takes the Champion Trophy. All the blooms were excellent and it was impossible to make a choice of any special ones. The selection was admirable and showed the beautiful rose coloured Her Majesty, the pure Merville de Lyon, Prince Arthur, Maman Cochet, Mrs. J. Laing, Beauty of Waltham, D. Jamain, G. Piganeau. There was not much of a gap between the first and second class, only that the blooms were on the whole a shade smaller, but not less highly coloured, especially Prince Arthur, Xavier Olibo, Ulrich Brunner, and many others which time would not allow to mention. They were grown by the Rev. J. H. Pemberton, Havering-atte-Bower, Essex. A. Slaughter, Esq., was third, his blooms had been good but many of them showed

signs of having been affected by the weather, especially the light coloured ones.

There were some beautiful blooms to be seen in the class for twenty-four distinct varieties. W. Boyes, Esq., Driffield Road, Derby, received the premier honours in this class, but like many other cases, his blooms showed signs of having experienced some bad weather, but in spite of some being a bit marked, the majority were of a very high standard. The second prize case was a very good one, but were rather too far open to stand the heat of the tent all day, and in the afternoon several were showing their stamens. All the blooms were very good, but that of Maman Cochet was of exceptional merit. They were exhibited by Conway Jones, Esq., Hucelecote, Gloucester. The third prize case belonging to A. Tate, Esq., Leatherhead, contained many good blooms, in fact all were good, but in such a firmament of good things one is apt to be a bit critical. There were so many exhibitors in this class and so many had to go without an award that the committee gave a special prize, which was won by Henry V. Machin, Esq., Worksop.

In another class for twenty-four blooms the Rev. J. H. Pemberton was again first with a splendid two dozen blooms. The colour of his Comtesse de Nadaillac against that of Victor Hugo was a beautiful contrast, but these were not the only good things, for Her Majesty, Ulrich Brunner, and several more were showing off their dainty shell-like petals to the best possible advantage. A Piece of Plate was also given with the first. E. B. Lindsell, Esq., Hitchin, was second with a well chosen and well grown twenty-four blooms. O. G. Orpen, Esq., Colchester, who received third prize, would have had his blooms shown off to much better advantage if he had made a selection of a few more dark varieties, his collection only containing three reds, the remaining twenty-one were either faint pink or yellow.

Although E. B. Lindsell, Esq., was second in the preceding class, he was a good first for twelve varieties and showed some very symmetrical and well coloured blooms. The second prize case, which was exhibited by the Rev. J. H. Pemberton, was not up to the standard of his other exhibits. The third prize, which was won by Mrs. Haywood (gardener Mr. C. J. Salter), Reigate, was won with a well grown case of blooms and if Bessie Brown had not had the misfortune to become scorched they would have doubtless had a higher award.

The twelve blooms of Her Majesty shown by the Rev. J. H. Pemberton were awarded the first prize. E. B. Lindsell, Esq., also showed a dozen of this fine exhibition variety and was awarded the second place. Kaiserin Augusta Victoria, exhibited by H. V. Machin, Esq., was the judges' selection for the third prize.

E. M. Bethune, Esq., Horsham, staged twenty-four handsome blooms in this class, and although run close by the second was awarded first prize, and the Piece of Plate. A. Slaughter, Esq., Steyning, had some very good varieties, but one or two were past their best and doubtless lost him points. W. C. Romaine, Esq., Old Windsor, staged twenty-four very well formed and excellently coloured blooms, but their fault was chiefly in being too small.

The class for eighteen blooms attracted some very good specimens, the case of blooms shown by R. Foley Hobbs, Esq., Worcester, being of exceptional merit. Although some of the blooms in the second prize case were showing their stamens, there was not much to choose between the first and second. They were grown by Edward Mawley, Esq., Berkhampsted. R. E. West, Esq., Reigate, had some good blooms in the third prize case, Camille de Rohan being very velvety and rich.

E. M. Bethune, Esq., received another first for eight distinct blooms. Foley Hobbs, Esq., was placed second, and Conway Jones, Esq, third.

R. Foley Hobbs, Esq., had the honour of taking the first prize in the class for nine handsome blooms of Her Majesty; one was also awarded the society's Silver Medal as the best Rose grown by an amateur. Bessie Brown, shown by F. W. Tattersall, Esq., Morecombe, was well deserving of its position of second. E. M. Bethune, Esq., was third with some well toned blooms of Mdme. Gabriel Luizet.

Miss Beatrice H. Langton, Hendon, N.W., was first for twelve blooms in another class, and in addition to the first prize received a Piece of Plate. W. J. Pegge, Esq., Beeston, Notts, was second, and John Bateman, Esq., Archway Road, N., third. There were numerous excellent exhibits in this class, which had to be content with the admiration of visitors, and the many expressions of "they ought to have a prize."

The class for six blooms of any Rose except Tea or Noisette, brought Her Majesty again to the fore; the six shown by M. Whittle, Esq., Belgrave, Leicester, were first. S. Morris, Esq., Leicester, was second, and F. Wellesley, Esq., Woking, third, both exhibiting Her Majesty.

Mrs. E. A. Moulden, Stevenage, was placed first in this class for nine beautiful blooms. The second place blooms shown by Rev. T. Bowyer, Esq., Hertford Heath, were well grown, also the third exhibited by Mrs. Times, Hitchin. A Piece of Plate was also given with the first.

The first prize and Silver Challenge Cup for twelve blooms in an extra class went to W. Kingstone, Esq, Bedford, for a very fine dozen blooms. J. Dennison, Esq, Balham, was second, and J. G. Moules, Esq., Hitchin, was placed third. In this case was also Bessie Brown, the bloom selected by the judges as the best H.T. exhibited by an amateur.

O. G. Orpen, Esq., Colchester, won the first prize, and was awarded the Ramsay Cup. The Rev. J. H. Pemberton was close to him as second, and there was not much to choose between P. G. C. Burnand, Esq., Reigate, who was third, a bloom of Maman Cochet being extra fine.

With six fine blooms, W. B. Martin, Esq., North Finchley, carried off the first prize and a Piece of Plate.

A. C. Turner, Esq., exhibited some handsome blooms in the class for six blooms in not less than four varieties, and was awarded the first prize, also a Piece of Plate; W. G. Adcock, Esq., North Finchley, was awarded second; the third went to M. White, Esq., Wateringbury, Kent.

In the class for six blooms distinct, C. J. Page, Esq., Enfield, was first, and carried off the first prize and the Piece of Plate offered with it. F. H. Cooke, Esq., Colchester, was second; and T. E. Raven, Esq., Uppingham, Rutland, third.

Considering that the limit was eight miles from Charing Cross, the blooms were vere very meritorious, especially those exhibited by E. R. Smith, Esq., Muswell Hill, who won the first prize and the Challenge Cup. Miss Beatrice Langton, Hendon, was a close second, and the blooms in the third prize case, shown by J. T. Thompson, Esq., were also very good.

Tea and Noisette Section.—O. G. Orpen, Esq., was first for eighteen blooms of Tea or Noisette Roses, and won the T. and N. Challenge Trophy. A White Maman Cochet in this exhibit was chosen as the best Tea or Noisette shown by an amateur, and received a Silver Medal; the second prize Roses were exquisite, and were blooms of almost perfect form. They were shown by Hill Gray, Esq., Bath. Conway Jones, Esq., had some very good blooms in the third prize case.

Maman Cochet figured conspicuously in the class for nine blooms of one variety. The white variety shown by O. G. Orpen, Esq., was first; Hill Gray, Esq, Bath, was second; and E. M. Bethune, Esq., also with Maman Cochet, was third.

The first prize and Piece of Plate offered with it for twelve blooms, distinct, was won by the Rev. Page Roberts, Halstead, Kent. The Rev. A. Powley was well up for second place; and the blooms shown in the third prize case of F. Wellesley, Esq., were well worth their position.

A. Munt, Esq., Slough, won the Piece of Plate, which was given with the first prize, for nine blooms, distinct. In the second prize lot, Mr. H. Baxter, Brentwood, exhibited some very good blooms; T. W. Tattersall, Esq., was third.

R. Foley Hobbs, Esq., had lovely varieties, and easily carried off the first prize. The Rev. R. Powley was awarded the second place; and W. Upton, Esq., Leicester, third, but was afterwards disqualified, as the class was exclusively for Teas, and he had three blooms of Mrs. J. Laing; the third prize then went to Miss Beatrice Langton.

Exhibition Roses in Vases.—There was a Piece of Plate offered with the first prize in the class for nine distinct varieties. It was won by H. V. Machin, Esq, Worksop. Mrs. F. W. Campion, Reigate, was second. These were the only two exhibitors.

A Piece of Plate was also offered in the class for nine varieties with the first prize. It was awarded to O. G. Orpen, Esq. A. Hill Gray, Esq., Bath, was second; and Miss Beatrice Langton a very close third.

For a bowl of Roses, Mrs. O. G. Orpen was first; A. Hill Gray, Newbridge, Bath, was second; and Miss Beatrice H. Langton, third.

In the class for a table decoration, Mrs. O. G. Orpen, Colchester, was first, and won a handsome Piece of Plate with an arrangement of single Roses, but, as usual, with dinner table decoration the design was inclined to be cabbagy. The second prize, won by Mrs. A. Cant, showed more taste, but some of the greenery might have been dispensed with. The table which took the third prize was arranged by Mrs. Lilian Fearon, Reigate, but the artiste did not bear in mind that it was for a *dinner* table. The extra prize, won by Mrs. P. R. Green, Beverley Road, Colchester, showed a decidedly better taste than many of the others.

For a vase of Roses arranged with any foliage, Mrs. L. Pawle, Harrow, was successful in winning the first prize; Mrs. P. B. Mawley, Berkhamstead, made a very artistic display, and was placed second; the third prize was awarded to Mrs. A. Cant, Colchester.

Garden or Decorative Roses.—For eighteen distinct varieties in not less than three trusses of each, the first prize (a Piece of Plate) was secured by Alf. Tate, Esq. (gardener, Mr. W. Mease), Leatherhead, who was followed by H. V. Machin, Esq., and Mrs. F. W. Campion (gardener, Mr. Joseph Pitt), Reigate. An extra prize was awarded to the Rev. J. H. Pemberton. The display of garden Roses was very fine.

The Girdlestone Memorial Prize (a Piece of Plate) was awarded to Mrs. A. F. Perkins, Holmwood, Surrey, for twelve distinct varieties. Mrs. Dorothy A. Nesfield, Tunbridge Wells, was second; and Miss B. H. Langton came in third.

In the class for six distinct varieties, open only to those who have never won a prize for garden Roses at an exhibition of the N.R. Society, the lead was taken by W. G. Adcock, Esq., Torrington Park, N. Finchley; F. H. Cook, Esq., Birch, Colchester, was second; and the Rev. F. J. Fulford, Flaxley Vicarage, Newnham, Gloucester, was third.

The prizes for six vases of Sweet Briers were taken by Mrs. F. W. Campion (Piece of Plate), O. G. Orpen, Esq., and G. H. Baxter, Esq., Hutton Park, Brentwood, in this order.

Non-Competitive Groups.

The rural decoration vases, etc., by Mr. Williams, Ealing, were shown to good advantage filled with pink and cream Roses and their foliage, with the addition of a few sprays of Asparagus plumosus.

Mr. John Pinches, Camberwell, had an exhibit of labels, wire trellis work, etc, tastefully covered with Smilax, Roses, etc.

Messrs. G. Jackman & Son, Woking, had an attractive and artistically arranged group of Roses in all their types, especially showing up the good qualities of the garden Roses. We noticed such handsome favourites as Mdme. Eugene Resal, Bouquet d'Or, L'Ideal, Souv. de Catherine Guillot, Marechal Niel, etc. (Silver Gilt Medal.)

Mr. William Spooner, Woking, was awarded a Silver Medal for a small but choice collection of Roses, a box of Her Majesty being a very prominent feature, also Kaiserin Augusta Victoria in ivory-white tinted with green.

Messrs. John Laing & Sons, Forest Hill, London, had a grand collection of Rose blooms, which well earned the award of a Silver Gilt Medal, which was awarded to them. There was a beautiful box of Mrs. John Laing, and many other good varieties such as Maman Cochet, Innocente Pirola, Marie Van Houtte, Ernest Metz, Alfred Colomb, Comtesse de Tudre, General Jacqueminot, Tom Wood, Ulrich Brunner, Reynolds Hole, Marie Baumann, Eugene Faust, Duke of Edinburgh, and many others.

Messrs. G. Bunyard & Co., Maidstone, also had a very good collection, and were awarded a Silver Medal. Amongst the best we noted Capt. Haywood, Gustave Piganeau, Mrs. W. J. Grant, Ulrich Brunner, Charles Darwin, and Xavier Olibo.

Messrs. Hugh Low & Co., Enfield, exhibited a good collection of Roses in vases, also several well filled show boxes containing such varieties as Abel Carriere, Mrs. John Laing, Clio, Marquise Litta, Mrs. Cocker, A. K. Williams, Cap. Christy, Lady

Mary Fitzwilliam, Prince Camille de Rohan, and Fisher Holmes. (Silver Medal.)

Messrs. J. Peed & Son, West Norwood, showed a few very fine cases of Roses. Ulrich Brunner, Pride of Waltham, and Kaiserin Augusta Victoria were in very good form. (Silver Medal.)

Gardening Miscellany.

BOCCONIA MICROCARPA.

For making a striking effect there is no plant better suited for isolation on the lawn than the above named species. It was named after Paolo Bocconi, M.D., a Sicilian botanist and author of many valuable botanical works. It is a noble plant with a stately habit and beautifully cut foliage. It requires a position that is not too much shaded by trees and a good loam in which to grow. It grows to the height of 8 ft. or 10 ft. and is worthy of a place in every garden. It is easily propagated by lateral cuttings or by division of the root. Being a deep rooting plant it will not thrive on shallow soil.

A FINE POPULUS NIGRA.

Methven Wood, like Birnam Wood, possesses many magnificent pieces of timber, and like many other districts in Perthshire is inseparably mixed up with the history of Scotland, especially where Wallace is concerned. It is mentioned in chronicles even before our dates reached four figures, and has always been noted for its trees. This specimen which we note is not of an exceptionally great age, but is a magnificent specimen of the Black Italian Poplar. Although it has suffered severely from storms during the last few years, it girths 20 ft. 7 in. at the base and 15 ft. 9 in. at 5 ft. from the ground. It was planted in 1776. In 1836 it was estimated that it contained 300 cubic ft. of solid wood.

READ THIS.

A weekly award of 5s. will be made by the proprietors of The Gardening World, to the person who sends *the most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

The prize last week was awarded to Mr. T. W. Dollery, Whithurn Gardens, Sunderland, for his essay on "Herbaceous Calceolarias," p. 717. Four other competitors were within measurable distance of him; one was too much under the number of words to secure the requisite points for winning; and one was too lengthy to be eligible.

Photographs of Plants. — The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in The Gardening World. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "The Editor," 4, Dorset Buildings, Salisbury Square, Fleet Street, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Two Species of Digitalis.—*R. J. G. Read*: The large flowered species is Digitalis ambigua, a native of Western Asia, and also known in gardens under the names of D. grandiflora and D. ochroleuca, which may be regarded as synonyms. The small flowered species is Digitalis lutea, a native of South Europe. We have seen a hybrid between these two, having flowers about the size of those of D. lutea, or slightly larger, with a little brown colour infused into it, thus indicating a cross with the larger flowered species just mentioned, and of which there is a small brown flowered variety in existence. Possibly it may also be a hybrid. The hybrid we mention is known as D. media.

A Supply of Green Mint During Summer and Autumn.—*Jos. Bell*: Your best plan would be to cut down a portion of your bed or beds, and then give the ground a good soaking of water to encourage fresh growth. Should you want to dry it for future use, tie up the cut stems in small bunches and hang them up in a shed which is dry and airy, but not exposed to sunshine, that is, the sun must not shine directly on the Mint or the leaves will become brittle and crumble to pieces on handling. When the remainder of the uncut Mint comes into full bloom you can cut and dry it in the same way. Then this portion of the bed should be well watered once or twice a week for a time at least, and the fresh growth will form a succession to that which was previously cut with the same object in view.

Filling the Gaps in a Thrift Edging.—*C. D.*: Replanting the whole edging would be a much better plan than mending or patching it, as most likely it is already overgrown, and other pieces will presently die out leaving gaps, especially if the soil is at all rich. You should give the whole edging a thorough soaking with water some hours previous to commencing operations upon it. Then dig up the plants carefully, laying them in a shady place, or covering them with mats till you are ready to break them up into small pieces with roots attached. The ground should then be evenly dug throughout the length of the border and levelled in the same way as you would prepare it for a Box edging. Beat it down with the back of the spade till it is fairly firm. Mark off the proper width of the edging with a line, so that you can plant about three lines of the Thrift, or four if you have plenty of space for an edging about 1 ft. wide. Use a dibber or trowel to insert the plants at fairly regular distances apart, making them alternate with one another in the lines. After planting is finished give the whole a good watering with a coarse rose to settle the soil about the roots. If you can afford to wait till the plants have done blooming, you may have the benefit of their flowering, such as it is, after which less watering will be necessary to re-establish them, as the late summer and autumn rains will be more plentiful, or the atmosphere will be moister at any rate. The operation should be completed in time to enable the plants to get established before winter, and the warmth in the soil will help them to make fresh growth.

Cultivating Melica uniflora for Cutting.—*J.T.*: It is seldom it ever cultivated to any great extent, and the supply you have seen in the florists' shop has most probably been gathered in a wild state. There is no reason, however, why you should not attempt to grow it for your own use. Select a fairly dry and rather shady position for it and plant pieces of old specimens or try and get seeds, either from a seedsman, or failing that you could collect some seeds for yourself. Even if you only get a small quantity for a start you could sow the seeds in a box, placing the latter in a cold frame till the seedlings have attained some size. You can then keep a watchful eye upon the seedlings to prevent slugs devouring them till they attain a size sufficient to take care of themselves, after which you can plant them in the open with reasonable hope of success. You can further increase them if necessary by collecting more seeds, or by dividing the plants when they get large enough.

Floating Aquatics other than Water Lilies.—*Aquatic*; Hardy plants that should give you satisfaction are Aponogeton distachynm, Limnanthemum peltatum, Hydrocharis Morsus-Ranae, Alisma natans, Hottonia palustris, Water Crowfoots (Ranunculus) and Azolla caroliniana. Eichornia azurea and E. speciosa (otherwise known as Pontederia crassipes) would live out of doors and, the first at least, would flower during the summer months. Take them indoors in winter, keeping them in a tank. Calla palustris is nearly or quite hardy. Others which might be planted in the water, but which do not float, are Sagittaria sagittifolia, S.s flore pleno, Butomus umbellatus, Pontederia cordata and Menyanthes trifoliata.

Eight Orchids to Name.—*J. S. C.*: The eight flowers you send we take to be anomalous forms of Dendrobium wardianum. You do not say how many plants you have picked them from; but we must say we have never seen so many strange forms of this or any other Dendrobium at one time. No. 1 is, perhaps, the most fully developed, but the petals are curved in a similar manner to the lateral sepals. No. 2 has only one sepal, lying beneath the lip. The latter organ is only represented by a half, the other half with its maroon blotch being gone, and its place taken by what might be one of the lateral sepals joined to the lip. No. 3 is the greatest curiosity of all, the flower being represented by two lateral sepals and a small linear green lip. One half of each sepal is also green, the rest being yellow. A small tongue about half the length of the lip seems to consist of the two petals joined. The dorsal sepal in No. 4 is absent and its place taken by the two petals united nearly to the tips. No. 5 is nearly normal, but the parts of the flower are narrow and thin. No. 6 is an albino, the flower being white with exception of the orange disc of the lip, and two small brown blotches on it. Here again the segments are very narrow. No. 7 is nearly normal but small and the sepals narrow. No. 8 is another great curiosity. One of the petals is united to the dorsal sepal, the other to the column in front of it. This has the result of bringing both of the petals in front of the dorsal sepal. The lip is also imperfectly developed on one side. The whole batch of eight blooms we may sum up as a brotherhood of curiosities, and we should have liked to know the conditions under which they grew, or what caused them to behave in this way.

Names of Plants.—*J.*: The False Acacia (Robinia Pseudacacia).—*G. Donald*: The plant is Libertia paniculata, a very uncommon plant, and a native of Australia.—*R. J. G. Read*: The large flowered species is Digitalis ambigua; the smaller one is D. lutea. (See separate note).—*A. K.*: 1, Philadelphus microphyllus; 2, Cistus ladaniferus; 3, Inula Helenium; 4, Tilia vulgaris; 5, Spiraea Aruncus.—*D. W.*: 1, Campanula isophylla alba; 2, convolvulus mauritanicus; 3, Veronica Teucrium latifolia; 4, Geranium pratense; 5, Lychnis coronaria; 6, Veronica Traversii.—*G.R.*: 1, Oncidium sphacelatum; 2, Oncidium flexuosum; 3, Cattleya gaskelliana; 4, Cypripedium lawrenceanum—*J. Read*: 1, Thymus vulgaris; 2, Erodium Manescavii; 3, Impatiens Roylei; 4, Spergula pilifera aurea; 5, Aconitum variegatum; 6, Artemisia pontica; 7, Cineraria maritima.—*A. T. B.*: 1, Lilium candidum; 2, Dianthus plumarius var.; 3, Sedum reflexum monstrosum; 4, Sedum Rhodtola.—*W. Alexander*: 1, Liatris spicata; 2, Sidalcea malvaeflora Listeri; 3, Nierembergia gracilis; 4, Choisya ternata.—*T. H.*: 1, Asplenium Trichomanes; 2, Polystichum Lonchitis; 3, Lastrea spinulosa.—*James Wright*: 1, Onobrychis viciaefolia; 2, Ononis spinosa; 3, Anthyllis Vulneraria.—*A. C.*: 1, Aralia elegantissima; 2, Dracaena Lindeni; 2, Dracaena Doucettii.—*F. G. Brewer*: The Miltonia is M. Clowesii castanea; the other Orchid is Cattleya Loddigesii Harrisoniae; the shrub is Colutea arborescens. (Your other question next week.)

Communications Received.—R. G. Waterman.—A. T. B.—Burton.—J. H.—Floral.—W. B. G.—T. E. H.—F G. Brewer.—R. M.—E. H. D.—T. D.—W. M.—R. J. H.—D. Tidy.—A. M. S.—R. S. O.—A. J.

TRADE CATALOGUE RECEIVED.

Mr. James Douglas, Edenside, Great Bookham, Surrey.—List of Choice Daffodils for 1901.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

July.

16.—Royal Horticultural Society Exhibition, and Conference on Lilies at Chiswick (2 days).
17.—N.R.S., Ulverston (North Lonsdale Rose Show); Cardiff and County Horticultural Show (2 days).
18.—Prescot Exhibition; Hoddesdon Exhibition; Royal Botanical Society Meeting; Halifax Rose; Bootle Show.
19.—National Carnation and Picotee Society (provisional).
23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days); Tinshelf Rose.
24.—Strathbane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Selby Exhibition; National Sweet Pea Society (2 days).
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts Exhibition.

August.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldearn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley; Beddington, Carshalton and Wallington.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
15.—St. Andrews Horticultural Association.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.

NEW SEEDLING ROSE.

QUEEN ALEXANDRA.

Awarded a GOLD MEDAL by the National Rose Society, at the Temple Gardens, July 4th, 1901.

This beautiful Seedling, a cross between the well-known Crimson Rambler and Rosa Multiflora Simplex, produces with great freedom trusses of flower of a rich Rose Colour, and is a decided acquisition to the list of Pillar Roses.

Plants in Autumn, 5s. each.

JAMES VEITCH & SONS, LTD., ROYAL EXOTIC NURSERY, CHELSEA.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, JULY 20th, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.,** where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 23rd.—Durham, Northumberland and Newcastle Botanical and Horticultural Society's Exhibition, at Newcastle (2 days); Tibshelf Rose Show.

WEDNESDAY, July 24th.—Strathbane Horticultural Exhibition (2 days); Southern Counties Carnation Society's Show.

THURSDAY, July 25th.—Selby Exhibition; National Sweet Pea Society at Royal Aquarium (2 days).

Beware of the Poison-tree Sumach.

THOSE who have the good fortune to possess a well stocked garden and yet not be very familiar with the occupants may entertain an angel unawares, but they are just as liable to the opposite extreme and pay the penalties for a long time without suspecting the source of the evil. We have just been informed of a case in point by the husband of a lady who has suffered acute pain at intervals for the last three years. At length she observed that the attacks always coincided with the visits of the family to their country residence in a rather remote and decidedly rural village in Surrey. On mentioning this fact they were advised to see if there was any poisonous plant in the garden, and after ransacking the same, some branches of a suspected plant were taken to Kew Gardens and to the Natural History Museum, South Kensington. It turned out that two branches taken from a plant proved to be Rhus Toxicodendron, variously known as the Poison-Oak, and Poison-tree Rhus or Sumach. This was growing all round the balcony of the lady's bedroom. She had in fact frequently taken leaves from and broken twigs off the shrub, which climbs by means of roots and therefore well adapted for covering the surface of walls, trees and other objects. The visits to the country residence and the trouble coincided with the time when the leaves were upon the trees.

We have minutely examined a number of species of Rhus, including R. venenata, when they were at rest and also when coming into leaf. On another occasion we cut our fingers with the knife when pruning R. Toxicodendron, in the early spring-time, when it was at rest, yet experienced no ill effects. All this may of course prove nothing, if the shrubs are harmless when at rest. Neither do all persons suffer alike. R. Toxicodendron is said to be poisonous to some persons though in a less degree than R. Vernix. Kalm relates that of two sisters one could handle the tree without being affected by it, while the other felt its baneful influence, if she came within a yard of it, or even stood at a greater distance to the windward of the same. Kalm experienced no ill effects although the juice squirted into his eye; but he put a layer of it on another man's hand, and after a few hours the skin became like tanned leather and afterwards peeled off in scales. Another collector named Lyons suffered severely for several weeks after merely collecting the seeds.

These experiences recall the reputed evil effects of Primula obconica and P. sinensis, the sufferers having a severe attack with symptoms resembling blood-poisoning or eczema. The Surrey lady had a similar experience. Planters, collectors and owners of gardens especially should be well acquainted with the nature of the plants in their garden, so that if any member of the family should suffer, they should be able at once to trace the malady to the offending plant, and have it forthwith evicted. Even if the owner should suffer no evil effects, some individual of his family may.

Trials of Manure for Potatos.

THE County Councils of Berkshire, Dorset, Hampshire and Oxfordshire have been working in unison for some years for the purpose of conducting various experiments with manures and field crops, the results for the past year being published in pamphlet form by the Agricultural Department of Reading College, the report having been prepared by Douglas A. Gilchrist, Esq., B.Sc., of that institution. In the case of the Potato trials at Broadstone, Dorset, we note that the soil was poor, consisting of deep sandy loam, of a moorish character, overlying the lower Bagshot sands, proverbially infertile. The Potatos used were Up-to-Date and Windsor Castle, the former a large and heavy cropping variety and the latter producing lighter crops of better table quality. The total weight of Up-to-Date on the unmanured plot was 3 tons 15 cwt. 80 lb., and of Windsor Castle, 3 tons 2 cwt. 96 lb. Farmyard manure at the rate of 20 tons per acre was applied to plot No. 2, giving 4 tons 7 cwt. 96 lb., of the former Potato, and 2 tons 16 cwt. 88 lb. of the latter. That farmyard manure should have decreased the weight of Windsor Castle is somewhat singular, but no explanation of

it has been recorded. The same weight of manure applied to plot 3, with the addition of 1½ cwt. of nitrate of soda, 2 cwt. of superphosphate and 2 cwt. of kainit, gave 5 tons 10 cwt. of Up-to-Date, and 3 tons 19 cwt. 32 lb of Windsor Castle, this being a profitable increase in both cases. Plot 4 had the 20 tons of farmyard manure per acre, plus a double dose of the above named artificials, resulting in 4 tons 12 cwt. 16 lb. of Up-to-Date, and 3 tons 15 cwt. 80 lb. of Windsor Castle. Here again the results are somewhat inexplicable at least to those not initiated into the circumstances and conditions of the case. Plot 5 was treated to a double dose of artificial manures alone, namely, 3 cwt. nitrate of soda, 4 cwt. superphosphate and 4 cwt. of kainit. Up-to-Date gave 5 tons 2 cwt. 56 lb. of Potatos, and Windsor Castle 4 tons 6 cwt. 8 lb. This is the most successful and the most remunerative of all the four trials and the check or unmanured plot. The price of the artificial manures in plot 5 was £2 8s., while with the addition of farmyard manure at the rate of 20 tons per acre in plot 4 cost £7 8s. Much has yet to be learnt and demonstrated with regard to these manures. We should have thought that the farmyard manure would have had a telling effect by reason of its making the sandy soil more retentive of moisture.

Her Majesty Queen Alexandra has been graciously pleased to appoint Mr. T. Jannoch, of Dersingham, Norfolk, "Florist" to her Majesty.

The National Herbaria.—The committee which was recently appointed to consider the advisability of uniting the Herbarium at the British Museum with that at Kew has issued its report in the form of two Blue-books. They recommend the union of the two herbaria and that they should be united at Kew, but the fossil plants and botanical objects exhibited to the public at the Natural History Museum they think ought to remain where they are and be extended and developed as much as possible.

American Fruit.—The total exports of apples from Canada for the fiscal year ended June 30th, 1900, were 956,458 barrels, valued at $2,578,233; the exports from the United States for the same period were 526,636 barrels, valued at $1,444,655. The exports of dried apples from Canada were 4,181,038 pounds, valued at $210,892; from the United States 34,694,010 pounds were exported, valued at $2,247,851, showing that the trade of the United States is chiefly in dried fruit, and by a process which seems to pay, too.

Mosquitos.—For those who are interested in this tiny terror, the book just published by Professor L. O. Howard, chief entomologist of the U.S. Department of Agriculture, ought to prove interesting reading, as it tells how they live, how they carry diseases and how they may be destroyed. This last item ought to be well worth knowing, for at present the only sure way of extermination is by treating each one individually to a pinch between the fingers. We are not troubled with them to the extent which America is, but what few we do possess make their presence felt in a very undesirable manner. London just now seems a meeting place for them and there are many who look as though they had indulged in the youthful fun of poking a wasp's nest.

Eggshells as Flower Pots.—We have heard of many strange articles being used for the cultivation of plants, and the number of salmon tins we have seen fulfilling this mission is legion, but to utilise eggshells seems a fresh advance in horticulture, for it is not the mere idea of an amateur who uses them because he has nothing better, but they are used with a large amount of success by some French growers. They are only used for those seedlings, etc., which have very sensitive roots in their young stage. The eggshells are filled with soil and placed in boxes of fibre, and the seeds sown in them. When they require potting on there is no necessity for the tapping out process which is generally the cause of injury as the shells are simply broken gently and the compact little ball of soil remains perfectly intact.

African Cucumber.—The New Zealand gardeners are stated to be growing the African Cucumber in some quantity. This member of the Cucurbitaceae was originally imported from Rhodesia. The fruit when fully grown is 6 in. long, of a bright orange colour, and covered with spines. It is eaten as a fruit, and is also used for ornamental purposes. Eaten with sugar, the flavour is similar to a Rock Melon.

A grave Mistake.—A Dutch journal reports where a *chef*, more experienced in the art of valet than that of Linnaeus, desiring to adorn a plate, had replaced the traditional Parsley with the scarlet inflorescences of Poinsettia (Euphorbia) pulcherrima. Those who ate of the part of the meat in direct touch with these flowers, were, it appears, gravely indisposed. The result need not astonish anyone seeing that the Euphorbias furnish a most violent emetic.

Roses at Brentwood.—Whilst driving through Brentwood on Friday last, we were pleased to see the attractive style in which Mr. John Russell's High Street Nursery was decorated with Roses and Lilies. On enquiry we found that these flowers were now being extensively grown at his Old Nurseries in the same town, and that in addition to extending the growth and propagation of Roses, Mr. Russell has now a large stock of fruit trees, the appearance of which is very satisfactory.

Played with and Lost.—Many a cat plays with a mouse until it loses it, and in the same way the S.E. & C.D. Railway have played with the fruit transport until it has slipped from their grasp, and in a very short time the tons of fruit will be rushed into Covent Garden on motor lorries. The heavy lorry has a great future before it in this direction, especially after the satisfactory trials recently made by bringing Tomatos from Waltham Cross by means of a petroleum motor. In three hours two and a half tons of fruit were loaded, conveyed sixteen miles and deposited in a Covent Garden warehouse. The price, including the return journey, was under 5s. What would our charming bone-shakers have charged after they had been a day at the job and reduced much of the fruit to a pulp?

More American Decorations. — The church at which a society wedding was held recently was elaborately decorated with trees of White Birch and Oak, many of the specimens being over 20 ft. high. On these were hung 4,000 Snowball blooms. There were also large groups of Rhododendrons, Irises, Weigelas, Palms, Asparagus, etc. Another elaborate but vulgar piece of decorative (?) work was seen at the funeral of the Chief of Police in one of the large cities. It was a large placque standing over 5 ft. on which the regulation shield was worked out in Joost Carnations. The inscription was worked diagonally across and at the lower corners were worked the club and handcuffs. The American papers describe it as a fine show, we think that is hardly what is aimed at in Great Britain when flowers are placed round the bier.

A Catalogue from Australia. — We have just received a large and interesting illustrated catalogue from Messrs. Smith and Menzel, Aldgate, South Australia, and a glance through its pages shows how they patronise the flowers of the old country, especially the new varieties raised by British nurserymen. At a general glance through the catalogue one would not think it was a catalogue of plants from the Antipodes but merely an ordinary catalogue of general nursery stock from a British firm. A deeper look into the book will soon point out a vast difference, for it will be seen that it is a hardy plant catalogue only. It is not, like our home catalogues of hardy plants, confined to herbaceous plants, alpines, etc., but includes amongst its hardy climbers such plants as Bougainvilleas, Solanum Wendlandi, etc. The hardy bulb collection contains Freesias, Amaryllis and several kindred genera, while in the ornamental foliage and flowering plants Begonias, Humeas, Justicias, Acalyphas, etc., are priced. What an ideal place for gardening Australia must be, at least when it is properly irrigated. Let British gardeners picture their favourites passing through the winter season without the necessity of fire heat and without the sun being hidden for weeks together, what a paradise they would live in! Besides cultural details the book contains some very good recipes for various purposes connected with plant growing.

Royal Warrant for Messrs Wood & Son, Ltd.—Messrs. William Wood & Son, Ltd., Wood Green, London, have been appointed, by Royal Warrant, Horticultural Specialists to his Majesty the King.

Figs at Aldgate Ward Schools.—Fruitculturists will be sorry to hear that the whole of the twenty-five Figs which were rapidly developing on the tree in the courtyard of the Aldgate Ward Schools have fallen off through the very dry weather and the high winds. Curiously enough, the leaves have increased in size—so much so that some mystics of the Higher Criticism think that Aldgate may really be the site of the original Garden of Eden.

Novel Rent Paying.—It is not often that rent has to be paid for a church, but when it is so small as that of the Zion Lutheran Church, Manheim, Pa., it does not need a very big collection. Baron H. W. Stiegelt, a German nobleman, who founded the church, stipulated that a red Rose should be paid annually as rent. The ceremony of paying the rent is a very attractive one and draws visitors from all parts. The quaint ceremony was recently performed for the past year with great solemness, Miss Annie Boyce, a lineal descendant of the Baron, taking the rent.

The False Acacia Flowering in Scotland. — Robinia Pseudacacia is not very often planted in Scotland, and the tree more rarely flowers. It requires a higher mean temperature than the climate of Scotland enjoys in order to ripen the wood and flowers. We recorded an instance the summer before last, and again the beginning of this month we learn that a tree 40 ft. high and growing upon the lawn at College Buildings, Crieff, was in full bloom. This is a good-sized tree for this part of Britain, where the Lombardy Poplar does not attain any great height north of Forfarshire.

To make Walls Waterproof.—There is often a difficulty, especially in the fruit room, with damp walls. With very little trouble and very little expense they may be made perfectly impervious to water. The only two ingredients necessary are soap and alum, both of which must be perfectly dissolved in water before using. Before the walls are dressed they should be washed quite clean and allowed to dry. The first dressing should be soap and water in the proportion of 1lb. to the gallon. When this has dried perfectly, it should be followed with a dressing of half a pound of alum to four gallons of water. The soap dressing should be laid on quickly, but thoroughly while boiling. The temperature of the alum solution should be about the same as that of the surrounding air. After a few alternate dressings of this kind the pores of the wall become filled with an insoluable compound of soap and alum and will be as waterproof as india-rubber.

What Determines Flower Buds?—Mr. J. M. W. Kitchen, M.D., has an interesting theory on this subject in *American Gardening*. "I think," writes the learned gentleman, "it would be sound teaching to state that from a physiological point of view the flower bud has its origin whenever the vegetable cell which starts a new growth receives a sufficient supply of adequately elaborated sap as a nourishment. If this initiatory cell gets a full supply of unelaborated sap directly from the roots a leaf growth follows, but when this sap has gone through the metabolic changes it undergoes in the leaves and reaches newly starting growths, its especial richness in carbonaceous elements and its comparative lack of nitrogenous matter has the effect of modifying the growth from leaf forms to flower forms. The conditions which among others seem to tend to this changed supply of nourishment are: the location of the embryo cell on the plant, the density and size of the wood tissue conducting sap from the roots; relative high atmospheric temperature conducing superactivity of metabolic processes in the leaves and distance from the roots, with intervention of a large area of leafage between the root and the flowering-point." The main teaching which this theory points out is that one does not want to feed heavily with nitrogenous manures if flowers and fruit are wanted. Mr. Kitchen says that since accepting the theory he has found considerable practical benefit from it.

THE ROCK GARDEN.

PLANTS IN FLOWER.

Campanula waldsteiniana.

A PATCH of this little Bellflower upon the rockery at present is a tantalising sight to the plant lover who beholds it for tbe first time. The slender stems are only 3 ln. or 4 in. high, and produced in a dense tuft, on the summit of wbicb the bright lilac, much expanded flowers form a lovely picture in miniature. Like most of the dwarf Bellflowers, it is truly a rock plant and delights in an open and snnny position. All of the stems flower, or most of tbem, so that the plant is most readily propagated by careful division of the compact tufts in spring.

Acantholimon venustum.

This may be regarded as a near relative of the Sea Thrift, but in superficial resemblance is entirely different. Tbe leaves are rather rldged, spiny, and produced in dense, glancons rosettes. The flowers are bright rose, borne in two ranks on the upper side of arcbing stems abont 6 in. to 9 in. long. They are similar to tbose of the Maiden Pink in size, and the uninitiated would hardly suspect its proper relatlonships. Any way, it is a choice and lovely rock plant, all parts of wblch indicating that such a posltion is the most proper for it, the roots being kept dry in winter. Short cuttings of it should be taken now or even a little later, trimmed and firmly inserted in very sandy soil, kept watered, and placed under a hand light or frame, preferably facing the north, and sbaded during the day.

Leontopodium alpinum.

Collectors obtain the Edelweiss under tbe above name and also as Gnaphalium Leontopodium, and as the foliage of different seedlings varies in being greener or grayer, they are not a little puzzled. These variations and also the two names belong to one and the same plant, a native of the Alps of Europe. The same species is also found on the Himalayas, and sometimes we see the name L. a. himalaicum applied to it or to a slightly more vlgorous form with longer leaves. The Edelweiss is now readily obtainable ln the form of seeds, which can be raised in gentle heat in spring and either grown on in pans or planted out on the rockery, where its qnaint looking flower heads are much at home in the crevices between the stones. There must be a good depth of soll to prevent the roots getting dried up. The long woolly bracts below the flower heads bear a fanciful resemblance to a lion's foot; hence the origin of the generic name.

Pratia angulata.

At first sight one would take this plant for a creeping, white-flowered Lobelia. The two are undoubtedly closely allied, but one of the most valld differences between the two lies in the fruit. In the antnmn the cultivator ls rewarded with red berries similar to those of Fuchsia procumbens lying upon the creeping stems of Pratia angulata. The fruit of Lobelia, on the other hand, is a dry capsule, opening by small valves or pores through which the seeds fall out. At the present time, however, the white flowers of Pratia are pretty, as they thickly stud the ground. The plant succeeds best in a cool, slightly moist situation where the creeping stems can ramify and take hold of the soil. As any number of pieces can be taken off the plant in spring, it is unnecessary to raise seedlings whicb require watching for slugs.

Origanum pulchrum.

In general hablt this is not unlike the Common Marjoram growing upon chalk downs, or the garden O. sipyleum from Asia Minor, but it is of denser habit and not drawn out so slenderly at the tips. The stems, however, terminate in larger oval heads of bracts and flowers, the former being dull purple, and the latter bright purple. The roundly ovate leaves have faint silvery veins. It ls certainly a neat and cheerful plant for the rockery, and should be procured by those who do not possess it. Cuttings may now be rooted in sandy soil under a hand light, shaded from bright sunshine.

Cheiranthus Marshalli.

Thls plant is now making its growtb, if it has not flowered itself to death, as it frequently does. As it does not ripen seeds and seldom forms seed pods, it is snpposed to be a hybrld between Cheiranthns alpinus and the annual Erysimum, an annual with orange-coloured flowers This is where C. Marshalli gets its ricb dark colour. Tbose who bestirred themselves in June took wbat cuttings were then obtainable and rooted them under hand lights. These early plants usually throw out a number of side shoots which can be taken off and rooted now, witb greater facility than the first lot, as the artificial atmosphere generated under the hand lights has made the tissues softer and more inclined to throw out roots.

Erythraea Massoni.

Several of the Centauries are now in their glory, and that under notice is rather better adapted for the rockery than our native species, beautiful as they are. The plant is better known ln gardens under the name of E. diffusa, which explains the habit of this species, the stems being dlffuse or spread upon the ground, the flowering shoots rising to a height of 3 in. The flowers are of a beautiful rose and of appreciable size. The plant is a native of the Azores, and tbongh by no means fastidlous as to soil, it should have a falrly moist and cool situation, in full sun or slightly shaded, but not overbung by trees. It may be increased by seeds or by division of the tufts in spring.—*Alchemilla.*

FREESIAS.

THESE beautiful bnlbous plants are so easily grown, and so useful for the conservatory and cutting purposes, that a prominent place should be found for them in every garden. To prolong the flowering season, they should be potted in batches. If a batch is requlred in flower at Christmas, a start should be made now, placing eight or ten good ones in a 48-size pot, nsing a compost of two parts loam, one part leaf soil, with a good addition of dried cow-dung and sand, using the compost in a moderately moist condition, then only a slight syringing wlll be necessary till growth commences. Plunge the pots in asbes in a cool frame and keep close till growth begins. Place a neat stake to each growth, and always grow them in a cool, light position. When the pots get filled witb roots, llquid manure water will benefit them. A great mistake is often made by drying tbem off too rapidly. As soon as they pass out of flower, place them in a sunny position and give plenty of water till the growtb shows signs of dying off, when it should gradnally be withheld; when the tops are quite dead, turn the bulhs out of their pots and store away in sand until required for potting next season.—*Walter Hopkins, Leighton Gardens, Westbury, Wilts.*

LILIUM HARRISII.

LILIUM HARRISII.

THIS may be described as a strong growing form of L. longiflorum, producing more flowers upon the stem than the type. It is variously known as the Easter Lily and the Bermuda Lily; it is also a more decidedly commercial plant than L.longiflorum, being a popular subject and extensively cultivated in three continents as well as on the islands between. The facility with which it may be grown in pots and forced so as to give practically a supply of cut flowers all the year round accounts for its popularity; and notwithstanding the many endearing epithets given to the White Lily (L. candidum) lt is not half so popular because it cannot be so readily and easily manipulated as the plant under notice, the supply of flowers it gives being mostly obtalned from plants in the open ground during June and July. The Llly forming the subject of this note is never out of season. We were reminded of this fact by the specimens of lt exhibited at the Lily Conference at Chiswick on Tuesday last. The figure of lt given herewith shows a batch of plants as grown for market; and we may here remind our readers that florists remove the antbers so as to retain the purity of the flowers.

HORSE RADISH.

A CONTEMPORARY of yours recommends Horse Radish as a second crop to Cabbages, and gives elaborate directions as to its special requirements as regards soil, manure, &c. I quite agree with the writer when he says it makes a good second crop, but go further than this and say it will be the last crop for some years if once it gets hold of the soil, and especially on light manured soil as recommended. No doubt the writer has a special liking for this welcome adjunct to our natlonal meal of cold roast beef; it is evident that he does not write from experience; fostering Horse Radish is analagous to

the sparrow fostering the young cuckoo. It soon monopolises more space than it should do, and what is more, absolutely refuses to quit, even when served with an eviction notice in the form of a strong spade manipulated with grim determination, and often to the accompaniment of such language as does not give the air in that particular district the odour of sanctity. When once it has occupied the ground the least little piece of root left in the soil is sufficient to grow quickly into a large plant again. The most out-of-the-way rubbish corner is the best place for the store of this article, provided the soil is deep and good, for it will grow anywhere. To further emphasise what I have said concerning it, I may draw attention to the fact that although it is a most profuse flowerer it is only in exceptionally rare instances that it produces seeds, as it has relied so long on vegetative propagation that the power of seed bearing has become obsolete.—*R. C.*

MAIN CROP CELERY.

Referring to T.S.D.'s article, June 29th, on "Main Crop or late Celery," I agree with him that Celery to be used during April or beginning of May, should not be heavily manured, and it is soon enough to plant it for that purpose in the last week of July. Make a trench 15 in. wide and 20 in. or so deep, putting 3 in. of old manure in the bottom and the same of soil over it to plant in, and do not earth it up until the beginning of November (six weeks will blanch it), choosing a dry day to do it. Pack the earth rather firmly round it as worms work into the heart of the plants more readily if the earth is too loose about them. I prefer leaf mould or sawdust for this batch if it can be got easily. When Celery is a favourite vegetable with one's employer, it is better to have three batches, one to plant out in the beginning of May, heavily manured, that can be used during September and October, main crop six weeks later, and a late batch as above referred to. When wanted simply for flavouring, plant a few dozen in any odd corner on the surface; it stands the frost quite well, and the side leaves can be utilised until the young Celery is large enough, and it saves the fine blanched heads.—*Champfleurie.*

MAKING OF ASPHALT WALKS.

It is not very often we see our garden walks made of this artificial preparation, but I think where new gardens are getting made and expense not spoken of asphalt walks would be a great improvement, being nicer to walk on, and much easier on poor "Peter" who has all the wheeling to do. They are always dry, firm, and lasting if the material is properly made and put down. Take two parts dry lime rubbish, with one part each of coal ashes and sand, which must be finely sifted. These should all be in a dry state, and thoroughly mixed together. Leave a hole in the centre of the heap, and into this pour boiling coal tar. Mix well by turning the heap, and when sufficient tar has been added to make it like stiff mortar it is ready for use. When making these walks it is necessary that there should be a firm foundation and nothing is better than a layer of fine gravel rolled down firm and level, and finished off with the asphalt 2 in. or 3 in. thick. While putting the asphalt down, a little more should be put on the centre of your walks as a nice round on them helps to throw the rain off to the sides. A coating of coarse sand should be sprinkled on the surface, and when cold pass a roller over it.—*T. S. Dick, Castlemilk Gardens, Lockerbie, N.B.*

POINSETTIAS.

The Poinsettia is unequalled for giving a bright, cheerful appearance to a stove during the winter months. Many gardeners make a mistake in propagating these plants too early. The best plan to follow is to place the old plants in a frame about the last week in May. They should be kept close and syringed twice a day till they show signs of breaking. Water and air should then be given and this method will give nice short jointed cuttings about the middle of July. When the cuttings are 4 in. or 5 in. long, cut them with a heel attached, dip the cutting in sand and pot in light sandy soil. The cuttings should then be placed in a good bottom heat for a few days. When rooted the soil should be composed of good turfy loam, three-quarters, leaf soil, quarter, and plenty of sharp sand to keep it thoroughly open. A little dried cow manure is an excellent thing to mix in if procurable. Keep the plants close to the glass, as short stocky plants are much more desirable. When established give more air and they may be gradually removed to a cold frame whilst the nights are warm. As the cold evenings approach the plants should have a temperature of 50° to 55°. A succession may be obtained by placing a batch in a warmer house as required. The bracts last longer in a temperature of 55° than if kept too warm.—*B. J. Mercer, Castle Gardens, Sherborne, Dorset.*

CINERARIA STELLATA.

Those who have not yet given this a trial should at once obtain and sow seed, giving precisely the same treatment as accorded the ordinary florist's form.

It is the result of a cross between the ordinary greenhouse Cineraria and C. cruenta, and is to its first-named parent what Primula stellata is to the ordinary Primulas. The break from the hybridist's general aim for size and quality of blossom and compactness of habit gives a most welcome relief, and might well be followed with other families. Compared with the ordinary kind the plant is taller, also of looser and more spreading growth, and instead of being surmounted with a hugh head of blossom, its flowers are gracefully disposed in loose panicles on long stems. It is highly decorative, whether for conservatory or table adornment, and possesses a distinct advantage in furnishing beautiful and useful flowers for cutting. The individual flowers are relatively small, and in general appearance remind one forcibly of the best among the Michaelmas Daisies. The colours are not at present quite so varied as in the older form, but they embrace many charmingly tender shades, between pale lilac and deep purple-blue, and these will no doubt soon be added to.

As time presses, I may perhaps be excused for stating that should any difficulty be experienced in procuring seed, it is offered for sale by Messrs. Sutton & Sons, of Reading, by whom, I believe, the species was introduced some few years back.—*C. W. Smith, "Devonia," Kidmore Road, Caversham, Oxon.*

ROGIERA GRATISSIMA.

This genus must not be confounded with the genus Rogeria; it belongs to the order Rubiaceae, and is now included under Rondeletia. Rogiera gratissima, is a native of Las Calpas, and does very well in an intermediate house. It should be potted in a compost consisting of equal parts of peat, leaf mould, loam, and sand, and should be watered moderately. I remember seeing it some six years ago, whilst staying in Yorkshire, planted out in a corridor, and trained to some diamond wire trellising, and it seemed to be thriving well. The leaves are opposite, coriaceous and deep green; the flowers are produced in large terminal corymbs, similar to an Ixora, rosy-pink in colour, and the flowers are very fragrant, indeed. In fact, it is almost a perpetual bloomer. One does not often come across it now, but it is well worth growing, and in my opinion the flowers are equally as pretty as those of the Ixora. It is propagated by means of cuttings taken off in the spring.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

HYDRANGEA.

This pretty artificial-looking deciduous shrub is a member of the natural order of Saxifragaceae and the sub-order of Hydrangeae; it is invaluable for conservatory decoration owing to the long duration of the blooms, which are produced in a globe-like form at the apex of the plant. The majority of the flowers that are seen are neuter, that is to say, they do not possess the fertilising properties, such as pistil and stamens. The fertile blooms are generally hidden from view by the neuter ones. The colours of the flowers vary according to the nature of the soil. The chief homes of the Hydrangea are Japan, the mountains of India, and South America. There are no natives of Great Britain. Take cuttings in the autumn and keep them in a cold frame during the winter and use heat in the early spring. When the flower buds are developing, they should be well fed. When a good start is made, harden them off for the conservatory. Prune them rather hard and plunge them under ashes in the second winter, and when the growing season comes round again feed them well and they will make a handsome display. The best known species is Hortensia, sometimes called Hortensis. Another large species is paniculata grandiflora, which has large veined ovate leaves and bulky flower heads; it is cream-coloured, and turns a delicate pink when dying off. It is a handsome plant for the conservatory.—*G. W. Dickson, W. Hampstead, N.W.*

SOME WAYSIDE PICTURES.

Those who reside in country districts often see many floral treasures as they pass cottages, farmhouses and other gardens.

Last spring I had an illustration of this in several instances (two especially). In a farmhouse garden near Chard Junction there is growing on the walls a large mass of Wistaria, in the best of health, giving very large trusses of flowers. Beside it was a glorious display of Clematis montana, with a good-sized plant of Gloire de Dijon Rose hard by. These blended fine, and as the wall space covered with them was large, and being in full bloom at one time, the effect is not easy to realize. At the front, and no doubt where the roots of these are, is a small garden, and at this time it was exceedingly gay with late Tulips, &c.

Another instance worth recording I saw at a vicarage in a village close to where I reside. Here were growing, side by side, large plants of Yellow Banksian Rose and Wistaria, and for a long time these were in bloom together; and as the position was facing west and on a high position, with the eaves of the house overhanging protecting them, so fine was the sight that it could be seen a long distance. I observe this Rose blooms abundantly every year in this position, and also on another wall not far distant. I find these receive very little pruning, and are growing very slowly, while in our own garden they bloom but sparsely. Our position is low and damp and the growth does not ripen.—*J. C., Chard.*

Kitchen Garden Calendar.

During the past spell of hot weather there has been quite a raid on the salad material, and those who have not had a large supply have doubtless been wishing that they had.

Endives.—Salads are not so popular in winter as they are now, but they are, even then, often in demand. Those who do not wish to be behind the times should sow a good batch of Endive now for use during late autumn and early winter if they have not already done so, and take care that the seedlings are well watered, or it will be labour in vain to try and obtain a fair bed.

Radishes.—These should still be sown on well prepared ground, especially the Black Spanish Radish for salad use.

Turnips.—A sowing of these should be made to make a supply for winter. If the ground is very dry they will require frequent waterings. The yellow varieties are the best to sow at this time of the year.

Broccoli, &c.—The weather has been much against those plants which have been recently planted, especially those which have been transplanted carelessly, as they have had their fibrous roots mutilated, and have to make some new ones before they can start away. They will put up with a large amount of knocking about without actually dying, but they are just as grateful for gentle, careful treatment as the more tender plants. If the roots are carefully puddled in when planting them, they start away much better.

Vegetable Marrows.—It is time now that much of the surplus growth was checked and the energy of the plants directed to fruit formation, a thing they seem very apt to forget if left alone and allowed to ramble on without any restraining hand to direct their energies. Everyone knows that they are gross feeders, and a very common position for them is on the top of an old dunghill, but the fact that they also require abundance of water must not be overlooked, or the fruits will drop off instead of swelling.

Carrots.—Small Carrots for the table are often much in demand towards the end of the season,

and where an old frame is available it is advisable to make a sowing for this purpose.

SHALLOTS.—It is time that they were out of the ground now. A good place to ripen them is on a gravel walk, but if the crop is only a small one they can be placed on trays and sheltered if the weather is damp.—*K.*

THE FLOWER GARDEN.

NORTH and south alike the weather has been excessively hot, and in some districts it would not take a very elastic imagination to picture cannibals round you and fancy you were in the wilds of New Caledonia or Borneo. Which is suffering the most, the fauna or flora, it is difficult to say, as both are looking, in the majority of cases, in a dejected sort of way.

NYMPHAEAS.—There is only one class of vegetation that seems to look fairly happy, and that is the aquatics, especially the Nymphaeas. They seem to be exceptionally fine this season, and are much more often met with, as every garden now, where there is a good lake, goes in for the Nymphaeas and other bright aquatics. To those who intend to plant their lake with Water Lilies next season, I advise them to employ every means to exterminate voles or water rats, for they seem to be causing much annoyance in many places through persistently eating the buds as they come to the surface. Another thing must be decided upon, and that is whether the water is to be for water *fowl* or water *plants* Many people try to use it for both, but unless it is a large expanse it generally means disastrous results to the plants. Many people protect the Lily patches by encircling them with wire netting, although this is an effective means of preventing ducks, water hens, &c., paddling on the foliage, it has a very deteriorating effect on the beauty of the water. I know of many places, one especially, which ought to be devoted to plants, but is overrun by, not small specimens of water fowl, but such ideal Lily crushers as black geese, swans, pelicans, &c., so that the water has more the appearance of a department in the zoological garden than a hardy aquatic lake.

DICTAMNUS.—Many gardeners have a difficulty in finding showy plants to grow on dry, light soils. One of the most showy families of plants which are adapted to this sort of condition is the old Fraxinella. It grows best when in a rather dry soil. It is not at all difficult to propagate, and may be quickly increased either by divisions of the plants in the autumn, or by seed, which requires sowing as soon as it is ripe. Like many others of the Rutaceae order, it is very rich in volatile oils, and when rubbed emits a very pleasant balsamic odour. When the flowers are fully open they emit these oils in such quantities that when a lighted match is thrust amongst them they become visibly ignited in the air. Many new species or varieties have been brought out recently and show great improvement on the old types.

COSMOS.—The very name means beautiful; from the Greek *kosmos*, beautiful. For late autumn displays there are few annuals to equal these showy subjects. They will grow on any herbaceous border, and from now until late in the autumn those people who choose them in the spring will be gratified with a fine display of beautifully-coloured flowers. They may be had in the brightest scarlet and the most chaste white, and when cut and arranged in light vases, they have a most refined, artistic effect, as they are light and graceful. They come very freely from seed and should be raised in a gentle heat and planted out when fit in the same manner as other tender annuals. Some people grow them as perennials, but there is not much gained by this, as they require protection in the winter.

LYCHNIS.—From a plant whose generic name means lamp we look for something bright, and in this instance we get it, for no plants are making a more brilliant patch of colour on the borders at the present time than some of the Lychnis. Not only are they brilliantly coloured, but they will grow with very little attention on almost any soil; they do best on a rich sandy loam. One of the best species is L. chalcedonica. Its flowers are borne in corymbose clusters, and are a very bright scarlet. Russia is its native country, so it is perfectly hardy. There are several varieties of it, all worth growing. It seeds very freely, and if left alone will sow itself. The double kinds only come true from divisions, which should be made about March. L. fulgens, as the name denotes, is another very showy species. L. f. grandiflora, introduced from China in 1774, has rich scarlet flowers fully 2 in. across. It is a little more particular about its position, and needs a warm sheltered border to grow it satisfactorily.

NEMOPHILAS.—This is a genus of plants that does not meet the favour it deserves. Some of the species are small and inconspicuous, but such as N. insignis, which has flowers of a sky-blue colour with a white eye and over 1 in. in diameter, are well worth growing. It is indigenous to North America, from which continent it was brought over to England in 1822. There are several pretty varieties of this species, one especially deserves a place in every garden; it bears the name of N. marginata. and is bright blue with a white margin. There is another variety whose colour is given in the name N. purpurea rosea. For a show of flowers in the spring, the seeds should be sown now in the place where they are to flower. For a display of flowers from this time of the year onwards they ought to be sown not later than April.

OENOTHERAS.—There are few gardens in which Evening Primroses do not figure, but there are many in which only just one or two of the most common species are found. People who neglect to provide their garden with a good selection of Oenotheras lose a good floral treat. They may be had bushy and light, tall and dwarf, and in many colours besides the orthodox primrose shade. For instance, what can look more striking than a clump of O. amoena rubicunda, which has rosy lilac flowers with a deep coloured blotch at the base of each petal. It is the parent of many handsome varieties, and has found more favour with florists than any other species. One of the best results obtained from it is the variety known as The Bride, which has crimson flowers suffused with lilac. They are all very easy of culture if given a sandy but rich soil and a light and roomy position.

ACROCLINIUM ROSEUM. — Australia and South Africa have provided us with many showy genera of flowers, and none are making a better and more successful effort to represent the flora of their native country than this is at the present time. It is very useful for pot culture, but when grown under that confinement, half its beauty is lost when compared with a patch of the same species grown in the open ground. The flowers, which are freely produced, are borne on slender, graceful branches, and are of a pretty rose and white shade. They do not require sowing until early in June, and then the sunniest spot possible should be selected for them. If they are to be used for winter decoration they should be sown now in pans and placed in a cold frame. There is a very good variety of roseum known as grandiflorum. The colour and habit are the same, but the flowers are twice the size.—*P. R.*

FASCIATED LILIUM HARRISII WITH 145 FLOWERS.

A FASCIATED LILY.

OUR readers who grow their Lilies strongly may have seen some such example as is represented in the accompanying figure, which carried 145 flowers all crowded together at the top. Lily stems which behave in this way as the result of excessive vigour of growth seem as if they consisted of several stems all grown together, and are either greatly thickened or are much corrugated or flattened, facts which also indicate the cohesion of many stems, each with its quota of flowers all crowded together in one mass. Another Lily which often behaves in the same way is L. auratum, the golden-rayed Lily of Japan. It cannot be said that these forms are either elegant or graceful, but they are certainly very curious, and serve as instances of the strange forms that may be met with in the vegetable world.

In Limerick there are 543,606 acres of pasture land.

Hints for Amateurs.

Owing to the great number of questions that are pouring in daily from amateurs in all parts of the country, asking advice on all sorts of difficulties, the editor has decided to limit the space for "Hints" to one column, and to admit the more useful answers to take the place of the other column. This will no doubt mean a greater number of questions than ever to be gone through, and also make it more difficult to cram many popular hints or any great amount of advice into the cramped space of one column, but the questions answered in the other two columns will doubtless be of great value to many besides those who ask them.

The amateur who has the interests and improvement of his garden at heart cannot better employ his time than by visiting various gardens and noting good plants, inquiring their prices and making a special note of the soil and positions in which they seem to thrive best. It will be surprising how many new, stately, and graceful plants may be introduced to take the place of many of the miserable varieties which are grown yearly until the sameness, season after season, becomes monotonous.

Delphiniums.—These plants make a good illustration of what I mean. Compare the magnificent varieties which may be seen in our parks and public gardens at the present day with those which we were familiar with a few years ago The colours are more intense, the harmony of shades is better, the flowers are larger, the spikes larger, and the whole plant more grand and stately. They may be bought for the same money that is outlayed on the embellishments of the flower beds, and as I have tried to impress our readers before, the initial cost is practically the only one, for they improve year by year, and require very little attention beside an occasional supply of water and a small top dressing of manure in the winter. Picture a clump of these, many feet through, with spikes 6 ft. high, of the most perfect blue, in the place of a bed of dwarf, flat Pelargoniums and Calceolarias; ask yourself which you prefer, and then go and inquire the price of your choice, and if it is Delphiniums you will find, unless you go in for the very newest and scarcest varieties and oldest of clumps, that the price will be no more than for the other puny lot. The same applies to Paeonies and many other such noble free flowering plants. The Delphiniums are in no way fastidious as to what soil they have so long as it is deeply dug and receives a topdressing of old farmyard manure or stable refuse every winter.

Foxgloves.—The many beautiful strains of these stately flowers make them good companions to the Delphiniums, and while they provide the many shades of blue, the Foxgloves produce most of the other shades.

Gynerium agenteum.— As a rule this noble subject, known, perhaps, more generally under the name of Pampas Grass, is only seen in the pleasure grounds of large establishments. It has a fine appearance when isolated in the grass and is just as much at home on a small lawn, especially if as a centre plant, as in the far extending grounds surrounding a mansion. Its needs are few and its good qualities many. All who see a bold specimen always admire it, and as some very good clumps may be obtained from 2s. 6d. to 5s. it ought to be gracing far more small gardens than it is at present. There are many new varieties out recently, several of them with very handsomely variegated foliage. They do not like a very heavy soil, one with plenty of sand in it suits them admirably if it is enriched with a little good, old manure. Before it is planted the ground should be broken up to a good depth and never allowed to become dry, as the Gyneriums delight in plenty of moisture. In very cold situations it does not prove quite hardy, but if its old foliage is allowed to remain on until the spring and a mat or loose leaves are thrown over it during the severest of the weather there will not be any difficulty in preserving it. There are not many places where its own foliage is not sufficient to protect it, even when isolated on a large lawn, so when enclosed in a small garden it will be very little trouble. The one main thing which must not be neglected is to give it plenty of water, and the result will be much better if manure water is used occasionally.

Kniphofia.—This has three popular names, Torch Lily, Flame Flower and Red Hot Poker. It is a family that is well known, but little grown by the amateur. A clump of them in a lawn makes a blaze of colour in the autumn and ought to be found in every garden of any size. Their requirements are few and simple and what suits the Pampas Grass generally suits the Torch Lily. For town gardening they are almost indispensable as they do not suffer much from the smoke and other impurities. The main two points to bear in mind when growing them are, remember that they are moisture loving plants and also that they will well repay the expense of giving them a little weak manure water now and again when watering them. The same protection as that recommended for the Pampas Grass should be afforded them in the winter if the weather is very severe. The best time for planting them is either in the autumn or the early spring. Some people have the idea that they are beyond their means, but an inquiry at a good hardy plant nursery will soon dispel this idea, as the prices generally range from 1s. to 2s. 6d. for very good plants. The numerous blendings of apricot, rose, orange, coral, vermilion, etc., which may be obtained at the present time, would astonish our forefathers, who only had very few shades in them.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

When to Transplant and Divide Pyrethrums.—*F. P.*: The best time to do this is either in the autumn or spring; we should not advise you to interfere with them in the winter, as most plants suffer by having their roots exposed during sharp weather. Before you plant them give the ground a thorough pulverising to a good depth, and if inclined to be poor, see that some dung is thoroughly incorporated with the soil as it is broken up. They succeed in any garden soil, but to grow them to the highest point of perfection they require a rich loam. Plenty of water should be given to them, especially when they are throwing up their flowers, and if a little sheep manure is occasionally added to it, the size and colour of the blooms will be greatly increased. They seed freely and soon make good plants, but to keep them true to name they should be propagated only by division. Slugs and snails seem very partial to the young growth, slugs especially evincing a special liking for them. As a preventative against these depredations the crowns should be given a dressing of ashes or soot early in the spring.

Chrysanthemums with Mildew—*T. T.*: There are many special preparations for stopping these, but none seems to be more effective than the old remedy of sulphur. You have made a great mistake in selecting a position beside a hedge for your plants, as it is most probable that it is through want of plenty of air that they have been attacked. We advise you to remove those in pots without delay and stand them in a row on a walk, away from hedges or walls, but not where they will suffer from the wind. Be sure you put a piece of slate under each pot to prevent worms from getting in, and have a wire along the row to which the stakes may be tied to prevent the plants from blowing about. There are several good Chrysanthemum manures advertised. If you use nitrate of soda you must apply it very judiciously, or you will have your plants rush off into growth at a pace which will surprise you, and also disappoint you when the blooming period comes on, as the plants will then be the best part of the show. Cow or sheep manure diluted with water and strained through a fine sieve is very useful; be sure and not neglect the straining or you will make your soil sour, which means disaster. An occasional application of soot water will be found to be very helpful, especially in giving tone to the foliage.

Fern Propagating.—*Fernery*: The general way of propagating Asplenum bulbiferum is by pegging down the oldest fronds which show the bulbil like growths on to pans of light soil and placing them in a warm, moist, shady house. Some prefer to sever the frond before they peg it down, others allow it to remain on the parent plant. We are not aware that anything is gained either way, but if the frond still draws its nutriment from the parent plant, it is not so liable to damp off. All the species which show signs of this growth on the fronds may be readily propagated in this way.

Propagating the Virginian Creeper.—*T.*: Ampelopsis quinquefolia and the sister species which clings by itself, generally known as A. Veitchi, but rightly named Vitis inconstans, may be increased by cuttings. Those shoots which are half ripened should be selected and placed round the sides of small pots of light sandy soil, and placed under a bell glass or hand light in a cool position. They may also be struck from pieces in the spring, before the buds burst; these should be treated in the same way.

A Showy yet Hardy Rose Suitable for a Pillar.—*J. P.*: You have asked for advice on a comparatively easy subject, but out of the vast collection it is difficult to say which is best: but in our estimation there is not a pillar Rose to surpass the variety known as Carmine Pillar. It is certainly one of the most showy Roses grown and a very fine flowerer, and grows strongly. The flowers are a brilliant crimson-carmine colour and make a very striking feature. It is quite hardy and likes to have room to grow. Being a large grower, it requires a rather richer soil than what is generally used for Rose growing. It is shown off to best advantage when making a high archway over a walk. Not only are the flowers of good substance, size and colour, but the foliage is of a lustrous green, which greatly adds to its beauty. It is a single Rose and has blooms about 2½ in. to 3 in. across and makes a fine effect when cut, but will not stand long off the tree unless the petals are gummed.

Cucumbers Thickening.—*Frame*: This is a very common occurrence and the cause can generally be traced to neglect. It is caused through some check to the growth and then giving proper conditions again. For instance, watering with cold water, leaving your frame open all night, or allowing your plant to suffer from want of water at the root—all these are conducive to producing this peculiar knobby growth. With care and proper attention you will find your fruits will swell away without any unevenness; if they do not, send a specimen carefully packed, and we will try and find out the reason.

Are Dwarf Sweet Peas Worth Growing?—*M.*: A correspondent writes and asks this question, not from the standpoint which many would judge it, but he has not seen any very floriferous varieties. When grown under proper conditions the dwarf varieties prove to be very fine flowerers, but we also look at the question as it stands: Are they worth growing? We should say, No! For this reason: by introducing this strain, the elegance and graceful habit, which is so characteristic of the normal type of Sweet Pea, is lost, and stiff, distasteful, inartistic formality is introduced in its place. We do not say the flowers are not as good, it is only the cramped, contorted appearance which spoils them, and all lovers of true beauty ought to protest against this desecration of graceful Nature. Some growers succeed with them, however, and are proud of them for their dwarf habit, as they may be sown along the front of borders, and require no staking and very little attention.

Cacti for Rockery.—*S. P.*: There are several kinds of these somewhat weird plants which will bloom out-of-doors and stand the rigours of our climate if they are given a sunny, well-drained position and protected during very severe weather with mats, but the Opuntias are the only ones worth troubling about. They are easy to grow, flower freely and always have a nice appearance both in summer and winter. In a sunny position beside some rocks or a wall they soon make a good show if they are treated properly. Only a very few inches of soil are necessary; this should lay on a good layer of finely-broken bricks and stones.

Best Position for Violets.—*A. M.*: As in all branches of gardening, when it is desired to obtain the right conditions, copy as nearly as possible the

position, &c., which they are found in Nature's garden. Violets are shade-loving plants, also moisture-loving, and, as may be seen from the situations they grow in, they also delight in a vegetable soil. The main requirements, then, may be summed up in a few words—a shady border and a moist, rich, humic soil, sufficiently open to insure that it does not become sour.

THE HERBACEOUS BORDER.

THE herbaceous border is pre-eminently at its best during this and the following month. It is now the fashionable part of the garden; even the aristocratic Orchids have to stand back where the outdoor garden is concerned. To see the herbaceous plants now and to compare them with those which delighted our forefathers gives some idea of the good work being done by the enthusiastic florists. New varieties pour into the market every year and the few good things which our limited space will allow us to mention will only be as mere areolites in a firmament of novelties and beautiful productions. With such a supply to draw from one is in doubt as to which he should choose.

OSTROWSKIA MAGNIFICA.—Although introduced as long ago as 1887 this handsome monotypic genus is still comparatively unknown to the general run of gardeners. The price has been somewhat high, perhaps that has accounted for the scarcity of it in small gardens. It cannot be because it is not worthy of a place in a collection, or because it is difficult to grow. A more noble flower is not to be found on the borders than this "Giant Bell Flower," as it is often called. The plant grows to the height of 4 ft. to 5 ft., and the flowers which are pearly white are delicately pencilled with lilac, or pale lilac blue, and are 4 in. across. It belongs to Campanulaceae, looks like a giant Campanula flower, and requires exactly the same treatment as the perennial species of that popular family. It has large tuberous roots, which, when grown in good soil, are often 2 ft. long. It grows best in a light, sandy, rich, deeply dug loam. The roots being so brittle it is impossible to propagate them by division in the same manner as many of the Campanulas are increased, but it is easily raised by sowing seeds in a cold frame as soon as they are ripe. It does not grow very quickly in its young state and is often three years before it flowers. When it is planted out in the border it should not be disturbed again for several years but the soil should be enriched by mulchings of manure during the winter. Its somewhat strange apellation it takes from a Russian Botanist after whom it is named. It was introduced from Central Asia. The chief district where it is found is in the mountains of Eastern Bohara. The leaves are lance shaped, toothed, and borne in whorls up the somewhat slender stems.

PENTSTEMONS.—There is scarcely a more handsome genus of plants on the border than these old-fashioned flowers. Although old-fashioned, people confine themselves to a very few species and often neglect altogether some of the most handsome of the tribe. For instance, in how many gardens do we see that showy species known under the syn. of P. hirsutus, also under the name of P. mackayanus; its proper name is P. pubescens, which means downy, and is a well-chosen name. As a rule it is not a very tall grower, seldom exceeding 18 ins. in height, but it is a profuse bloomer and is a decided acquisition to every herbaceous border. The two predominating colours of the flowers are violet and white, but even on the same plant these colours are not fixed, for several of the flowers often show shades of purple, light blue, orange and lilac. It is a plant that delights in a rich warm soil and plenty of sunshine. The sterile filament is very long, conspicuous and very much bearded. Although the name Pentstemon means five stamens there are never more than four perfect ones, the fifth being only a filament, the anther which should be at the top is always missing. It is best raised from seed which should be sown about February in a gentle heat.

PENTSTEMON BARBATUS.—This is another species which is far too often missed when selecting plants for the border. We will not say overlooked, for it must be because the plant is not sufficiently known that it is not seen more frequently. It is strange how long it takes for some plants to become known in places far away from botanic gardens and large nurseries. This plant was introduced to British gardens considerably over 100 years ago, and yet its graceful panicles of carmine flowers are at present unknown to a great many large gardens.

URSINIA PULCHRA.—This is a most handsome annual for the borders. Its native place is unknown, but most of the genus hail from S. Africa. It first flowered in Great Britain in 1836, and was then known under the name of Sphenogyne speciosa, which name it still retains as a synonym. It is a composite, and the ray florets, which are lanceolate in shape, have the appearance of having been bitten at the extremities; they are a lemon colour when the flower first opens, but soon change to a deep orange colour as it gets older. The base of each petal is a shiny black, and laying between the yellow disc and the orange rays it makes a very striking marking, and greatly adds to the beauty of the flower. It is quite a dwarf grower, and seldom exceeds the height of 9 in. to 12 in.

BAERIA CORONARIA.—This belongs to a small genus of plants, mostly Californian. Many of them are not considered worthy of cultivation, but the one under notice amply makes up for the deficiences of its sisters, and when in light soil and on a sunny border it makes a brilliant patch of yellow. It is very dwarf and requires an open position to do well. It grows freely in almost any ordinary garden soil, and should be sown in the spring as a half hardy annual. The genus was named after Professor Baer, of the Dorpat University.

COLLINSIA BICOLOR.—To get the full effect of this handsome border annual it should be sown in patches, about April, and then thinned out to about 2 in. apart. It requires seeing to be fully appreciated. It belongs to the Scrophularineae order. The upper lip and the tube are white, and the lower lip a pretty rose-purple shade. It was introduced from California in 1833. There is a variety known as C. bartsiaefolia which is almost identical with C. bicolor, but has a little lighter coloured lip. It makes a very bright patch of colour and is conspicuous from a long distance. It usually flowers during July and August, but it may be had in bloom much earlier by sowing in the autumn and protecting the young plants with hand-lights.—*P. L.*

LILIUM HENRYI.

SINCE this was introduced from China a few years ago it has given great satisfaction in various parts of the country, making vigorous growth of 5 ft. to 6 ft. or more in height. In general conformation it displays evident affinity with L. speciosum, but is abundantly distinct for garden purposes, and even merits the title to be considered a distinct species. The flowers are produced towards the apex of these stately stems and the spreading and arching branches allow the flowers to droop gracefully around the stems. In colour it is abundantly distinct from any other Lily except L. Batemanniae, L. Hansoni and L. elegans armeniacum. In all other respects it is abundantly distinct from any of those named, none of which can approach it for stateliness. Some grand plants, grown in pots, were exhibited by Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, at the Lily Conference held at Chiswick on Tuesday and Wednesday last. The accompanying illustration shows only the tip of a stem with one open and two flower buds. The plants themselves should be seen to be appreciated.

LILIUM HENRYI.

Artificial Manures.—It is firmly believed by many farmers and horticulturists that artificial manures exhaust the soil. A series of experiments at the Agricultural Demonstration Station for the Wiltshire County Council have proved this to be a mistake. Artificial manures like everything else require judicious application, and the nature of the soil to which they are applied should always be one of the first considerations. The recent experiments prove that, when properly applied, instead of exhausting the soil they contribute to a material increase of the fertility of the land.

CARNATIONS AT CHELSEA.

In the southern parts of Britain the glory of the Roses has greatly faded during the past week or two, so that interest in them for the time being has given place to Carnations, now at their best. Last week we paid a visit to the nursery of Messrs. J. Veitch & Sons, Ltd., Chelsea, who have grown a very representative collection of Carnations for many years past. In accordance with the times the greatest amount of attention is bestowed upon the border varieties, including not only selfs, but yellow ground Picotees and Carnations and fancy varieties. The white ground Picotees of the florist, as well as the flakes and bizarres of the same school, are grown to a lesser extent. New varieties of superior merit continue to be added to the collection, as they come into existence or into prominence.

Border Carnations.

Selfs.—Of the border varieties, this is at once the most important and the most numerously represented group. We can only mention a few of the best varieties we noted in the collection. Very fine were Joe Willet, dwarf bright scarlet: Duchess of Fife, one of the most popular pink varieties: and Mrs. F. Watts considered the best white on account of the purity of the flowers and the unusually dwarf habit of the plants (15 in.). A very charming flower is Rose Celestial, with large deep rose flowers fading to rosy-pink with age. Mephisto and Uncle Tom are two maroon-crimson selfs, the latter being the finer of the two. Whether the colour is beliked or not, there is no question about the distinctness of Bendigo, which has rich dark purple flowers. Pride of Penshurst is still a good variety, and has flowered well in the open here. In many respects it is surpassed by Lord Roberts, a large and handsome self with good grass. Seagull is also a choice form with large blush-white flowers and good grass.

For some years Cautah has been known as the scarlet Clove on account of the fragrance of its flowers. Free flowering is Crombie's Pink. One of the best whites is Edith Ladenham, which can be readily propagated by the numerous shoots it produces. The cultivators of Raby Castle (pink) are numerous, so that it is hardly necessary to mention its merits, but we may state that it is a late variety, admirably adapted for giving a succession. George Maquay is a white of fine form, with smooth edge, slightly fragrant, and producing an abundance of grass. A free flowering but late scarlet is Isinglass, of handsome appearance. Mrs. Harker is a new large rose-pink self of great merit.

White and yellow varieties are now well represented. Helmsman belongs to the former colour, and produces very large, slightly fragrant flowers; and Rizzio to the latter, its large flowers being carried on stout stems. The brilliant crimson-scarlet of Lady Hindlip stands out prominently in a collection. Equally fine in its way is Francis Wellesley, with rich carmine flowers. A fault with the carmine and rose varieties is that they are liable to burn with strong sunshine, but they are worthy of a little attention in the way of shading. A distinct colour also is Mrs. R. Hole with buff flowers. Although Cara Roma is classed as a purple variety, it is slightly shot with carmine.

Very bright and pleasing is Sweet Briar, a scarlet flower of beautiful shape. A strong growing and handsome yellow is Mrs. A. Campbell, standing about 2½ ft. high. On the contrary, Agnes Sorrell is notable for its dwarf habit and maroon flowers. The pods of Marechal Ney do not burst, while the flowers are bright scarlet. Sir Henry Irving is another maroon-crimson of good form; and while Comet is similar in form it is notably dwarf, not exceeding 12 in. to 15 in. in height. Trojan is another good white.

New varieties are plentiful, and besides some of those given above, we also noted the lovely yellow Cecilia with its petals incurving at the edges. Of superior merit is Much The Miller, a new pure white with handsome flowers and broad glaucous leaves as if it had Malmaison blood in it. A strong contrast to the above is found in Sir Bevys, with maroon flowers, and dwarf in habit. Amongst whites, Beauty of Exmouth is also choice and deserving of a place. One of the finest new yellow Carnations is Jenny Deans, producing plenty of grass. All of the above merit extensive cultivation. Mrs. T. W. Lawson, the popular American rose Carnation is also flowering freely here.

Yellow Ground Picotees.—Great attention is being given to this lovely class of Picotee, and new varieties of vigorous habit are continually being added. Very handsome is Lady St. Oswald with a fine red edge. Lauzan is a bold and showy flower with a heavy purple edge. The bright rose edge of Caracci is well set off by the bright yellow ground. On the other hand, there are rosy lines extending down the petals from the edging of Daniel Defoe. A distinct and striking flower is Alcinous, having a heavy purple edge. Pretty also is Don Carlos with a heavy rose-lilac edge. One of the best is H. Falkland, with a bright rose edge.

Fancy Carnations.—Well known and much grown is Alice Ayres, lightly flaked with rose on a white ground, and producing a large quantity of flowers, so that one may cut and come again. A curiosity in its way is that named Heliodorus, having a clear rose ground and a darker margin. It is certainly a fancy, and possibly there are many who would fancy it. One of the most handsome of the fancies is that named George Cruickshank, having crimson-scarlet flakes, and markings on a salmon-red ground.

White Ground Picotees.—There are some really very beautiful varieties in this, the florists' section; but though they still hold their own at exhibitions of florists' flowers proper, they lack the size of the newer yellow ground Picotees. For delicacy of refinement, however, many of the white ground Picotees remain unbeaten.

This applies to such elegantly defined colours as are to be met with in the rose edged Mrs. Wood; the pretty and light rose-edged Mrs. Payne; the purple-edged Clara Penson; the light rose Favourite, a charming flower; and Beauty of Plumstead, all of which belong to what the florists term the light or wire edged group.

On the contrary, we have the broad or heavy edged type in Cordelia, Exhibition, Amelia, Amy Robsart, Polly Brazil, John Smith, and Miriam, the edge of which is purple. Then we have a heavy crimson edging in Brunette, Grosteen, and J. B. Bryant. Mrs. Sharp represents the heavy scarlet-edged type; while Edith D'Ombrain and Norman Carr are heavy rose-edged varieties. In white ground Picotees the colouring is entirely confined to the margin. Another point about them is that they do not burst the calyx. For cut flowers in bouquets, for table decorations and buttonholes, they are just as eligible as the larger Carnations.

The bizarres and flakes have often been described, so we took no names of varieties. Those desirous of taking up the cultivation of any section of Carnations would do well to inspect the Chelsea collection.

Gardening Miscellany.

THE YEAST PLANT.

Yeast is a substance everyone is familiar with, even the staunchest teetotaler, but to most people it is yeast, and nothing more. To gardeners it ought to be of special interest, as it is an actual growing plant or rather a conglomeration of exceedingly small plants belonging to that group of the vegetable kingdom which they are often brought into acquaintance with without wishing for—the fungi. There are two chief species; the one that causes the fermentation of beer has the somewhat awkward appellation of Saccharomyces cerevisiae, and the other which is used to ferment wines is S. ellipsoideus. The individual plant is one of the most simple of the vegetable organisms, consisting of a single round or oval cell. It has no sexual organs, but reproduces itself vegetatively by budding, and as the young cells get to a fair size they break away. Like all other fungi it has ample provision for providing against any disaster to its life, and it is remarkable to see with what persistency many of the fungi hang on. Many plants would die if suddenly deprived of their food, were dried up, or exposed to extremes of temperature. This tiny member is not killed so easily. As soon as it is prevented from growing under ordinary suitable conditions it makes arrangements within itself to wait until those conditions return again. The protoplasm which lines the walls forms itself into four sections or spores and become covered with a membrane; and when the outer wall dries up and becomes disorganised these four float off into the air with the least disturbance, and whenever they alight on a substance suitable for their normal condition they germinate immediately, and go on their old style of life, budding and increasing rapidly until they are again upset.

LYSIMACHIA VULGARIS.

Few native plants can boast of a much more showy habit than the yellow Loosestrife. L. Nummularia, better known, perhaps, under the old country name of Creeping Jenny, is often seen under cultivation, but this one differs entirely from the favourite little creeper; it is tall and stately, often growing 2 ft. to 3 ft. high when in rich, moist soil beside lakes, &c. It will thrive best when treated as a sub-aquatic, but all those who have a pond or stream in the neighbourhood of their garden ought to introduce a few of these plants round the margins, for at this time of the year the effect of the panicled cymes of bright yellow is delightful. Its name, even, is good, being taken from the Greek *lysis*, dissolving, and *mache*, strife, with reference to the soothing qualities of the plant.

A WILLOW STAKE.

I am not sure whether it is standing now, but I was much struck by the appearance of a Willow some years ago on the estate of Kilgraston, Scotland. The tree was originally a stake for another tree, and like many other Willow stakes it put out roots and commenced to grow, and when I last saw it it had encircled its charge almost completely and had strangled it. The original plant was seen protruding through the bole of the Willow. According to the oldest inhabitants it is close upon eighty years since the stake was put in. The girth of the trunk was, when I saw it, over 12 ft. 6 in. in its narrowest part. —*B. P.*

A TRUE JACOBITE ROSE.

One does not often hear of Roses attaining very great ages, but one that was planted by Prince Charlie, of Scotland, is certainly getting on in years, if still alive. This tree grew upon a small mound in the grounds of Garvock, Perthshire, a mansion much visited by this historic personage. Great care was taken of it, and all wood that might have weakened its constitution was immediately removed. Arborists who visited this estate went into raptures over a giant Walnut, which stands not far from this Rose tree. It has a clean bole of 20 ft., has a girth of 16 ft., and is over 80 ft. high, and undoubtedly the largest specimen in Scotland.—*B. P.*

BOUGAINVILLEAS.

The two species, B. glabra and B. speciosa, are now making a gorgeous show in many stoves and conservatories. They look very pretty when grown in pots, but nothing compared with what they are when grown on a roof, and instead of having their roots restricted in a pot, they have a rich border in which to run. They are impatient of too much stopping and training, and when this is carried out too far it often acts prejudicially on the production of flowers. What they seem to delight in is plenty of root room, a good light roof which will allow the head to spread freely and a good compost of three parts good friable loam and one of leaf soil; loam from a meadow on which sheep have been penned is much the best. It is a plant which requires resting in the winter season, so that, if other plants are grown in the same border, they must be of a kind that will also bear a rest during that period. The Bougainvillea seems to object to manure in the soil in any quantity, but appreciates an occasional supply of weak manure water at the root when growing freely. A great mistake is often made in growing them too close; they like a warm house but it must be an airy one. As they like such a position they are very subject to spider, and unless syringed daily will soon become eaten up by it. B. glabra was introduced from Brazil in 1861 and B. speciosa in the same year was also brought from that land of flowers.

THE TULIP ORCHID.

When given the proper treatment this Orchid is one of the easiest to grow and one of the finest flowered. Its proper name is Cymbidium eburneum, the latter name meaning ivory, in reference to the colour of

the flowers. It was introduced from the East Indies in 1846 and is still a very popular Orchid, especially with those who do not possess houses specially devoted to Orchid culture, as it grows well in a cool, shady greenhouse, and requires much the same treatment as the other occupants of snch a structure. Some people try to coddle it and grow it in a compost such as is used for most other Orchlds, but there is nothing like loam fibre and good peat and broken crocks; sphagnum is not necessary. The roots are fleshy and do not like disturbing, so care must be exercised in watering to ensure that the soil remains sweet. The plants do not require mounding up, but should receive the same treatment as an ordinary greenhouse subject. They should never be allowed to get dry or they will lose many of their leaves, which is very undesirable, as they give the plant an ornamental appearance when out of bloom, a feature seldom met with in Orchids. They also have the distinctive feature of being very fragrant. The flowers are generally produced in the sprlng. At all times they should have plenty of room and fresh air, but not draughts, a thing which all plants object to.

BEST TWELVE KINDS OF VEGETABLES FOR COMPETITION.

(*Concluded from p. 722*).

Cucumbers.

In growing Cucumbers for exhibition the first consideration is, which variety to grow. Nearly every gardener who exhibits has one he prefers before others, but whatever the sort, any good seedsman may be depended upon to supply it. Among those I have grown successfully are the Improved Telegraph, Lockie's Perfection, and Matchless, all of them being very good and reliable. The next consideration is where they are to be grown. The best place, of course, is a Cucumber-house, but if that cannot be had, then they can be grown in a frame. To do this you must make a nice sweet hotbed and place the frame on it, relining the bed with manure as required to keep up the heat. But, when the Cucumbers are formed, you must use Cucumber glasses for the frult, to keep them growlng straight and long. If a Cucumber-house is available, it should run east and west, with a path down the centre and the beds on each side. There should be sufficlent piping to keep up the temperature to 70 or 75 degrees. I sow my Cucumbers ten weeks before the date of the show, or say, about the 24th of May, which gives long enough time to bring them to show form. If by any chance you get behind, it is easy, by adding a little more heat,to drive them on faster. Sow the seeds in 3½ in. pots—one in a pot—putting a few crocks in the bottom with a bit of moss over them. Take compost made of equal parts of loam, leaf soil, and sand, well mixed together, half filling the pot with it. Put the seed in the centre and cover with a little soil, plunging the pot in a frame with a bottom heat of about 70 degrees. Do not give any water the first day, but give them a slight sprinkling of tepid water the second day. Watering too freely at the time of sowing is a frequent cause of seeds rotting. As soon as the seedlings appear bring them gradually to the light and near the glass. When the second leaf appears, have some soil similar to the first, and with it fill the pot nearly to the rim. This saves potting off the plants when they are so young and tender. When the pots are filled with roots, shift the plant into a 5-in. pot, this time using two parts loam, one part leaf soil and well-rotted manure, and a little sand. By the time these pots are full of roots, the beds ought to be ready. I put some fermentlng material at the bottom, over the pipes, so as to get a good, strong bottom heat, and then I cover the bed all over with good turfy loam, so as to keep the rank steam down. The plant will now require a little heap of about a bushel and a half of compost to each plant. For this purpose, get some turves or top 'spit' of old pasture which has been allowed to lie grass downwards in a heap to decay. Mix with this a little rotten manure and a few half-decayed leaves, working them well together. Put this down on a shelf and plant the Cucumber in the middle of the heap. The temperature should be from 65 to 70 at night and about 80 by day, allowing a rise of 5 to 10 more by sun heat. Keep the plants well syringed and train them neatly to the trellis overhead, not allowing more shoots than can have plenty of light for each. As the plants grow, more soil must be added. In about 10 or 12 days after the flower sets, you should have fruit in perfection. You should allow about three or four fruits on each plant, about three-parts of the way up the trellis. I recommend the use of glasses for exhlbition fruit for they tend to make them straight and handsome. A good temperature must be maintained, giving air at the top of the house early in the morning, before the sun shines too strongly on the house and perhaps burning the leaves. Close the house in the afternoon before the sun leaves, and damp down so as to raise the temperature. The plants should have manure water as soon as they begin to show their fruit. A little cow manure in solution—not too strong,—alternated with a little of Thomson's Vine Manure, is a good thing, and the motto in manuring should be "little and often," as large doses of manure do more harm than good. The water used in syringing must be of the same temperature as the house. When cuttlng the fruit, handle lightly and as little as possible, otherwise you may take off the "bloom" which sets off the fruit.

Potatos.

According to my experience, success and a good place in the prize list depends to a great extent on the proper storing and preparing of the sets before plantlng. A change of seed is very desirable, but it is a great mistake to delay ordering the seed until, perhaps the Potatos have made their first sprout. The first bud or shoot is always the strongest and the best, and early sorts especially should be given plenty of air and frequently turned over to prevent the Potato from sprouting until it is wanted and can soon be planted. The central sprout is always the most reliable. Potatos for seed should be placed on a shelf end-ways, the sprouting end upwards and the narrower end or that which, when growing, was attached to the root of the plant, downwards. When the Potato begins to sprout, all the buds or eyes except the strong, central one should be rubbed off or picked out with a knife. The produce from central buds is better every way, the crop greater and the individual Potatos larger and better for competition. The preservation of the first and central sprout is, in my opinion, not only desirable but positively essential to success where competition is keen and the competitors are experts in growing for exhibition. Even if the shoot has become far advanced, and is 1 or 2 in. long, I would sooner plant it and trust to it than to a Potato set with two or three side shoots. A fruit room or any similar dry place is suitable to store the seed in until planting time comes round, laying the tubers out singly. If you have not shelves to place them on, then lay them out on the floor, the great consideration being to keep them dry and cold, but perfectly free from frost, of course. In preparing the ground for this crop, the first consideration is to get the manure well dug into the ground, and an extra load or two will not hurt, for, remember, you are growing for exhibition and presumably on the single stem system as advised. The trenching should be done as early as convenient and as soon as the previous crop is cleared from the ground. Three or four days before planting get the lime on the ground, fresh from the lime-kiln if you can get it, and unslaked. The limestones can then be slaked and spread equally over the ground and dug in hot. This helps to dry the ground, and make it work more easily. When this is done, you are ready for planting. The drills must then be taken out 4 or 5 in. deep and 2 ft. from drill to drill. Plant the sets 18 in. apart, choosing those which have sprouted strongly, and seeing that all buds but the main one have been removed before planting. When covering in, pull about 2 in. of soil over the sets and see that this is done with great care so as not to injure the sprout. After this take a little Guano and sprinkle on the soil you have just drawn in, then pull on the remainder of the soil on the Guano and thus finish the drill. Should your soil have a tendency to produce scab in the tubers, as some soils unfortunately do, then, just before you expect the plants to come through, scatter a dressing of chimney soot on the surface and gently rake it in. This should be done say ten days or a fortnight before the leaves appear. Scabby tubers are quite unfit for exhibition. When the plants are distinguishable in the rows, you may sprinkle a little nitrate of soda *between* each row, say about one pound to the land yard, hoeing it in for the double purpose of better mixing it with the soil and loosening the surface. In about a week or ten days after this they will require earthing up and the soil brought closer in about them. Let this be done lightly and carefully, so as not in any way to injure the foliage. From this stage onward to lifting time they will not require further attention. The crop should be dug a few days before the show, so as to get the skin nicely hardened. They should be lifted with great care, so as not in any way to bruise the skin. They are the better for being laid on the ground for two or three hours to dry. After that they should be wrapped separately in soft paper and packed in boxes, air-tight, against the day of the show. In choosing kinds to grow for this purpose, regard must be had to size, handsomeness of shape, and other points of excellence which take the judge's eye and secure points. I have found Windsor Castle, Satisfaction, and Duke of York good sorts for exhibition. It is a mistake to grow two many varieties. Grow few, and grow them well. In showing Potatos, uniformity in size and shape is a telling point, and attention given to putting them up effectively is a great help towards securing premier honours.

I have not gone into the question of arrangement on the show table, for that is a matter of taste and good judgment to be exercised by the exhibitor. It is, however, a most important thing that the very most should be made of each kind. A bed of Parsley is allowed to place the vegetables on, and there is no better setting. See that it is not too thick, for if it be, there is the danger of Potatos and Tomatos so sinking as to make them look smaller than they really are, whereas the object of the competitor should be to make such vegetables look large as well as handsome and uniform. In short, spare no pains to place your exhibits in the very best position to catch the eye of the judges, who quickly see small points of detail and merit and make their awards accordingly.—*W. R. Baker.*

SOCIETIES.

HANLEY HORTICULTURAL.—*July 3rd and 4th.* The show, held in Hanley Park, was the fifth one held by this society, and like its predecessors proved an immense success.

The classes for fruit brought some very good exhibits. For nine dishes,in not less than six kinds, Mr.Nicholls, gardener to LadyBeaumont, was placed first.

Mr. J. McIndoe, V.M.H., gardener to Sir J. W. Pease, Bart., M.P., secured the first prize in the class for six dishes of not less than four varieties.

A class known as the New Century Class made some keen competition. It was for the best arranged collection of British garden produce to occupy a table 15 ft. × 4 ft. The first prize of £12 and a special prize valued at 6 gns. was awarded to J. H. Goodacre, gardener to the Earl of Harrington. We were sorry to see that Mr. McIndoe, V.M.H., was disqualified for including a dish of fruit beyond the scheduled number. The class of stuff exhibited was excellent, but this could not be said of the way in which it was arranged. Although Mr. McIndoe was disqualified in the big class, he made up in the others, and amongst the prizes won was that offered by Messrs. Webb and Sons, Stourbridge.

Messrs. Sutton and Sons, Reading, also offered prizes, the highest of which was awarded to Mr. A. H. Hall, gardener to C. Waterhouse, Esq.,Macclesfield. The finest box of Roses was shown by Messrs. Alex Dickson & Sons, Ltd., Newtownards, Co. Down. This well-known firm also secured many of the other first prizes.

Messrs. J. Townsend & Son, the Worcester firm of Rose growers, carried off the highest award for twelve Teas and Noisettes; their blooms of Innocente Pirola were grand, also those of Maman Cochet.

There seemed some dissatisfaction about the awarding of the prizes for twelve blooms of one variety, many people thinking that those exhibited by Messrs. Dickson & Sons, Ltd., were superior to those shown by Messrs. J. Townsend & Son. We do not know from what standpoint they were judged, but from a general view Messrs. Dickson & Sons' Mildred Grant were far better blooms than those of Bessie Brown,which were much weathered, shown by Messrs. Townsend & Son. Sweet Peas were a conspicuous feature everywhere, and when

we say that such excellent growers as Mr. W. Jones, Market Drayton; Messrs. Hinton Bros., Warwick; Messrs. Jones & Son, Shrewsbury; Mr. Henry Eckford, Wem, and Mr. Robert Sydenham, Birmingham, were exhibiting, readers can judge of the quality of the exhibits.

Mr. James Cypher, Cheltenham, was well to the fore in the big exhibits and carried off the first prize for a group of plants covering 300 square feet. Lliums, Swainsonias, Ixoras, Orchids and foliage plants were grouped in a very attractive way. Mr. Cypher also won the highest award for a group of Orchids. He also annexed the first prize for twelve specimen plants. The class for six Palms also saw Mr. Cypher to the front, also in the class for eight Orchids, he was awarded the highest prize with some very well flowered plants.

NON-COMPETITIVE.

Messrs. J. Peed & Sons, Norwood, showed a fine collection of tuberous Begonias. Messrs. W. Hartland & Sons, Cork, also showed the same class of plants.

Messrs. J. Veitch & Sons, Chelsea, took a large group of plants which was one of the best features of the show.

Messrs. Dicksons, Ltd., Chester, Messrs. Hugh, Low & Co., Bush Hill Park, Enfield, Messrs. Webb and Sons, Wordsley, Stourbridge, and Messrs. Harkness & Son, Bedale, also made the show gay with their various honorary exhibits.

WIMBLEDON HORTICULTURAL.—*July 10th.*

THE weather has been idyllic for shows during the last few weeks, and the only fault that could be found with our much criticised English weather, last Wednesday, when this society held their annual exhibition, was that it was too hot to be pleasant, and after a hasty look round the visitors betook themselves to the shade of the trees, where the band of the 2nd East Surrey Volunteers delighted them with selections of music. The show was not quite up to its usual standard this year, but in this respect it was the same as many others. Who can expect flowers to be at their best with such trying weather as we have had to deal with lately? One thing we were pleased to notice was that the flower stall in aid of the Gardeners' Orphan Fund seemed to be well patronised. The exhibition was not confined entirely to horticulture, but included many other interesting exhibits, those of the Surrey Bee Keepers' Association filling a whole tent, and creating a special interest. Sweet Peas were much in evidence, but the Roses, as was expected, were very much below the mark. Space will not allow of a detailed report, so we only selected a few of the best exhibits.

For twenty-four cut Roses, Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Park, secured the first prize. Mr. J. Avery, gardener to P. Mortimer, Esq., was placed second.

The collection of eighteen distinct cut blooms of hardy herbaceous plants drew some good stuff; the collection shown by Mr. T. Smith was well worthy of the honour it was awarded as first.

There were several good groups of miscellaneous plants; the one shown by Mr. T. Chandler, gardener to the Rev. Canon Haygarth, was selected by the judges as the one worthy of premier honours; Mr. W. Thornton, gardener to T. E. Crocker, Esq., Wimbledon Hill, was placed second, and was followed for third place by Mr. J. Avery.

There were some very fine vegetables exhibited. Mr. C. Bentley, gardener to Col. Bosworth, was the most successful exhibitor in the class for ten distinct kinds.

Mr. F. Foote, gardener to S. Willson, Esq., The Old Rectory, Wimbledon, exhibited the best specimen plant, the second prize was taken by a plant exhibited by Mr. A. Skeggs, gardener to Mrs. Daune, Copse Hill.

The amateurs' classes were well filled, and proved a section for keen competition.

FORMBY EXHIBITION.—*July 10th.*

THIS annual fixture was again held in the grounds of Briars Hey by the kind permission of F. A. Rockliff, Esq. The entries exceeded those of last year, and although the committee had provided a larger tent, they were compelled reluctantly to refuse the offers of exhibits not for competition. The weather was bright and hot which told heavily against the Roses, which are the chief feature of the show. Mr. M. A. Rimmer proved the winner in the premier class of twenty-four varieties, his blooms being smart and of fair size, the best being A. K. Williams, Her Majesty, Horace Vernet, Dr. Andry, Ernest Metz, &c. F. A. Rockliff was second.

For twelve varieties, B. Kennedy, Esq., took the lead with good blooms of Mme. Cusin, Bridesmaid, La France, A. K. Williams, &c. The same exhibitor scored for six varieties, and for twelve Teas or Noisettes, in which was staged the premier bloom in the show, Mme. Cusin, a well built bloom.

For six lights, three varieties, for six darks and for twelve Teas, Noisettes or hybrid Teas, C. Hacking, Esq., was first in each class. For six Teas, Noisettes or hybrid Teas, F. A. Rockliff, Esq., had the best. For six distinct varieties T. Carlyle, Esq., took the lead. For growers with less than 200 plants, the first prize takers were Messrs. F. W. Passmore, E. Sergencoon and T. Pugh, the best bloom in this section being staged by the last named exhibitor.

For three single and three double Zonal Pelargoniums, L. Watts, Esq., led in each class. For three fancies E. Thirkell had the best. For three single and three double Begonias, E. Thirkell, Esq., and S. Watts, Esq., led in each case; for the specimen Fuchsia the same exhibitor scored.

For three stove or greenhouse Ferns, F. A. Rockliff, Esq., was to the fore. For twelve bunches of Sweet Peas, the Silver Cup presented by H. Middlehurst, Esq., brought out thirty-one competitors, which made a grand show. Messrs. W. Dodd, G. Lunt, and Mrs. Luther Watts were the winners.

Fruit and vegetables were of a fine type, the first prize winners being for plate of Strawberries, Rev. W. J. Hamberstone; Black Currants, J. Molloy, Esq. Three varieties of Peas, J. Aindow, Esq.; single plate, J. Howard, Esq.

The amateurs and cottagers also staged some excellent exhibits.

Alex. Dickson & Sons, Belfast, received an Award of Merit for a fine collection of Roses in which their own introductions played an important part.

Messrs. Caudwell, Knutsford, also staged cut Roses for which an award was made, likewise to Mr. H. Middlehurst for a large display of Sweet Peas, and some dozen varieties of culinary sorts.

T. Pugh, Esq., and E. H. Bushell, Esq., ably carried out the duties of secretary and treasurer.

SCOTTISH HORTICULTURAL ASSOCIATION.—*July 12th.*

THE summer exhibition of Roses, Strawberries and Sweet Peas, of the above association was held on Friday, 12th, in one of the saloons of the Edinburgh Café Company, and a charming and interesting lot of beautiful Roses, Sweet Peas, herbaceous flowers and Strawberries was tabled. We learn that a larger number of exhibitors have come forward this year, which speaks for the interest being taken in the meeting, and is encouraging to the officials of the society.

Mr. Alexander, gardener to Mrs. Wauchope, Vedding House, put up a pretty display of twenty-eight varieties of Sweet Peas, for which he received a First-class Certificate. On the table Mr. Macpherson, Donisla House, showed bunches of Grapes in a very highly finished state, for which he received a Cultural Certificate.

Messrs. D. & W. Croll, Dundee, had a fine display of Roses, large, full, and of fine quality.

Messrs. Tod & Co., Shandwick Place, set up their usual attractive table of decorative baskets, &c., of cut flowers. They also showed a vase filled with Rose shoots and blooms from plants planted February, 1901. Their baskets and vases looked very pretty filled with one colour, La France, General Jacqueminot, &c., being very effective.

Messrs. Cunningham Fraser & Co. set up a good show of herbaceous cut bloom, some stands of Delphiniums, Campanulas, &c., being very telling. Helenium grandiflorum, Scabiosa caucasica, Alstroemeria lutea, &c., being a few amongst a lot of grand things.

Messrs Laing & Mather (incorporated with Stuart & Mein), Kelso, showed a table of very pretty Carnations for which this firm is deservedly famed. Princess of Wales, Lady Nina Balfour, Nell Gwynne, Duchess Consuelo, Marchioness of Londonderry, were amongst those shown. All were very fine.

Messrs. Storrie & Storrie, Dundee, showed a nice table of Sweet Peas, also some pretty Streptocarpus, of which we would like to see more grown, and a very pretty collection of Lobelia in pots, of which we noted Attraction as being a very effective variety, bright blue, with very prominent white eye.

Mr. Henry Eckford, Wem, Shropshire, sent a nice lot of Sweet Peas, Othello, Emily Eckford, Hon. F. Bouverie, and Prince of Wales being all very good.

Mr. Alex. McMillan, gardener to Mrs. Currie, Trinity Cottage, put up a very fine table of Campanulas, Tea and H.P. Roses, for which he was awarded a Certificate.

Messrs. James Cocker & Sons, Aberdeen, set up one of the most effective tables in the room, on which they showed some grand Irises, Delphiniums, Roses, and other herbaceous cut bloom, all being very fresh and of fine quality.

Messrs. A. Dickson & Sons, Edinburgh, filled a small table consisting of plants in bloom, Palms, Ferns, pot Ivies, &c.

Mr. Rhine, gardener to the Marquis of Lothian, set up a beautiful table at the end of the hall, some fine Delphiniums, Campanulas, Irises, Malmaison Carnations, &c., being all in fine condition. He also showed some fine dishes of Tomatos and Strawberries. (Awarded First-class Cultural Certificate.)

A most beautiful vase of Malmaison Carnations was shown by Mr. D. Kidd, Carberry Tower, and he also showed very fine vases of Sweet Peas.

Mr. G. Wood, gardener to Mr. Buchanan, Oswald House, showed a beautiful large vase of Orchid bloom, of special mention was Sobralia xantholeuca, a beautiful large creamy-white coloured bloom. All were fine, and Mr. Wood was given a First-class Cultural Certificate.

Mr. Comfort, president of the society, tabled some pretty stands of Sweet Williams and Antirrhinums.

Mr. Brotherston, Tyningham, showed a fine lot of Sweet Peas, some of the varieties being worthy of special note.

A large collection of fine Strawberries was tabled, amongst the exhibitors, of which were Mr. M. Temple, Carron House; Mr. Turner, Dalhousie (who received First-class Certificate); Mr. Smith, gardener to the Earl of Stair; Mr. McKenzie, Trinity House (Award of Merit); Mr. Robert Aitken, Logan Bank; Mr. D. May, Abbots Mills, Galashiels, &c.

Messrs. Methven & Sons and Laird & Sons, Ltd., added much to the beauty of the hall by staging groups of decorative plants, &c.—*W. D.*

BRENTWOOD HORTICULTURAL.—*July 12th.*

THE annual show of this society was held in the grounds of R. T. Thornton, Esq., at Middleton Hall, on Friday, 12th, and secured a very fair attendance of visitors and about 500 entries.

Messrs. D. Prior & Sons, of Colchester, were the heroes for Roses, winning the Challenge Cup for the third and final year. Their blooms consisted of Victor Hugo, Her Majesty, Maman Cochet, Cleopatra, Bessie Brown, White Maman Cochet, La France, and Duc de Orleans. Messrs. B. R. Cant & Sons, Colchester, were second with a fine display, their H.P. Earl of Dufferin being very choice. Messrs. Harkness & Sons, of Bedale and Hitchin, were third in this class, though their blooms of Horace Vernet and Mrs. Mawley certainly ranked amongst the best in the show.

For twelve distinct Roses, three blooms of each, Messrs. Benjamin R. Cant & Sons were first, H.P. Alfred Colomb giving the stand an exceptionally rich appearance. Messrs. D. Prior & Sons were second; and Messrs. Frank Cant & Co., third. Bessie Brown blooms were the most effective in this latter exhibit.

The premier prize for twelve distinct single blooms was taken by Messrs. D. Prior & Sons, Tea Niphetos, Maman Cochet, and White Maman Cochet, with The Bride and The Hon. Edith Gifford amongst the best. Messrs. B. R. Cant & Sons were a good second; and Messrs. Frank Cant & Co., third.

The Rev. J. H. Pemberton, Havering, was champion for twenty-four distinct single blooms; Mr. O. G. Orpen, Colchester, followed; and Mr. F. W. Flight, of Winchester, came third, his blooms of Horace Vernet, Gabriel Luizet, and La Havre were really good.

Twelve single blooms of Maman Cochet secured a first prize for Mr. O. G. Orpen, and third prize for Mr. Flight, but the two sets were so dissimilar as to make one query the name of the latter.

Mr. Orpen was first for twelve distinct single blooms, the White Maman Cochet again being hest; Mr. Flight was second.

H. P. Landon, Esq., Shenfield, and G. Baxter, Esq, Hutton Park, were first and second respectively for six distinct single blooms.

Messrs. D. Prior & Sons secured first prize for twelve distinct varieties, Kaiserin Augusta Victoria setting off a good selection.

The Rev. J. H. Pemherton scored first for six distinct varieties from amateurs; Mr. O. G. Orpen was second.

The Rev. F. R. Burnside, Great Stambridge, followed Mr. O. G. Orpen for four distinct varieties, three blooms of each.

Mr. O. G. Orpen was the champion amateur grower, and succeeded in getting the Challenge Cup for twelve distinct blooms, and the Silver Medal for the best Rose in the show, which was Bessie Brown.

The beanty of the Rose tent was greatly enhanced by a grand collection of choice and rare decorative plants supplied by Mr. John Russell, of Brentwood.

This gentleman also sent two boxes of Roses and a collection of cut herbaceous flowers, not for competition.

There were four competitors for a collection of plants, 6 ft. by 10 ft., when Mr. J. Preece, gardener to Miss Willmot, Warley Place, was a decided first; his group consisted of Lilies, Cannas, Carnations, Ferns, Caladiums, Crotons, &c., every plant seeming to be thoroughly well grown, and staged with skill. Mrs. Whithourn, of Ilford, (gardener, Mr. J. W. Euston), was second in this class, and showed some good Cattleyas and Heaths.

Mr. J. Preece also exhibited a nicely variegated Croton, Baroness Rothschild, standing ahout 5 ft. 9 ins. high.

Mr. T. H. Wyatt, of Brentwood, deserves much credit for a table decoration of Sweet Peas, which was set off by Maidenhair Fern fronds. Mrs. W. Green, of Harrold Wood, who secured a special prize at last week's Temple Show, took an easy first here for dinner table decoration, composed principally of the pretty Shirley Poppy. She was also second for the tahle decoration of Sweet Peas.

Mr. Preece, of Warley Place, was competing against Mr. J. W. Euston, of Ilford, for a collection of fruit, and followed out his success with the gronps by taking first for frult. The same order was followed for three hunches of black Grapes, and Mr. Euston was first for three bunches of white, with Buckland Sweetwater. Mr. Alfred Bunting, The Nurseries, North Station Road, Colchester, sent a non-competitive exhibit of Irises, amongst which Kaempferi Nitta, Ettie, K. The Type, K. Pride of Japan, K. San Toy, and K. Oshima were well grown and striped.

J. Ramsey, Esq., president of the society, sent a box of twelve trusses or Pelargonium Ville de Poitiers.

Mr. J. Preece was first, Mr. W. H. Turner second, and Mr. Holloway third, for pleasing arrangements for fireplace decorations.

For six exotic Ferns, Mr. Holloway, gardener at Hutton Park, was first, Mr. J. Burrell, gardener to Mr. W. Duffield, Esq., Chelmsford, second, but was first for four native Ferns, distinct.

The committee under the able direction of Mr. Haws, as secretary, may he congratulated upon their arrangements, and encouraged to start organising their second Crysanthemum Show.

MANCHESTER ROSE SHOW.—*July 13th.*

This show was held in charming weather with a very large attendance, the tahles being largely patronised throughont the whole day.

The exhibits were excellent as regards colour and freshness, but slightly smaller than usual Messrs. Alexander Dickson & Sons, Newtownards, were in high form, winning in every nurserymen's class, with the exception of the smaller class for Teas; the colouring in many of the darker varieties was exceptionally fine. The non-competitive exhibits were more numerous than usual, and included many fine collections of Sweet Peas, which altogether formed, perhaps, the finest July exhibition held under the auspices of the Royal Botanical Society. Mr. Weathers, the able curator, did all in his power as regards shading to keep the flowers in good order, but the heat made itself felt in the drooping of petals and shrivelling of blooms.

Nurserymen.—For sixty distinct single trusses, in which seven lots were staged, Messrs. A. Dickson & Sons, Newtownards, took the premier position, the best being Marchioness of Londonderry, Duke of Fife, Maria Verdier, Mdme. Eugenie Verdier, Sir Robert Stout, Gustave Piganeau, Star of Waltham, Lady Clanmorris, E. Y. Teas, Horace Vernet (very fine), which secured the position of premier bloom in in the H.P.'s, Alf. Colomh, Helen Keller, Xavier Oliho, Reynolds Hole, Alice Lindsell, Comte Raembard, Lady Myra Beauclerc (new), A. K. Williams, Mildred Grant, Fisher Holmes, Maman Cochet, Prince Arthur, Mrs. W. J. Grant, Lady Alice Fitzwilliam, Duchesse de Morny, Suzanne Marie Rodocanachi, Duchess of Portland, Dupuy Jamain, Edith d'Ombrain, La Roserie. The second prize went to King's Acre Nurseries, Hereford, amongst which the following were good, the flowers being large but lacking the brightness of the premier class: A. K. Williams, Countess of Rosebery, Mildred Grant. Third, Messrs. Paul & Son, Cheshunt, with smaller but well-coloured flowers.

For thirty-six distinct trusses the same exhibitors were again to the fore with many excellent blooms. Especially fine were Dr. Andry, Mildred Grant, A. K. Williams, Gen. Jacqueminot, and Marchioness of Downshire. Messrs. D. & W. Croll, Dundee, and Messrs. Paul & Son took the remaining prizes.

For twenty-four Teas or Noisettes, Messrs. Dickson again took the lead with flowers fresh and of medium size, the hest being Mrs. Edward Mawley, Catherine Mermet, Souv. D'Elise Vardon, Maman Cochet, Bridesmaid, Luciole, E. Brownlow, and Marcelin Rhoda. Messrs. D. Prior & Sons, Colchester, were second with smart blooms: and Mr. G. Prince, Longworth, took the remaining prize.

For twelve varieties, Mr. G. Prince took the lead with a strong box, including Maman Cochet (which gained the Silver Medal as the hest Tea), white Maman Cochet, Mrs. E. Mawley, Comtesse de Nadaillac, Ernest Metz, Bridesmaid, &c. Messrs. A. Dickson and Mr. John Mattock, Oxford, were placed as named.

For twelve whites or yellows, Messrs. Dickson still kept the lead with Bessie Brown, the back row being very fine. Messrs. D. & W. Croll were second with Souv. de Mad. Eugenie Verdier. Messrs. J. Townsend & Sons, Worcester, third with Com. de Nadaillac.

For twelve lights, Messrs. Dickson & Sons were well in front with Her Majesty. Messrs. D. & W. Croll and the King's Acre Nurseries were second and third respectively, both with Mrs. J. Laing. For twelve crimsons again Old Ireland was to the fore with grandly coloured Horace Vernet, Mr. G. Prince second with the same variety, and Messrs. Paul & Son third with Reynolds Hole.

Amateurs.—For twenty-four distinct trusses, Mr. F. W. Tattersall, Morecombe (gardener, Mr. J. K. Grant), proved the best out of five exhibits, having good blooms, remarkably fresh, considering the hot weather; his finest flowers were Bessie Brown, Horace Vernet (large), White Maman Cochet, Oliver Delhomie, &c. Mr. E. B. Lindsell and Mr. W. Boyes were placed second and third.

For twelve varieties, Mr. Henry V. Machin, Worksop, the Rev. J. H. Pemberton, and Mr. F. W. Tattersall were the prize takers.

For eighteen Teas, Mr. H. V. Machin led with small hut smart flowers. For twelve varieties, the Rev. J. H. Pemberton, Mr. Machin, and Mr. Boyes were placed as named.

For twelve trusses of any white or yellow, the Rev. J. H. Pemberton won with Mdme. Hoste; Mr. H. V. Machin second with Kaiserin Augusta Victoria; Mr. Boyes third with White Maman Cochet. For twelve of any light colour, Mr. Machin won with Her Majesty; Mr. R. Park, Bedale, second with Maman Cochet; and the Rev. J. H. Pemberton third with Mrs. J. Lang. For twelve crimsons the Rev. J. H. Pemberton won with A. K. Williams; Mr. E. B. Lindsell second with Alfred Colomh; Mr. Machin the remaining prize for Gustave Piganeau.

For the district grown Roses, Mr. H. Burgess, Knutsford, won for twenty-four blooms; and for twelve the winners were Mr. R. Hall, Altrincham; Mr. C. Burgess (Plumbley), and Major H. Cardwell. For six trusses, the winners were Messrs. C. Burgess, G. Morris, Midwood, and R. Hall.

For six Teas or Noisettes, Mr. C. Burgess was again to the fore, followed hy Messrs. R. Hall and C. E. Redfern.

For twelve bunches of Roses suitable for button holes, the winners were Mr. J. Mattock, with a bright lot, Mr. G. Prince and Messrs. J. Townsend & Sons, second and third.

For a display of Roses, Mr. G. Prince was well to the fore with a telling arrangement artistically set up. Mr. H. V. Machin was second, and Messrs. Townsend third.

For the best arranged basket of Roses, the winners were Mr. J. Kirk, Miss Ada Stanley, and Miss A. Rohinson. For three bouquets of Roses, Messrs. J. Mattock and J. Kirk were first and second, and for one bouquet, Mr. J. Wilson, Col. Heats, and Mr. W. Read were the winners.

For a dish of Strawherries, Mr. James Watt won with fine fruits. For a collection of Sweet Peas, open to amateurs, Mr. F. Smith led with a well-arranged lot, Major Cardwell and Mr. James Watts following. For twelve bunches Mr. J. Mattock and Major Cardwell were first and second.

Non-Competitive.—Groups were staged hy the following who each received a Silver Medal:—Messrs. Eckford, Wem, a fine lot of Sweet Peas, Jennie Gordon heing a fine new variety. Messrs. Jones & Sons, Shrewsbury, had a grand bank of Sweet Peas well set up. Mr. J. Derhyshire, Altrincham, had a fine collection; Messrs. Hinton, Bros., Warwick, had eighty-four varieties staged on a yellow ground work; especially good were Prince of Wales, Hon. Mrs. Kenyon and Miss Wilmott.

Mr. W. S Pattison, Shrewshury, had an extensive collection of Violas and Pansies. Mr. Amos Perry, Winchmore Hill, London, contributed twenty spikes of Eremurus Bungei and a number of varieties of hardy Nymphaeas, Certificates of Merit being awarded for Nymphaea carolina nivea, N. Laydekeri fulgens, and N. lucida.

Mr. J. H. White, Worcester, had a fine collection of herhaceous and bulhous cut flowers, including Iris Queen Alexandra.

Mr. G. Sharpe, gardener to Mr. J. E. Williamson, Stretford, was awarded a Cultural Certificate for a grand pot of Lilium auratum with four spikes, carrying over 100 flowers.

ROYAL HORTICULTURAL.—*July 16th.*

In place of the ordinary meeting at the Drill Hall, the council of the Royal Horticultural Society invited the various committees to luncheon in the gardens at Chiswick. The committees sat as usual to adjudicate awards to new plants, flowers and fruit. They commenced their work at 11 a.m. in the big vinery, and after the exhibits were gone over, they passed round the gardens to inspect some new things on trial. The luncheon took place at 1 p.m., Sir Trevor Lawrence, Bart., M.P., in the chair. Soon after 2 o'clock a conference on Lilies commenced, and was continued next day (Wednesday). The exhibits brought to Chiswick were of a very varied character, the hulk of them consisting of Lilies, hardy herhaceous plants generally, Water Lilies (Nymphaeas), Japanese Maples, Orchids, &c, as at the ordinary committee meetings. Various fruits were also exhibited, including Melons and Cherries.

Reginald Young, Esq. (gardener, Mr. Thos. J. Poyntz), Sefton Park, Liverpool, exhibited a beautiful variety of Odontoglossum maculatum, named O. m. thompsonianum, and Cypripedium youngianum var. de B. Crawshay, Esq. (gardener, Mr. W. J. Stables), exhibited a most interesting hybrid named Odontoglossum crawshayanum, an artificial hybrid between O. Hallii and O. Harryanum, the potentialities of both parents heing strongly evident.

Messrs. Hugh Low & Co, Bush Hill Park, Enfield, exhibited a natural hybrid named Cypripedium kimhallianum Low's var., in which C. rothschildianum was evidently one of the parents.

Mr. John Russell, Richmond Nurseries, Richmond, Surrey, staged a showy exhibit of foliage plants, in which Codiaeums figured conspicuously, and, as might be expected after the recent bright weather, were of a very high colour, and would have been shown to much hetter advantage if they had heen syringed with soft instead of hard water. (Silver Flora Medal.)

Messrs. Thos. S. Ware, Ltd., Feltham, London, made a hright hank of colour with a collection of herbaceous and alpine plants. The Phloxes were in good form; P. Independence, a white one, seemed to he a general favourite. Gaillardias were also well represented. Amongst the other good things which

we noted in this collection were Coreopsis grandiflora, Statice incana nana, Galega officinalis alba, Lilium giganteum, L. odorum, L. Krameri, Ornithogalum lacteum, Scabiosa caucasica, Hemerocallis fulva, Campanula mirabilis, a comparatively new variety with a dwarf habit and large flowers of a light blue colour; Betonica rosea, Sedum middendorfianum, Michauxia companuloides, and several good Nymphaeas and Carnations. (Silver Banksian Medal.)

Mr. Amos Perry, Winchmore Hill, also staged a large collection of cut bloom, Nymphaeas being a great feature. Some of the best were N. odorata rosea, rose and white with yellow stamens; N. Laydekeri fulgens, a very rich crimson; N. sanguinea, N. odorata rubra, N. lucida, N. ellisiana, a a very rich magenta; N. marliacea albida, N. scutifolia, and N. carolina, a very rich coloured flower with handsomely marked foliage. Other noteworthy plants were Campanula lactiflora caerulea, a handsome new variety of a branching, free-flowering habit, growing to over 6 ft. high; Lilium Humboldti, L. davuricum, several varieties; L. Burbankii (new); Ostrowskia magnifica, Sedum spurium coccineum, Gentiana cruciata, numerous beautiful garden varieties of Iris laevigata, Romneya Coulteri, &c., &c. (Silver Gilt Banksian Medal.)

Messrs. W. Fromow & Sons, Sutton Court Nursery, Chiswick, W., put up a large and beautifully coloured group of Japanese Maples interspersed with Liliums. (Silver Banksian Medal.)

Messrs. Barr & Sons, Covent Garden, did not exhibit such a large collection as is usually seen from them, but it was a very choice and well selected one. The three main features were Liliums, Delphiniums, and Phlox. Amongst the best of the vases of Liliums we noticed Lilium thunbergianum Willie Barr, L. t. Prince of Wales, L. t Crimson Beauty, L. t. sanguineum, L. t. atrosanguineum, L. t. Beauty, L. canadense ruhrum, L. c. flavum, L. Roezlii, L. Brownii, and three Japanese hybrids of Nymphaeas. (Silver Banksian Medal.)

One of the prettiest exhibits of the show was one of Sweet Peas grown and effectively staged by P. Waterer, Esq., Fawkham, Kent. They were arranged on a pale green and white ground with a background of black relieved by a few trailing pieces of Asparagus Fern, and with the diffused sunlight falling on them through the canopy of luxuriant Vine foliage overhead, they left an ineffaceable impression on all who saw them. Some of the best of the varieties were Duchess of Westminster, Duke of Westminster, Coccineus, Lady Grisel Hamilton, Lady Mary Currie, Navy Blue, Countess of Powis, Firefly, Mars, Mrs. Eckford, Admiration, Fascination, Prince Edward of York, Captivation, Prima Donna, Golden Gate, Salopian and Othello. (Silver Gilt Flora Medal.)

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, staged a magnificent bank of Liliums in which L. auratum, L. auratum rubro-vitatum, L. auratum Wittei and L. Brownii figured largely. There were also many handsome varieties of L. thunbergianum. Other very good forms were L. Martagon dalmaticum, L. concolor Coridion, L. Burbankii, L. excelsum, L. tigrinum splendens, L. longiflorum foliis albo-marginatis and L. croceum. (Gold Medal.)

Mr. Edw. Laidlaw, Baker Nursery, Sunderland, exhibited two dozen well flowered plants of a new Pelargonium named Kilmeny. It is a pure white sport from Mdme. Thibaut.

Messrs. James Veitch & Sons, Ltd., Chelsea, made a pretty exhibit in the grounds with pans of Nymphaeas, for which they were awarded a Silver Gilt Flora Medal. The collection included many of the best of the marliacea varieties, N. m. chromatella being extra good.

Miss Adamson, South Villa, Regent's Park, London (gardener, Mr. G. Kelf), made a remarkably fine exhibit of fruit, and to see the perfect form and colour of the various kinds, especially the two dozen Peaches, it was difficult to believe that they were grown within two miles of Charing Cross. Gooseberries were very fine, also the six varieties of Melons. A dozen Golden Jubilee Tomatos were admired by everyone, and many visitors were forced to break the tenth commandment. (Silver Knightian Medal.)

Lord Llangattock, The Hendre, Monmouth (gardener, Mr. Coomber), exhibited eighteen Queen Pines in good form, and was awarded a Silver Knightian Medal.

Messrs. G. Bunyard & Co., Maidstone, exhibited some heavily laden branches of Cherries as a sample of the crop grown on their farm.

Baron Nathaniel de Rothschild, Hope Water, Vienna (gardener, Mr. Roberts), exhibited four fine specimens of Pines, for which he was awarded a Silver Banksian Medal. He had a fine fruit of Ananas bracamorensis.

Messrs. W. Ray & Co., Teynham, Kent, exhibited eighteen dishes of Cherries and several heavy laden branches. They were a very well coloured and tempting exhibit, and well deserved their award of a Silver Banksian Medal.

The Horticultural College, Swanley, made a very tempting exhibit with Melons, and would make a fine example to confront those who criticise the works of this college. Not only were the fruits a good colour, but they were also beautifully netted, and had a most attractive smell, which gave one a good idea of what their flavour was like.

Mr. A. Pettigrew, The Gardens, Cardiff Castle, Cardiff, received an Award of Merit for four handsome Melons.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends *the most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

The prize last week was awarded to F. W. M., for his article on "Arthropodium cirratum," p. 735. Four others were well up in number of points, but some of the subjects have been rather frequently handled in these pages.

PHOTOGRAPHS OF PLANTS. — The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in THE GARDENING WORLD. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Hedge Mustard with White Blossom.—*E. C. H. D.*: English, or, in other words, popular names are not very reliable in many cases as a vehicle for the conveyance of information, inasmuch as they vary in different localities. Sisymbrium Thaliana is the Thale Cress. The other white-flowered plant in the genus, S. Alliaria, is the one to which we referred in the article on "Plants that Taint Milk," p. 721. Other popular names it has, besides Hedge Mustard, are Sauce Alone, Jack-by-the-Hedge and Garlic Mustard, the two latter being appropriate, as it grows very frequently in hedges, and when rubbed most parts of the plant smell peculiarly like Garlic.

Striped Gloxinia.—*F. G. Brewer*:—The striped crimson flower you send is strikingly different from the blue flower you sent us two years ago. That was more like the ordinary run of modern Gloxinias in size and shape. That you now send is notable for its regularity, erect habit of growth, and the narrowness of the tube, together with the small size of the crimson lamina. It very much resembles a hybrid, and what it gains in distinctness it loses in size to meet the public approbation. The tube has become so narrowed that the stamens and style just fill it, the latter peeping out of the throat and giving one the impression of a pin-eyed Auricula or Polyanthus. Between every two lobes of the corolla the tube is invaginated so as to form a longitudinal ridge internally, this ridge being crimson. Between each of these ridges again and at the top of the same are two lobes or elevations resembling a second series of anthers lying opposite to the corolla lobes. Altogether this flower is a very peculiar one and it might be worth while to raise seedlings from it again to see what it will give rise to. Something might arise out of it that would be more attractive than the present curious form, and which might secure the public appreciation. There is no telling after the plant has begun to vary in this peculiar manner.

Anomalous Structures on Plants. — *E.C.H.D.*: The auricles at the base of the leaves of Cardamine Impatiens are termed anomalous, that is unusual, because they resemble stipules in an order of plants where stipules are generally or normally absent. In the proper sense of the term they are not stipules but merely represent the auricles of the leaves placed rather low upon the stems of the plant. Something similar may be met with in Chrysanthemum indicum and C. i. sinense, or at least in their improved or cultivated forms where auricular appendages represent stipules. In many cases as in some species of Ranunculus the sheaths at the base of the leaf stalk have developed into what are termed stipules. The Ranunculaceae are usually described as exstipulate, yet we have this form of stipule well developed in many of the varieties of water Ranunculus. Land forms in the same order have often similarly developed sheaths. In Saxifraga crassifolia, S. cordifolia and others of this group we have the sheath developing into stipules, which are usually absent from the order. In Viburnum Opulus we have stipules which seem to be of glandular origin, that is, to have developed from glands. Amongst grasses young plants are often developed instead of seeds upon the flower stem. This occurs in Festuca ovina vivipara, Poa alpina vivipara, in Aira caespitosa, Dactylis glomerata and others which would be described as anomalous.

Names of Plants.—*W. P. T.*: Saxifraga aizoides. —*E.C.H.D.*: 1, Campanula Medium; 2, Ajuga reptans, very pale var.—*A. T. B.*: 1, Coreopsis Drummondi; 2, Aconitum Napellus; 3, Sidalcea candida; 4, Corydalis Lutea; 5, Lathyrus latifolius; 6, Iris xiphioides var.—*Floral*: 1, Pelargonium denticulatum; 2, Bromus brizaeformis; 3, Eragrostis elegans; 4, Gypsophila elegans; 5, Gypsophila paniculata.—*D. Tidy*: 1, Tilia vulgaris; 2, Tilia cordata; 3, Tilia argentea.—*W. M.*: 1, Erigeron speciosus; 2, Jasminum officinale; 3, Rosa rugosa rubra; 4, Lychnis coronaria.—*R. M.*: Galega officinalis compacta; 2, Sidalcea malvaeflora; 3, Malva moschata alba; 4, Veronica spicata; 5, Lilium umbellatum; 6, Nepeta Mussini.—*A. J.*: 1, Orchis pyramidalis; 2, Ononis spinosa; 3, Scabiosa arvensis; 4, Geranium pratense; 5, Onobrychis sativa.—*Burton*: 1, Oncidium malculatum; 2, Miltonia Clowesii; 3, Sobralia macrantha; 4, Cypripedium venustum.—*A. R. M.*: 1, Thalictrum aquilegiaefolium; 2, Mentha Requieni; 3, Centaurea dealbata: 4, Lychnis chalcedonica flore pleno; 5, Campanula carpatica.—E. E. E.: 1, Erigeron salsuginosus; 2, Lysimachia punctatus; 3, Chrysanthemum latifolium.

Communications Received.—John S. Cadger.—F. H. (next week).—D. Buchanan.—D. C. (next week).—Antiquus.—Sutton & Sons.—Webb & Sons.—W. Garton, Junr.—R. W.—A. T.—E. C.—W. M. D.—H. J. M.—E. J. L.—J. C.—A. K.—Sampson Morgan.

TRADE CATALOGUE RECEIVED.

SMITH & MENZEL, Hardy Plant Nursery, Aldgate, South Australia.—Descriptive Catalogue of Hardy Ornamental Trees and Shrubs, Herbaceous Plants, Flower and Vegetable Seeds.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

JULY.

23.—Durham, Northumberland, and Newcastle Botanical and Horticultural Society Exhibition at Newcastle (2 days); Tibshelf Rose.
24.—Strabbane Horticultural Exhibition (2 days); Southern Counties Carnation Society Show.
25.—Selby Exhibition; National Sweet Pea Society (2 days).
30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldearn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley; Beddington, Carshalton and Wallington.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
15.—St. Andrews Horticultural Association.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, JULY 27th, 1901.

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NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 30th.—Buckingham Exhibition; Royal Horticultural Society's Committees.
WEDNESDAY, July 31st.—Wilts Exhibition.
THURSDAY, August 1st.—Isle of Wight Horticultural Association Exhibition.
FRIDAY, August 2nd.—Devon and Exeter Horticultural Society Summer Flower Show.
SATURDAY, August 3rd.—Auldearn Horticultural Society.

SWEET PEAS AT FEERING, KELVEDON.

JULY is the month for Sweet Peas in the open air in the southern counties of England, though they may commence flowering in June during early seasons. July has been a very trying month for them, however, in the south, and their season, to all appearance, is destined to be short, except in those cases where the grower has taken the trouble to mulch and water or otherwise care for them, including the removal of the seed pods, or the flowers, as fast as they fade.

On the 18th inst., Messrs. Hurst & Son, 152, Houndsditch, London, invited a large party to inspect their trials of Sweet Peas, at their seed farm, Feering, Kelvedon, Essex. Mr. N. N. Sherwood, the head of the firm, met the party at Liverpool Street and, having engaged a special train, took the party to their destination in little over an hour. At Prested Hall an excellent luncheon awaited them, and sixty-two sat down to table. This was a necessary preparation, for the work of inspecting some 290 trials of different varieties and stocks of Sweet Peas in the open field during the hottest day, up to that time, for this year, for the temperature stood at 88° in the shade and 130° in the sun. After examining the trials and having refreshments, the party was conveyed back to London by Mr. Sherwood's special train, arriving promptly at 7 p.m.

Light coloured Selfs and Fancies.—In any classification of Sweet Peas, the greatest number of popular varieties will occur among those that are more or less decidedly of one uniform or self colour. In the short time at command we endeavoured to select a few of the best representatives of the most decided and attractive colours. Blanche Burpee and Sadie Burpee still take the highest position amongst the hooded white varieties, and, indeed, it would be difficult to say which is really the best. Amongst whites with an erect standard Emily Henderson has still to be beaten. Mrs. Sankey in its best form is white, but is often tinted with a delicate suffusion of pink on the standard. Queen of England is a free-flowering white variety of many years standing, but the blooms are small. Ascending the scale of colour, we noted Modesty as deserving of mention for the subtle delicacy of its blush colouring.

Amongst the so-called yellow Sweet Peas, Primrose is one of the most decided, and, though moderate in size of bloom, is very floriferous. Mrs. Eckford has much larger flowers with an erect standard, and is really very choice. Quite different is Queen Victoria, having a delicate apricot tint on the standard, and being a vigorous grower is well worthy of inclusion amongst a select collection. Stella Morse is a fancy variety with yellow buds changing to a delicate buff-apricot as they expand. The dark lemon buds of Lemon Queen change to white tinted with lemon when fully developed. Another fancy claiming attention is Alice Eckford, having a salmon-pink standard fading to a small reddish pink zone or blotch on the centre. The blush wings fade to white. It is pretty, but the blossoms are small. A charming variety is Venus, being pink tinted with a buff shade, and apricot at the base.

Another step higher in the intensification of colouring brings us to Prima Donna, of a soft uniform pink, with a faint tint of apricot in the standard when half open. The flowers are of handsome size. Princess Beatrice is soft pink fading to a paler hue. Lavender shades include some of the most charming and popular of the lighter coloured selfs; and amongst these New Countess and Lady Grisel Hamilton take the leading position, the latter being slightly the paler. Lady Nina Balfour has even less colour, its hue in certain soils and seasons being very subtle indeed. All of these lavender varieties have a hooded standard.

Dark coloured Selfs.—Her Majesty has large flowers of a rich rose, which some would describe as carmine, but we should prefer to regard it as full rose, and one of the handsomest and most effective grown. There is a question as to whether this or Prince of Wales is the better, but the latter has paler wings and a darker standard. In the same category comes Mrs. Dugdale, with large flowers and an erect standard.

When we come to the crimson and carmine varieties we find a diversity of opinion as to their respective merits and as to the proper names for the colours themselves. Invincible Carmine and Invincible Scarlet, though amongst the oldest of the dark varieties, still hold their own on account of their rich and fast colours, the newer and largest flowered representatives being more inclined to burn in the sun. The two old varieties just named are small in size, but their rich colours stand the sun without burning as well as any. Nevertheless, we think that Salopian, Mars, Brilliant, and Firefly are rich glowing crimson flowers of the highest order of merit. That named Scarlet would come into the same category. In any case all of them continue to find many admirers; and a little generous treatment often enables them to escape the effects of a droughty season.

Dorothy Tennant is a rich mauve or blue-purple flower, nearly uniform in hue and hooded. Duke of Westminster comes into the same category, but is considerably darker in colour. Blue varieties are often difficult of definition, for they are generally mixed. The best of the dark blues in cultivation is no doubt Navy Blue, with purple-blue standards and deep blue wings. Some growers fancy Countess of Cadogan, a much paler flower, and not inaptly described as light blue, of a nearly uniform hue.

Great differences of opinion prevail in the descriptions attached to Prince Edward of York, which, though usually described as a self, might well be regarded as one of the darkest of bicolors. In any case the standard is of a much more intense carmine than the wings; and the large and handsome flowers have an erect standard. Some, whose opinion is worth having, regard the variety, both in colour and form, as a paragon of what a Sweet Pea should be. Lovely flowers of a more delicate shade of colour are Lady Penzance and Lady Mary Currie, both being salmon-rose, beautifully veined.

The maroon selfs are often more or less decidedly of two colours. The old Boreatton, from which they have all descended, is, perhaps, the most decidedly of a uniform metallic maroon we have; but its flowers are small compared with Othello, Stanley, and Black Knight, which are the best of the modern representatives of this type, and leave little to choose between them for superiority. All have a purple tint in the wings.

Bicolor Sweet Peas.—Absolutely self-coloured Sweet Peas are really very few; for a careful examination of any large collection will reveal the fact that the standard or upper petal is darker than the wings or side petals which enclose the keel or two lowermost small petals, which in turn enclose the stamens. From this we infer that the Sweet Pea is essentially a bicolor or two-coloured flower. For purposes of classification, however, a strain of a distinctly marked character has been raised more or less wholly from the old Painted Lady which record says, and which many believe, was introduced originally from Ceylon. Whether that was the case or not we do not intend to discuss at present, but proceed to mention a few of the best bicolors, most of which are its descendants.

Painted Lady has a rosy-red standard and white wings, and though an old, is a lovely and free-flowering variety. Miss Blanche Ferry has a carmine-red standard and blush or white wings. Earliest of All is practically a dwarf Blanche Ferry, being only 18 in. high, and is a splendid one for small gardens whose owners object to the Cupid varieties. It is still flowering freely. Duke of York has a bright rose-red standard and blush wings. On the contrary, Triumph is a very pale variety with a pink standard, fading to blush in hot dry weather, and because less constant is less desirable than those just named. On the contrary, Little Dorrit is a larger and rather darker coloured flower than Painted Lady, and might be grown in select collections as the best of this type, exclusive of Earliest of All, which will be admired for its earliness and dwarf habit. Most of this race, however, have an inclination to be early. Quite of a different hue is Lady Beaconsfield, with buff pink standard and creamy wings. This hue is more intensified in Bronze King, with bronzy-red standard and white wings. The flowers are not very large, but very freely produced, and frequently there are three on a stalk, so that we have no hesitation in describing this as the most distinct of its type, standing out prominently from all others when seen in a collection.

Salmon and Orange Bicolors are not very numerous but very handsome and may have been derived from some other parent than Painted Lady. Each of the existing varieties have their admirers, but two of the best are Oriental and Gorgeous. The former has an orange standard and salmon wings, and some there are who think it less liable to burn in bright sunshine. We ourselves prefer Gorgeous as the flowers are somewhat darker and under favourable conditions produce an effect that is not soon forgotten, as they focus the attention of the beholder when looking at a group of flowers, and elicit unstinted admiration.

Flaked Varieties.—We have no decided preference for flaked Sweet Peas, though they have their admirers. The most decided we noted was America, flaked and mottled with crimson-red on the standard and wings, and therefore not only permissible but desirable in large collections for the sake of variety. Equally striking in its way is Daybreak, on account of the

wavy, concentric crimson lines and the red suffusion on the standard, the ground colour being white. As a light variety, Juanita may be selected, its white flowers being large, hooded and streaked with blue.

The Picotee-edged flowers are only yet four in number, namely, the original Butterfly, white edged blue; Maid of Honour, having its standard more or less shaded with purple as well as edged with blue; Lottie Eckford, in which the purple shading extends over the standard and wings; and Captain Clarke, with rose standard, white wings, and blue edges.

Cupid Sweet Peas.—Six varieties of these dwarf Sweet Peas are grown at Kelvedon, including the original White Cupid. Stella Morse persistently drops its buds and is, therefore, worthless. The crimson standard and carmine wings of Firefly make it lovely and choice as to colour. Royalty has a pink standard and blush wings. For free-flowering propensities we give the palm to Pink Cupid and Primrose. The former has a red standard and blush wings, while Primrose opens primrose, passing to white. The question as to whether any of these Cupids are desirable must be settled by each grower individually. Their proper place is on the front of borders, on rockeries, or in pots for conservatory decoration. In cold districts they are unsuitable, because they drop their buds. Possibly they are still capable of improvement, and we commend this view of the subject to the raisers of new varieties.

Royal Appointment.—We learn that a Royal warrant has been granted to Messrs. Webb & Sons, of Wordsley, Stourbridge, appointing them seedsmen to his Majesty the King.

Her Majesty Queen Alexandra has been graciously pleased to accept a copy of the Edition de Luxe of Mrs. Nevill Jackson's "History of Hand-Made Lace," which contains actual specimens of old and fine laces. Mr. L. Upcott Gill, 170, Strand, London, W.C., is the publisher.

Royal Appointment.—The King has been pleased to confer on Mr. Hugh Dickson, of the Royal Nurseries, Belfast, a Royal Warrant of appointment as nurseryman. For the past ten years Mr. H. Dickson has held the distinction under the late Queen and the promptness with which the King has renewed the warrant is a great compliment to this well known firm of Irish Rose-growers.

Lilium giganteum in Greenwich Park.—One of the finest plants of Lilium giganteum we have seen has recently been in bloom in the Royal Park, Greenwich. It has a very favourable position, being planted in a sheltered, moist situation, and has its roots sharing a peaty soil with Rhododendrons, Azaleas, Kalmias, etc. It produced twenty-one blooms on a stem, 9 ft. high, and at the thickest part only an inch under one foot in girth.

School of Handicrafts, Chertsey.—The annual outing of the garden boys and staff of the School of Handicrafts was held on Tuesday, the 15th inst., when, in company with a large number of other folks, they journeyed to Cookham locks. After a short time spent there the return journey was made, but owing to the low state of the Thames the propellers became fouled at Datchet, making the progress of the party somewhat slow. Chertsey was was reached between 12 and 1 o'clock, amongst the heartiest and best of feeling at the day and night trip. The arrangements were made by Mr. A. J. Brown, the head of the Garden Department. The catering was by Mr. Kidman, and gave general satisfaction. The beauty of the view of Clivedon Woods was much admired. Thanks are due to H. J. Veitch, Esq., Messrs. Cooper, Taber & Co. Hurst & Son, Watkin & Simpson, H. B. May, Allnut Bros., Fletcher, and others for the means for the boys of the garden and the band which accompanied them to obtain this outing.

In Ventura County, California, there are thirty-five thousand acres devoted to Bean culture.

Warnham, near Horsham, is said to be by far the prettiest village in Sussex. Its old church and picturesque gateway is one of the prettiest pictures an artist could wish for.

Trips to Dieppe.—One often wishes for a change of scenery and a change of people. This wish cannot be better gratified than by taking a trip to that fashionable French watering-place above mentioned. The London Brighton & South Coast Railway Company are offering special facilities for this journey, and for the small sum of 30s. (return) they offer a special first-class through service. A shorter journey could not be wished for, as you can leave Victoria at 1 o'clock and be strolling on the beach at Dieppe at 6 o'clock the same evening. For those who want a thoroughly enjoyable outing we advise them to take advantage of this offer of Saturday to Monday cheap excursions. For further particulars letters should be addressed to the Continental Traffic Manager, L. B. & S. C. Railway, London Bridge Terminus.

Prize Day at the Horticultural College, Swanley.—It was a brilliant day on Thursday, 16th, when the prize giving took place at the Horticultural College, Swanley, and owing to the constant watering and care given to the gardens the effects of the sun and drought were hardly perceptible. Special carriages stopped at the junction to enable the guests (numbering over 500) to drive to the College in time for the function which began at 3 o'clock. The saloon of the old Bessemer steamer which makes an excellent as well as a curious lecture hall was filled to overflowing. Amongst others on the platform we noticed Miss Cons, Mr. Tegetmeier, Sir Philip Magnus, Sir Owen and Lady Roberts, Mr. Morrell, M.P., and shortly after the appointed hour Mr. P. M. Martineau introduced the Countess of Aberdeen to the assembled audience. The speeches were few and short. The list of prize winners, long and all, were enthusiastically received, especially a number of past students who had an exhibition of their own that day at the College. The Silver Salver (a women's branch award to the best student of the year) was gained by E. F. Squier, an Essex County Council scholar. The R.H.S. Gilt Medal for the examination in horticulture was presented to E. Watkins, and the Scholarship awarded to H. Buck. After a few appreciative and sympathetic remarks from Lady Aberdeen, and a vote of thanks proposed by Mr. Morrell, M.P. (uncle of one of the students), the guests trooped out to tea in the gardens, which they afterwards inspected with the band of H.M.S. "Arethusa" playing in the distance. Experts pronounced favourably on the new conservatories and stove houses now nearly completed, and also on the exhibits they sheltered for the afternoon. One of the most interesting, as testing the value of the training given and showing the success of students of some years' standing, was the old students' show. The exhibits, which were divided into six classes, were very representative and up to a high level, consisting as they did of herbaceous plants, fruits, vegetables, Roses, honey (run and in sections) and fowls. Contributions came from all parts, one past student sending a well-arranged collection of injurious insects from Nova Scotia. In an adjoining house competitions for table decorations, wreaths, bouquets, etc., were laid out. These were judged by Mrs. Bryant Sowerby, of the Royal Botanic Gardens, Regent's Park. In the avenue, bee demonstrations were held by Mr. Herrod, B.B.K.A. assisted by students, and in the Microscopic Botany Laboratory fruit, vegetables, honey, bottled fruits, jams and other college produce was exhibited. The dairy with its butter, cream and herb cheeses looked cool and inviting. In the market glass houses there was a fine show of Melons (thirteen varieties), and it was announced, during the course of the afternoon, that the Cultural Certificate had just been awarded for them by the Royal Horticultural Society at Chiswick. There were two houses, which last year produced 3,840 Peaches, looking well, also Tomatos, Cucumbers and Grapes, one house 100 ft. long having yielded 825 lbs. of Black Hamburgh last year. A conspicuous improvement was noticed in the Rose Garden, laid out by Dean Hole, which is shortly to be surrounded by a beautiful trellis and arched way made by the Pygtle Works. The plan of the garden is to be found in one of the Dean's books.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, July 30th, in the Drill Hall, Buckingham Gate, Westminster, 1—5 p.m. A lecture on "Some of the Plants Exhibited" will be given by the Rev. Professor G. Henslow, M.A., V.M.H., at 3 o'clock.

Outing of the Devon and Exeter Gardeners' Association. — This association went for their annual excursion on July 17th, and as they chose Cardiff for their rendezvous there was plenty to be seen, and everyone enjoyed themselves to the utmost degree. They journeyed by train to Weston-super-Mare, and thence by steamer to Cardiff. By kind permission of the agent for the Marquis of Bute, the party visited Cardiff Castle and were shown through the luxuriantly appointed rooms and through the extensive gardens and outdoor vineyards, which are so well kept under the superintendence of Mr. Pettigrew, the head gardener. In the afternoon many of them visited the Cardiff and County Horticultural show. Later in the day many of the party visited that famous Gothic structure, Llandaff Cathedral. The party arrived home at 11 o'clock, after a thoroughly enjoyable day of fifteen hours.

Death of Miss E. A. Ormerod.—It is with the deepest regret that we announce the death of Miss Eleanor A. Ormerod, V.M.H., who for many years past has been recognised as one of the greatest authorities on entomological subjects not only in this country but in most others where agriculture is practised. It was only recently that she retired into private life owing to failing health, but like many others who have led an active life, she did not live long to enjoy her well earned rest. The study of insects has been her life work, and many are the honours which have been conferred upon her for her valuable contributions, and in recognition of the great service she has rendered to all who cultivate plants. She was the daughter of Mr. George Ormerod, of Ledbury Park, near Gloucester, at which place she was born over seventy years ago. Last year the Edinburgh University conferred upon her the honorary degree of Doctor of Laws, bracketing her name with that of the American Ambassador and the Lord Chief Justice. For many years she was additional examiner in agricultural entomology at the above University. Whenever she could she was willing to help the gardener, farmer, or fruit grower to eradicate the various pests which were causing trouble, and never seemed to tire of making investigations on their behalf. Her retirement was a great loss, but this sad event will, we are sure, be lamented by all, gardeners especially, as not only will it be difficult to find one to take her place, but one who will disinterestedly devote time and study to such a vast subject is not easily found.

RISE AND PROGRESS OF THE STUDY OF PLANTS.

SKETCH IV.

HITHERTO no attempt was made to establish a system of arrangement to facilitate the study of plants. The want of such a thing was at the time very much felt, and helped to make the study of plants less attractive than otherwise it would have have been. Gesner, a Swiss and a naturalist of renown, suggested the first method of arrangement. He is supposed to have taken his idea from Aristotle's plan of zoological arrangement. At the same time, and quite ignorant of Gesner's plan, Caesalpinus, a Florentian, was busily engaged in maturing a method which had the merit of being the first invented. Caesalpinus reduced to a practical purpose what Gesner conceived in speculation. Gesner's method was based on the inflorescence, that of Caesalpinus on the fruit.

Besides those important strides in the progress of botany, journeys were now made to foreign countries by many interested in the subject, in quest of subjects for study. Herbariums were instituted, a matter which, of course, greatly afforded further facilities for a more extensive knowledge of plants. The study of plants, like most sciences, was very much accelerated by the patronage of the rich. Botanical gardens were established—the first of which is said to have been set on foot in Padua in 1533, and one in London by Gerarde in 1596.

There appears to have been from this time till the advent of "Grew" in England and "Malpighi" in taly a period of at least half a century, that little progress was done. "Grew" and "Malpighi" were really the first who entered into the study of plants in any way worthy of the name since the days of Theophrastus, 2,000 years before. It has been said that this revival of the philosophical side of the study was greatly due to the powerful influence that Sir Francis Bacon's philosophy must have had on all civilised Europe. Be that as it may, great praise is due to the labours of these two celebrated botanists. Their labours were necessarily in a field practically unexplored, save the few existing records made by Theophrastus. This was the only finger post or guide they had to lead them, and truly it will be admitted on all hands that it was not much. They were patient and philosophic in their research after truth, and succeeded in due time to cast a measure of light on the mystery of plant life, hitherto unknown, a matter which did not fail to make the subject of such interest and importance that from this period it has steadily made progress onwards among the other sciences. The impulse given to the subject by these two men naturally drew the attention of other talented persons, some of whom directed their talents to the matter of a methodical arrangement—the want of such was now becoming a serious question.

"Ray" and "Tournefort" have a special place among the most successful in inventing methods which were not only of immense value at the time, but served the purpose till the gigantic scheme of the immortal Linnaeus came to revolutionise every system, suggestion, and method that ever went before. To the credit of "Ray" attaches the honour of laying down the primary suggestions of a natura system. This was about 1682. Nevertheless, "Tournefort's" system was at the time held with more general favour, and the French school adhered to it till it was compelled to abandon it for that of Linnaeus. "Ray's" system was afterwards elaborated by "Jussieu," Decandolle, Lindley, and others.

It could not be expected that either of these was without serious faults. Both, indeed, were far from meeting the demands of the fast progressing study of plants. And there is every reason for thinking, had not the timely genius of Linnaens appeared at the time it did, that the study of plants would have fallen into deterioration. It is certain that for the want of a coherent system of arrangement it would soon become unmanageable. At all events, it was in imminent danger of getting into a state of inextricable confusion. But as is not unfrequent at a critical moment, the herculean mind of Linnaeus came to the rescue to avert any possibility of such a calamity occurring. The majestic brain of this botanical celebrity turned the chaotic mass of confusion into the most beautiful order and simplicity. Linnaeus had risen head and shoulders above all previous botanists, and a greater has not succeeded him.—*Antiquus.*

(To be continued.)

APPRENTICE GARDENERS.

Can head gardeners at the present put any advantages before intending young men as inducements to serve an apprenticeship? I fail to see any, when so many places are getting filled with the class of men I call "jump-the-dykes." The wages paid in a number of places for journeymen gardeners are 16s. and 17s. per week, taking Saturday and Sunday duty in turn, and the unskilled men in this part of the country get 25s. to 30s. per week, working ten hours per day and one o'clock on Saturday.

Professional head gardeners are paid from £1 to 25s. per week, working sometimes twelve and fourteen hours (Saturday and Sunday never clear), always under the eye of employer. I will mention an example that gardeners should guard against. One man was employed in a garden for one summer and passed out as head gardener. Lady (to applicant for situation: "What experience have you had as a gardener?" Applicant: "None; but I am willing to learn." Lady: "You have a good appearance, and I think you are the man for me." And he got the situation over the head of some good young men. He has now three men under him in the gardens.

Is this what is to be in future, with so many young foremen waiting for the step as a head gardener, with twelve or fourteen years' hardships of hothy life and working like slaves for a small wage, to have the title as one of the young men from the castle gardens?

Journeymen cannot be had. No wonder so many are leaving gardening. I am sure they are the class of men that are, or will be, required as settlers for South Africa.—*A Cabbage.*

TWO CHOICE CARNATIONS.

The two handsome Carnations which are the subject of our illustration, were selected from the magnificent stand of blooms exhibited by Messrs. Wm. Cuthush and Son, Highgate, London, at the National Carnation Society's exhibition, held at the Crystal Palace on Friday, July 19th. The light-coloured variety is the amous new border Carnation, Cecilia. This variety has supplied a long felt want as the blooms are a clear yellow, and as large as a Malmaison. It is a handsome form and possesses a splendid firm calyx. The awards that have been bestowed upon it ought to make it a popular variety. It won the "Premium" as the best Carnation of any colour at the National Carnation Society's exhibition in 1898, when it first came out. Six blooms won first prize as the best Carnation of any colour. It has received the highest award of the Royal Horticultural Society. The National Carnation Society awarded it a First-class Certificate; it also received a First-class Certificate at the York Gala. This list of awards ought to be sufficient to point out its good qualities to anyone.

The other variety is a Malmaison of exceptional merit. The flowers are very hold and have a much better form than the majority of the Malmaisons possess, being very full. The colour also is very distinct, being a rosy-salmon. The name, Sault, smacks of French, but the variety was, we believe, raised by Martin R. Smith, Esq., Hayes, Kent. Like its companion, it possesses the good quality of remaining compact until it fades. The two blooms at the bottom and the one at the top of the illustration represent Malmaison Carnation Sault; the two in the middle of the picture are those of Cecilia.

Malmaison Carnation Sault and Carnation Cecilia.

PRIMULA STELLATA AND P. SINENSIS.

These Primulas are highly appreciated for their sweet odour; they are fibrous rooted and the base or collar of the plant is very fragile. The hairy leaf stalks are grooved down the centre and bear a sticky, large veined and hairy leaf somewhat Fern-shaped. The flowers are produced on trusses held well above the foliage, and possess a funnel-shaped corolla with five segments, A cup-shaped calyx with five sepals surrounds the tube wherein are inserted five two lobed stamens. The pistil has an egg-shaped ovary, a cylindrical style and a round stigma. Propagation is effected by seed and division. Sow the seeds thinly in March, June or July in a pan of light soil. Cover the seeds with a very thin layer of fine soil and place a piece of glass over the pan and cover the whole with a piece of brown paper to exclude the light, and place in a greenhouse temperature. Admit light and air as germination advances and water as little as possible at first. When big enough to handle, pot them singly into thumbs filled with Banstead loam, leaf mould and silver sand, and keep them near the glass. Pot them in 48's as soon as roots appear through the drainage hole and keep close for a few days. Then cool frame treatment will suit them until the end of September, then shift them into a temperature of 55°.—*G.W.D.*

STOPPING CHRYSANTHEMUMS.

THIS is one, if not the most important operation in Chrysanthemum culture, as if the right bud is not secured at the proper time nothing will produce a good bloom. The best bud to take is undoubtedly a second crown with the majority of our large flowering varieties. The best method I have found to obtain these is to stop the plants that are struck during November and December at the end of February or beginning of March, when they have commenced to break. Confine them to one stem, as if two or more are taken from this break one is almost certain to grow away stronger than the others, and would naturally break a week or ten days before the others. This break should be a natural one, and the number of shoots required should be taken from it; and if grown on in the ordinary way they will produce buds about the right time. Should a few show too early there need be no cause for alarm, as a third bud will soon appear from this break with often better results than a first crown. Some growers make a rule of stopping their plants twice, but this requires a great amount of practice. For instance, to stop two plants of the same variety at the same time might mean weeks of difference in showing bud, simply because one plant is on the verge of making a natural break and the other not.—*W. Waite, Southfields.*

ADIANTUM FARLEYENSE.

WHEN well grown, there are few Ferns more beautiful than Adiantum farleyense. The origin of this Fern has not been definitely traced. The first specimen came up with some Ferns sent from Barbadoes by a gentleman whose residence, Farley Hill, suggested the name. It is classed under stove Ferns, and delights in a strong heat. It is propagated by division, as it scarcely ever produces spores. This should be done in the spring. It should be kept in small pots; at least it seems to thrive best in them, and nothing looks finer with its dense masses of green and gracefully drooping fronds. The barren pinnules are elegantly fringed, and the young fronds are of a very delicate pink colour in their young stage. It delights and thrives in a compost of strong fibrous loam one part, leaf mould one part, and sharp sand one part. It requires a temperature of 60° to 70° in the winter, and in the summer 70° to 80° is most suitable. During the growing season if it is fed with soot water and liquid cow manure, it will benefit considerably. Of course, in the winter it will not require so much water, as it requires resting, but one must be very careful not to let it get too dry.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

TABLE DECORATION.

ALTHOUGH cut flowers are more suitable for decorating the drawing room and boudoir than for the dining room, still a dinner table without a few choice flowers or pot plants would seem an extremely naked affair; whereas, when done up with a good class of flowers and greenery, and by exercising ingenuity and good taste in the arrangement, almost the first remark that people make (and especially the ladies) is "how pretty the flowers are," or words of a similar nature. People who do not appreciate the flowers on the table are generally those who dislike anything that diverts the mind from the all important business of dining, but unless the decorations are overdone, the flowers give great pleasure to the eye of the majority of people, and it would be a great loss in many ways should the fashion become antiquated. For a bright cheery display, I know of nothing better at this season than Mrs. J. G. Day Ivy Pelargonium (cherry colour), done with Asparagus plumosus; or Achievement (salmon-pink) done with scented Pelargonium points; and a simple arrangement that is within the reach of all is Campanula persicifolia alba, also alba plena, done with common Asparagus and Mignonette. Malva Moschata alba is another good white flower for the purpose, and would pass for the white Godetia, while it is a capital herbaceous plant, and can be raised from seed, and flowers freely the second year.—*John C. Dick, The Gardens, Champfleurie, Linlithgrow.*

PLANTS RECENTLY CERTIFICATED.

THE undermentioned awards were made by the Royal Horticultural Society at Chiswick on the occasion of the Lily Conference on the 16th inst.

Orchid Committee.

ODONTOGLOSSUM MACULATUM THOMPSONIANUM.—The flowers of this grand variety are the largest we have seen for the species, and handsomely spotted. The sepals are brown with yellow edge and tips. The broad, obovate petals are yellow on the upper half and richly blotched with brown on the lower half, the base of the petal being almost cordate. The heart-shaped yellow lip is handsomely blotched with brown all over. (First-class Certificate.) W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs.

CYPRIPEDIUM KIMBALLIANUM LOW'S VAR.—The upper sepal is ovate and heavily lined with rich brown on a straw-yellow ground. The long, spreading and declining petals are richly spotted with brown on straw-yellow, but the spots give place to lines towards the top. The lip is pale brown. It is a natural hybrid between C. rothschildianum and C. dayanum, the influence of the former being well seen in the sepals and petals. (Award of Merit.) Messrs. Hugh Low & Co., Bush Hill Park, Enfield.

ODONTOGLOSSUM CRAWSHAYANUM.—The parentage of this artificial hybrid was O. Hallii × O. harryanum. The sepals are dark chocolate-brown, netted with yellow. The petals are blotched with a paler chocolate-brown on a bright yellow ground, while the tip is yellow. The lip takes the shape of that of O. harryanum, undoubtedly, and is pale yellow, blotched with maroon on the lower half. The sepals and petals are slightly incurved like the last named parent, but otherwise they show the influence of O. Hallii. (Award of Merit.) de B. Crawshay, Esq. (gardener, Mr. W. J. Stables), Rosefield, Sevenoaks.

Floral Committee.

LILIUM CORIDION.—This beautiful little Lily seldom exceeds 1 ft. in height and bears lanceolate, scattered leaves with one to three blooms at the apex. L. Coridion differs from L. concolor chiefly in colour, the latter being dark red, while that under notice is bright yellow. The flowers shown by Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, were finely punctate with crimson. (See illustration on the Supplement.) It received an Award of Merit.

LILIUM BURBANKII.—This is a hybrid raised by Luther Burbank, the "Wizard of Horticulture," of California. The parents were L. pardalinum and L. washingtonianum, and as the seedlings have been sent out without selection there is naturally a great amount of variation amongst them. (See illustration on the Supplement.) (Award of Merit.) Messrs. R. Wallace & Co.; Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford, Dorking; and Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill.

CAMPANULA LACTIFLORA CAERULEA.—The stems of this hardy and handsome perennial vary from 3 ft. to 5 ft. in height according to the fertility of the soil and its available moisture. The flowers of the original are creamy-white or milk-coloured as the specific name implies, moderate in size, bell-shaped, and borne in a branching panicle; those of the handsome variety under notice are blue. (Award of Merit.) Mr. Amos Perry.

CARNATION ENSIGN (Martin R. Smith).—The flowers of this border variety are of large and handsome size and very pure white. The broad, rounded smooth petals are not too numerous, and accordingly the calyx does not burst. (Award of Merit.) Mr. James Douglas, Edenside, Great Bookham, Surrey.

CARNATION SEYMOUR CORCORAN.—Here we have a bright yellow, self Carnation, with relatively few and very broad petals, not bursting the calyx. (Award of Merit.) Mr. James Douglas.

ARCTOTIS GRANDIS.—The specimens shown under this name are annual, about 12 in. or so in height and furnished with irregularly, runcinate pinnatifid leaves, thinly woolly on both sides. The flowers are large, with long white rays, lilac on the reverse, and yellow at the base, thus making a yellow zone round the violet disc. It will make a handsome subject for beds or borders, delighting in sunshine like most of the Composites from South Africa. The Arctotis grandis of Thunberg is said by the *Index Kewensis* to be the A. stoechadifolia, Berg. (Award of Merit.) Mr. A. W. Wade, Riverside Nursery Colchester.

IBERIS UMBELLATA ROSE CARDINAL.—The flowers of this beautiful variety are of a bright rosy-red and produced in umbels as in the type. A quantity of it is being grown upon trial in the gardens at Chiswick, and we understand it was sent by Messrs. J. Veitch & Sons, Ltd., Chelsea. (Award of Merit.)

Fruit and Vegetable Committee.

STRAWBERRY QUEEN ALEXANDRA.—An Award of Merit was accorded a Strawberry under this name, and as the fruits quickly disappeared they must have been good. Mr. A. Wright, Mundsley Road, North Walsham.

THE PLANT HOUSES.

Watering.—At the time of writing the hot weather still continues, and the atmosphere is in a parched condition, and quickly licks up any moisture which hangs about. The man in charge of plants at this time of the year should bear in mind that, like himself, the plants under his care quickly suffer from thirst. Many begrudge the time it takes, but those who have the welfare of their plants at heart will not allow them to suffer for the want of a second watering during the day. A practice which should be avoided is watering a plant which is not dry at the time, because it will want some later on. By saturating the soil thus, the roots become suffocated, and their functions are hindered, with a result that the plant very soon gets into bad health. There is not much fear of cold water being used in and near towns during the summer, but in places where the water is not laid on much of the water is drawn from wells or pumped up by rams from springs. The effects of using cold water are not apparent for some time, but the injury is there just the same and will show itself, in proportion to the cold water treatment, in the form of a failing or weakened constitution. Always endeavour to keep the water as near as possible of the same temperature as the atmosphere which is surrounding the plants.

Syringing.—Wherever plants will allow the syringe to be used on them, it should be used with a will, or the gardener's arch-enemy in dry weather will soon make its presence felt. It has been written and pointed out times enumerable —the bad practice of careless syringing. It is a common thing to see a man, when syringing a house of plants, stand at one end of a stage, and to save moving his pail of water, syringe (?) the plants for several yards in front of him without moving from his position. Such a man often does more harm than good by such work as this. If the chief cause for the syringing is to damp the house generally, the principle will serve well, but there is generally a dual purpose to be served, one to damp the plants, and the other to keep them clean. No plant can be kept clean by simply damping over head, what it requires is a thorough syringing with the nozzle well beneath the head and a skilled hand to direct the jet. Much mischief is often caused by syringing, especially with plants which have spines, thorns, or sharp spurs, by tearing the leaves against them by the force of water. At this time of the year once a day is not sufficient. The plants should be syringed thoroughly every morning and then again in the evening, and the gravel or ashes on which they are standing soaked as many times as it gets dry. By keeping the surroundings wet, the atmosphere round the plants is always kept charged with water and helps to check the excessive evaporation from their surface as well as provide a suitable growing medium.

Gloriosa.—This popular stove climber is now growing away vigorously where provided with proper conditions, which are good soil, plenty of room, and a moist surrounding. Stove pests evince a special liking for the foliage of this plant, and if not frequently syringed with some weak insecticide to render its surface distasteful, it soon becomes disfigured. It makes such a large amount of growth from generally a small amount of soil, that the soil very soon becomes exhausted unless its fertility is kept up by an occasional dose of liquid manure or a small quantity of artificial manure is sprinkled on the surface and watered in. It grows much better when hanging in trails from the roof than when tied up close to the rafters, and does not like too much shade.

Pelargoniums.—As these go out of flower, they should be placed out of doors in a sheltered but the sunniest position possible, so that they ripen their wood properly. They should not be dried off immediately, but gradually withhold the water. When the shoots are fairly ripened the cuttings should be taken and placed under handlights or bell glasses in a cool position. When they have rooted the best place for them after they have been potted off is on a greenhouse shelf close to the glass where they will receive plenty of air and be protected from frost. The old plants, when they have ripened off, should be stored away in an airy, dry place; laid on their sides under the greenhouse staging is where they seem to keep best through the winter.

Primulas.—Those which require potting on should not be neglected, as they suffer greatly in their young stages from root restriction. They are very apt to suffer from excessive heat, so the coolest possible place must be selected for them.

Nemesias.—For winter and spring decoration in the conservatory, it is now time that these were sown.

Brompton Stocks.—These welcome adjuncts to the small number of winter flowering plants should now be sown for winter and early spring work.

Arum Lilies.—It is time now that the first batch of these were potted up and started into growth. A light position in a vinery suits them admirably, especially if they are kept damp.—*C.*

Hardy Fruit Garden.

Watering seems still to be the main work in this department, and many other things have to stand over until it is done. It *must* be done whatever else has to be left, for one single hour's suffering from want of water may mean the loss of a whole crop, especially with stone fruit.

Strawberries.—Keep the runners trimmed off if they are not required, and when the time can be spared give the beds a thorough soaking with water. The later varieties *must* have water even if the time cannot be easily spared or they will not swell up properly. Where the beds have been properly mulched there is not much fear of them drying up very quickly if once they get well soaked. In districts where the crops got a soaking with rain at the proper time the amount of fruit has been enormous, and this must be borne in mind when the beds are manured, for those which have produced heavy crops will require a heavier application than those which did not.

Apple Trees.—Those grown as espaliers seem to have made a very strong growth this year in spite of the dry season. The grower ought now to have a turn at summer pruning them. Some, I notice, have done this, and many, I notice, also make the old mistake of pruning the whole of a tree at the same time. It is far better for the health of any tree to have a few shoots taken off at a time than to have all its most sturdy and strong heads taken off the same day. When they are taken off gradually the effect is not felt, but common sense ought to point out to everyone the dangerous check which the trees must receive.

Figs.—Remove all superfluous growth and shorten back the other shoots to about four leaves above the fruit. The Fig tree is a gross feeder, and when the fruits are swelling manure water should be given occasionally.

Gooseberries.—Stop all rampant growth and prune with a view of producing a well balanced, and at the same time a fruitful bush. Those which are grown as cordons or on walls should have their lateral growth pinched back, but not so much as to make the remaining buds break into growth.

Currants.—These, like most other trees, must have a look over, and the growth thinned out in places where it is thick and crowded.

Budding.—It is time now that the budding of fruit trees was well in hand. A damp period suits the buds, and if rain does not fall the surrounding air must be moistened by artificial means, such as syringing the stock frequently. Some time before the tree is operated on it should have an abundant supply of water at the roots, and must on no account be allowed to get dry afterwards. Those which were budded earlier, and have started to swell must be carefully watched to see that the tying material does not cut them.

Wall Fruit.—Now that the soft fruit on the walls is beginning to ripen, earwigs are causing much annoyance. The best way to trap them is in reeds, Bean-haulms, or hollow canes. These should be gone over every morning, and blown through into a pail of hot water to which a tablespoonful of kerosene has been added.

Bottles.—Prepare syrup bottles for catching wasps, &c, and hang them on the most forward of the trees.

Fly.—Wherever fly is getting a hold it should be attacked with a syringe, and if the fruit will not be ripe until late in the season it will be safe to use an insecticide in the water. Continue to syringe Peach trees twice daily, as they are so soon attacked, and suffer more than most other trees from the drain on their vitality.—*F. J.*

Gleanings from the World of Science.

The following subjects were discussed at a meeting of the Scientific Committee of the Royal Horticultural Society on July 2nd.

Orchids, Malformed.—Dr. Masters reported on the flowers sent to the last meeting. He found the Cattleya to be dimerous, and the Odontoglossum to have five perfect stamens, the other parts being twisted, &c.

Hartstongue, abnormal form.—Mr. Druery exhibited a plant with the fronds variously modified, being subhastate, emarginate, sub-pinnate in places, and much crested. It was a seedling of doubtful origin; but a similar plant had been found wild many years ago.

Aristolochia trilobata.—Mr. Odell showed flowering shoots of this species, remarkable for the form of the flower, in that the calyx closely resembled a pitcher of Nepenthes, having a lid provided with a long pendulous streamer.

Cheiranthus alpinus, pods proliferous.—He also showed specimens of this, not uncommon monstrosity in certain Cruciferae. The pods were swollen at one place, within which was a double flower having several crumpled yellow petals and abortive stamens in the place of an ovule.

Silene and Anthyllis.—Mr. Holmes found that the specimens sent to the last meeting proved to be S. hirsuta, and a variety of A. Vulneraria.

Campanula, fasciated.—Mr. Holmes exhibited a large terminal flower of the common Canterbury Bell. It consisted of a "multifold" flower of numerous parts; also a flower of Paris quadrifolia, with six leaves to the whorl, but having the usual 4-merous perianth.

Plymouth Strawberry.—Mr. Holmes also brought specimens of the "Plymouth Strawberry," which he has had growing for ten years. It is remarkable for having a foliaceous flower, the petals and stamens being represented by numerous small leaves, as in the Green Rose and Alpine Strawberry; while each carpel on the receptacle consists of a three-pointed leaf, or rather petiole, rolled up upon itself. There is no trace of an ovule within it.

Beech with palmately-nerved leaves.—He also showed specimens of this peculiarity, apparently due to some insect attack. Mr. Saunders undertook to examine it.

Proliferous Cones of Cryptomeria.—Mr. Worsdell brought specimens of this monstrosity; which Dr. Masters observed was not an uncommon production in that tree.

White Lily, diseased.—Dr. Rendle showed stems badly attacked by a fungus. Dr. M. C. Cooke reports as follows upon it:—

"It may be reasonably assumed that the Lilies exhibited were suffering from the attack of the 'Lily disease,' so called by Marshall Ward in his memoir (in the *Annals of Botany*, vol. ii., p. 319, pl. xxii. to xxiv., 1889). This is stated to be due to a white mould, of the genus Botrytis, most of the species being only a conidial stage of a trumpet-shaped fleshy fungus called a Peziza in past times, but now dignified by the name of Sclerotinia, because the cups are developed from a hard sclerotium, which is the hybernating mycelium of the mould. In the present instance I am not aware that the sclerotium has been observed, and certainly not the Peziza; hence it would be rather premature to give the supposed Peziza a name, before its existence has been demonstrated. Moreover, Marshall Ward has not given a specific name to his Botrytis, although he has described it with its clusters of egg-shaped conidia. Berkeley described, in 1881, a species of white mould, growing upon Lilies, which he called Ovularia elliptica, from its elliptical conidia (*Gardeners' Chronicle*, Sept. 10th, 1881, fig. 66). This nevertheless is a species of botrytis, since called Botrytis elliptica, and probably is Marshall Ward's species. Long previous to the above, Corda figured and described a white mould, with ovate conidia, in glomerules, which was found growing on immature fruits of Lilies, in Bohemia; afterwards cited in other parts of Europe. This mould he called Polyactis cana, but during the recent revision of all species of fungi, by Saccardo, it has been called Botrytis canescens. Whether it is different from Botrytis elliptica I cannot say. Another species of Botrytis has been found in Britain and Holland, on leaves, stems, and flowers of cultivated Tulips. It is called Botrytis parasitica (*Cavara App. Pat. Veg.*, 10, tab. vi., figs. 1 to 4). This is probably different from the Botrytis on Lilies, although it is not improbable that it might develop upon Lilies if it came in contact with them. Having in view the conference which is shortly to take place, it may be interesting to allude to all the fungoid diseases of Lilies which have come under my notice; and, in this connection, it is satisfactory to learn that the number of pests is below the average of plants so largely cultivated. No other parasitic mould has been recorded, and, only recently, one species of Mucor which attacks Lily bulbs raised in Japan for exportation to Europe. This species is Rhizopus necans, described by Massee (*Kew Bulletin*, 1897, p. 87, with plate), and attacks the bulbs which soon become rotten, and exhibit clusters of tiny filaments with black heads, like miniature pins. These heads enclose minute conidia, whilst resting spores or zygospores are produced within the tissues of the decayed bulbs, and thus perpetuate the species after a period of rest. The section of fungoid parasites which include the smuts, rusts, and brands is represented, although there is no smut such as infests Erythronium or Ornithogalum. The cluster cups of the Lily of the Valley (Aecidium convallariae), has occurred on Lilium canadense, and another cluster cup (Aecidium safianoffianum) occurs on Martagon Lilies in Siberia. Of the brands with simple teleutospores consisting of a single cell, the most common is Uromyces Erythronii on Lilium canadense, in Europe; and another, less common, probably unknown in Europe, is Uromyces Lilii, described as a pest of Lilies in the United States. To these must be added the brands with two-celled teleutospores, although I am not aware that Puccinia liliacearum, notwithstanding its name, has been found to attack Lilies, although it is known in Britain on Gagea and Ornithogalum. Two other species, Puccinia Tulipae and Puccinia fallaciosa, attack Tulips, so that on the whole, the Lilies are favoured by almost immunity from these forms of fungoid pests. The last group or section of parasites to which I need allude are the leaf-spots caused by incomplete fungi, called the Sphaeropsideae. Here, again, the British cultivator may congratulate himself, since Phyllosticta liliicola, on the leaves of Lilium candidum, has not extended beyond Italy; and Phyllosticta lilii, on Lilium superbum, is at present confined to Canada. There is an allied parasite, with some technical difference, called Cylindrosporium inconspicuum, found on leaves of the Martagon Lily, but at present confined to Switzerland. Altogether, this report should give courage to the English cultivator of Lilies, inasmuch as the 'Lily disease' so called, associated with Botrytis, is the only one which need cause anxiety."

Mr. Wilks observed that the best remedy was to place the diseased Lily bulbs in a bag of sulphur in some hot place in a greenhouse; then to replace them in the ground, but not too deeply.

A unanimous vote of thanks was given to Dr. Cooke for his report on the fungus sent to the last meeting, as well as on the present occasion.

Lily Hybrids.—Mr. Bowles exhibited blossoms of L. dalhansoni, the result of L. dalmaticum × Hansoni, to show the difference in colouring.

(*To be continued.*)

Hints for Amateurs.

In the early part of the season there is not much difficulty in obtaining a supply of light and graceful flowers for cutting but somehow there always seems to be a dearth of what one might call elegant flowers during this and the next month. Flowers there are in abundance but all seem too large and luxuriant to grace a light vase in a drawing room or fill an epergne on the dinner table. This being the state of affairs, I intend to devote the space this week to a few of the light plants that ought to be now supplying that class of bloom.

Gypsophila paniculata. — These flowers are perhaps used more than any at this period for mixing with others of a heavier nature to give lightness to the effect. The derivation of the name tells what conditions they like best, it being taken from *gypsos*, lime, and *philein*, to love. They all delight in a sunny position, and a soil, if not naturally calcareous, well mixed with old mortar or other similar rubbish. They are easy to raise and will soon produce plants either from seeds, cuttings or by division. Nearly all the species are natives of Europe; the one under notice was introduced to our gardens in 1760 and soon became a great favourite, and still maintains a high place in the estimation of those who are familiar with its many desirable qualities. The individual flowers are very small and pure white in colour, but what makes it so useful is that it lasts a long time when cut, and when growing produces a good effect in the garden. It is often stated that Gypsophilas delight in a dry soil. Such a statement is incomplete and very misleading to the uninitiated as they by no means delight in a dry soil in the summer when they are growing; it is in the winter when they are impatient of a wet medium round their roots. What they require in the wet season is a well drained piece of ground.

Sweet Pea —Writing of the good qualities of the above plant naturally brings to one's mind the Sweet Pea which so often makes it a companion in arrangements for effect on the exhibition table. At the present day the Sweet Pea is a flower of fashion, and enthusiastic growers and admirers are doing all that lies within their power to improve it. That they have been successful to a very high degree may be seen by a visit to a Sweet Pea exhibition, or in fact any good flower show. Some of the newest varieties are perhaps a little too expensive but, a few seeds bought one season will with careful treatment multiply a hundred-fold by the next. The art shades which have been introduced into them make them most useful flowers, as almost any shade may be selected from a good collection to harmonise with the surroundings in the room in which they are arranged. Some of the prettiest shades of salmon are to be obtained and the shades of blue which are to be found are astonishing, while the various tints of red and blue in perfect artistic harmony are bound to fascinate every lover of beauty who sees them. If a few simple cultural details are carried out there is no plant that will give better results for so little trouble. One of the main objects that must be kept in view if they are to be grown perfectly is that they must not be shaded and crowded; neither must they be allowed to get dry at the root. With our cold uncertain springs it is best to raise them in pots and then plant them out into well-manured ground of a light nature when the weather is favourable. The one thing that must be carefully avoided when raising the plants in this way is keeping them away from the glass; they should be always kept within a few inches of it or they will draw and be useless. The usual way to grow them is to fill a number of 60-size pots with light soil and place them in a cold frame. The number of Peas put in each pot should never exceed six or seven. Another very common way to grow them is to collect some good firm turves and cut drills on the under side of them for the Peas and place them in a frame. When they are ready for transferring to the open ground the turves are cut into sections as required. The commoner sorts may be sown in drills in the same way as the ordinary garden Pea. A pleasing feature about Sweet Peas is that the more you cut them the more they will produce; but if they are left without cutting they will produce a show for a few weeks and then give their energy to the ripening of their seeds, and by the middle of summer instead of being a beautiful feature in the garden they will be a dejected lot of ripened vines of neither use nor ornament except as seed producers.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Calla elliottiana Outdoors.—*Subs.*: We have not seen or heard of this handsome plant being grown in the open with success, but a trial was made last season at Kew with a batch of plants, which were planted in a narrow border of new, rich soil, under the shelter of the Palm house. They survived the winter with the help of a few mats in frosty weather and are doing well this season, but last winter was not a fair example of winter weather to judge by, and we should not advise you to risk all your plants in the experiment. When grown in pots, it is very effective and is not much trouble. It can be raised from seed, but the seedlings are several years before they produce corms sufficiently strong to produce spathes. The best way to propagate Callas is by the suckers which they throw up.

Morello Cherries Dropping.—*Thos.*: There may be many reasons for this—by no means an uncommon one is dry roots, or the wood has been insufficiently ripened, or the shoots have been allowed to become too crowded this season, the soil may be poor, and a variety of other common causes of fruit dropping may account for it; but the one we suspect most of being the cause of your trouble is the one first mentioned—too dry. All trees with swelling fruit require a lot of attention during such weather as this, for unless the ground in the vicinity of the roots is well mulched, it soon dries up.

Striking Rose Cuttings.—*S. S.*: You do not state what variety it is you wish to propagate. If it is a strong growing hardy variety it will strike easily in an open border if the cuttings are put in about the end of August and not allowed to get dry. They should be well ripened and taken off with just a heel of last year's wood attached whenever possible; 8 in. to 9 in. will be long enough. If they are tender varieties, it will be best to make shorter cuttings and insert them in well-drained pots of open soil and keep them in a cool, shady frame. If they are to be struck in pots, the present time is a very suitable one.

Tropaeolums for the Winter.—*Gibbons*: A more desirable plant for the dull months of the winter could not be wished for, and with a very small amount of trouble, a profusion of flowers may be obtained during the darkest of the months. It is rather late for this season to take your plants in hand now, but with care you may succeed. Of course, a variety which you know to be naturally a free-flowering, such as Ball of Fire, should be selected, and it should also be one that can be trained up the roof. During the next few months it should be encourged to grow as much as possible and also to well ripen its growths, but not be allowed to flower. All the side shoots which it makes must be cut back to about three leaves. By the time it should be taken indoors, it should have its roots well filling a 7-in. or 8-in. pot. After it is indoors, it may be allowed to grow freely and if in a light, well-aired house, it will soon be a mass of bloom.

Blight on Plum Trees.—*R. P.*: This seems very common at present, and nothing, except syringing with a good insecticide, will check it perfectly. When the fruits are in an advanced stage, it is not wise to use an insecticide, as the taint of it will perhaps cling to them when they are fit for gathering. Copious syringings with clear water will remove a large number of them and have a beneficial effect on the trees. If the trees have made a lot of growth, a great deal may be cut out and burned.

The Best Way to Grow Gooseberries.—*T. Herd*: Opinion differs a great deal in this respect, for some prefer the various methods of bush culture, while a few prefer the cordon system. Of the two, we prefer the latter, for several reasons which ought to specially recommend them to the amateur. In brief, they are these: they bear a good crop of fruit the second year from cuttings, they are very easy to manage, easy to protect, easy to gather, easy to plant amongst, and have a neat and tidy appearance. The principles on which they are generally grown is tied to about three wires stretched on posts. Only one shoot is allowed to grow. The side shoots are made into fruiting spurs by cutting them back to within a few leaves of the main branch.

Grapes Going Off.—*A. Wilson*: What your berries are suffering from is a very common complaint, especially with careless growers. But even the most carefully treated Vines are liable to produce shanked berries, as they are called. The shanking may either be due to over-cropping, bad drainage, improper disbudding, careless ventilating, starved roots, or perhaps a combination of all. You must endeavour to find out which is the cause and in each case the remedy will be evident.

A Many-coloured Japanese Maple.—*Ivory*: The way that many colours are produced on one tree is because several varieties were grafted on one stock when the tree was young, a thing some people who like to be unnatural are very fond of doing.

Big Fruit in a Small-necked Bottle.—*Puzzled*: Answering this question in these columns will make the subject a very open one, but still many who have not known how it is accomplished may astonish their friends next season by producing one of these interesting novelties in their own garden. There is nothing difficult about it. All that is required is to select a variety of fruit, preferably a Pear, which will grow to a big size, and when quite young place a fruit which looks quite healthy in the bottle and fix the bottle in the tree, so that the fruit can swell up inside. Very simple, you see, when you know how! If one or two leaves are left on the stalk when it is cut it heightens the effect.

Plants not Thriving on Fowl and Pigeon Manure.—*G. D. R.*: We do not wonder at your plants looking cramped and miserable if you have been giving them this class of manure in large quantities. A stronger and richer fertiliser cannot be obtained, and a very little goes a long way when used properly. It will be some time before your soil will get over the dressing, as it will burn the roots even next year. The best way to use this class of manure is dried and mixed with fine soil or burnt earth and then scattered on the surface just before the soil is dug up. A bushel of pure fowl or pigeon manure is sufficient to manure a large garden with. You must also use it carefully as a liquid manure, or disaster will take the place of the success you anticipate. You are very fortunate in having a supply of such a valuable manure, and if you offered it for sale it would command a very high price, especially that from the pigeon house.

Treatment of Salvia splendens.—*Greenhouse*: This useful plant for winter flowering ought now to be in its flowering pot. The object to be aimed at at present is to produce a large, but at the same time well-ripened, plant. The best place to grow them is on a sheltered sunny walk. Never allow them to get dry as it means failure later on. They are very grateful for an occasional application of liquid manure, and when treated generously they make sturdy plants. See that the roots do not grow through into the walk and keep every flower bud pinched out. The plants will also require pinching occasionally to keep them in good shape.

When to plant Daffodils.—*Theme*: The best time to make a general planting is about September, but as you have old bulbs which were in pots last year, and intend to grow them in grass land in the future we should recommend you to plant them a little earlier. The method generally employed is to make holes with a crow-bar, and after putting in a little new soil to drop the bulb in and cover with several inches of the new compost. When once planted in the grass they are very little trouble afterwards, and if a few are put in every year to keep up the supply the effect in the spring will be quite fascinating.

Lilium Burbankii.

Lilium Coridion.

Two Lilies shown at the Lily Conference, Chiswick *(see page 769).*

A FIVE-YEAR-OLD MALMAISON CARNATION.

MANY cultivators believe in vigorous young plants of Malmaison Carnations for the production of big blooms as well as for cut flowers, but there are others who think differently, including Mr. D. Buchanan, gardener to the Earl of Stair, Bargany Gardens, Dailly, Ayrshire, who sent us the photograph from which the accompanying illustration was prepared. The plant was the blush Souvenir de la Malmaison Carnation, five years old, 9 ft. in circumference and 3 ft. in height. Mr. Buchanan tells us that "it carried eighty-five blooms (although partly disbudded), at least fifty of which were of large size. Some growers may say they would not keep plants that age. I may say we have them of all sizes here, up to five years of age, and find that plants of that size produce more flowers in proportion (for cutting) than young plants which give more trouble and require more space." Those who pride themselves in growing large blooms upon plants produced from layers of the previous summer or autumn would have to grow fifty of them, using as many pots, and creating a considerable amount of labour in potting and tending them, independently of the space they would occupy, in order to produce the fifty big blooms such as formed the harvest of the plant above mentioned. Individually, the blooms on the young plants might be the larger, but we think Malmaison Carnations may be overdone in that respect as well as various other plants often are. There cannot be much grace in blooms like fair sized Cauliflowers, but their beauty, we grant, may be a matter of opinion. We should be pleased to learn if any one has grown more than eighty-five Carnation blooms upon a single plant of any of the Malmaison race. We also congratulate Mr. Buchanan upon his success.

LILIUM CORIDION.

BOTANISTS consider this as a variety of L. concolor while some regard it distinct. In general appearance there is a striking difference between the two and for garden purposes they are abundantly distinct. The plant is very dwarf in habit, being generally less than a foot though well grown plants may reach the latter height. The typical L. Coridion has bright yellow flowers, slightly flaked with brown but the plants shown by Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, at the Lily Conference, Chiswick, on Tuesday and Wednesday of last week, were bright yellow, and thickly spotted or punctate with crimson-brown all over the lower half of the segments and might well have been honoured with some such varietal name as L. Coridion punctatum. It is the first time that this spotted variety has turned up in their grand collection. The slender stems are clothed with small, linear-lanceolate, bright green scattered leaves, while they terminate in one, two or three flowers according to their vigour. The flowers are held erect and are very pretty, the segments spreading widely from a little above the base. It is a matter for regret that the smaller species of Lily are not more frequently grown for they are both charming and interesting plants. L. Coridion is certainly the handsomest of the group to which it belongs, and ought to find a place in every representative collection of plants. It has larger flowers than L. concolor, and received an Award of Merit. The accompanying illustration (see supplement) was prepared from a photograph taken from a plant in the Gold Medal group of Messrs. R Wallace & Co., Kilnfield Gardens, Colchester, at Chiswick, on the 16th and 17th inst.

LILIUM BURBANKII.

LILIOPHILES will be pleased with the advent of a new hybrid Lilium, which made its public appearance in no less than three collections exhibited at the Lily Conference held at Chiswick, by the Royal Horticultural Society on Tuesday and Wednesday, the 16th and 17th inst. The most numerous specimens appeared in the grand group shown by Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester. Sir Trevor Lawrence, Bart., (gardener, Mr. W. Bain), Burford, Dorking, and Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, London, also exhibited it. The parentage is said to be L pardalinum × L. washingtonianum, belonging to different groups. The leaves seem whorled upon the stems in all cases as in the parents, but the hybrid parentage is indicated by the varying size and colour of the flowers. L. pardalinum seems to be the prepotent parent in many cases, the flowers being orange-yellow in the lower half, spotted with crimson, while the upper half varies from brownish orange to crimson and blotched or spotted more or less along the middle. In others the upper half is paler or darker brown; and in another instance we noted flowers that were of larger size and wholly orange yellow and spotted. This last type would seem to have been most influenced by L. washingtonianum. The hybrid L. dalhansoni shows a similar amount of variation, and this is what we should expect and look for when any considerable number of seedlings from a cross between two parents, that is, a hybrid, has been raised and flowered. Some of the seedlings are consequently more handsome than others. An Award of Merit was accorded the hybrid. The accompanying illustration (see supplement) was prepared from a photograph taken at the show.

HOMEWOOD, CHISLEHURST.

NEVER can that hidden indescribable sense which finds solace in pleasing colours know a greater satisfaction than when viewing a typical Kentish landscape.

Some choose as an ideal of beauty the ocean in its stormy moods, others find delight in the beetling awe-inspiring crags of our mountain districts, but nothing is calculated to soothe the mind and impart a sensation of indescribable loveliness more than the wooded knolls and vernal beauty of Kent, the Garden of England.

There is a peculiar softness in Kentish scenery, and the clustering fields of Hops, and miles of fruit laden orchards, leave an ineffaceable impression on one's mind. Who can find a better exemplification of the ancient and the modern in mutual advantageous association than that which greets the eye when one has made the laborious climb up from the station to the wild common at the top which gives Chislehurst such a charm? All round may be seen the woods and uncultivated land representing the former, while towering from amidst these wild surroundings, and appertaining to the latter, is a large, plain, stone cross in memory of that exiled, brave young man, Prince Napoleon, who died fighting for England against the Zulus. It was in a house hidden by giant Elms, &c., standing a short distance away that he made his home with his unfortunate mother, Empress Eugenie, when not on active service with the army of the country that adopted him.

Chislehurst and district contain many fine estates and gardens, and none is better known than the one which was the object of our visit. The owner of the estate is Richard Foster, Esq., and a more benevolent and typical Englishman could not be found. His large garden and glass houses supply much more fruit, &c., than is needed for household purposes, and every day large consignments are sent to the hospitals and homes of the needy. Not only are the gardeners kept busy packing flowers, fruit, and vegetables, but the kitchen staff also come in for a large share of work in their special line, to be sent off not only to the districts in the immediate vicinity of Homewood but into the heart of London's slums.

Mr. Last, the head gardener, kindly took us round the grounds and through the houses, and with his genial, free and easy manner gave us a pleasant hour or two's ramble and chat on matters horticultural.

A more tidy and clean garden we never went through. His motto seems to be "A place for everything, and everything in its place." "If we could only get rain, things would soon pick up a bit," he said as we entered the high walled kitchen garden, but rain or no rain the sight which greeted our eyes was one not to be forgotten for luxuriance of growth. There was only one crop that seemed to suffer to any perceptible degree, and that was the Peas. Duke of Albany is the variety he has great faith in, and certainly they have stood the trying weather much better than the majority of crops we have seen this season.

The walls are covered with a good collection of well trained fruit trees, and almost without exception they are all carrying good crops. The Apricots promise to yield well, while the Peaches have set exceptionally well, and a more even crop could not be wished for. One tree, an old veteran, shows a curious feature at the roots when closely examined. It was originally grafted on the Plum stock, but the border having been raised, the union is buried, and the Peach wood has put out an abundance of roots, so that the tree is supplied by both Plum and Peach roots, and is evidently doing well, for the fruits which it is carrying are a good size and well coloured, and will be fit for table within a week. Waterloo is the variety, well known as the best of early Peaches.

Wall Plums, especially the Green Gages, are carrying a heavy crop. Raspberries, of which there

A MALMAISON CARNATION WITH EIGHTY-FIVE FLOWERS.

are several varieties, from the stock of Messrs. Carter & Co., High Holborn, London, are a picture, being loaded with berries of a wonderfully large size and of a good flavour.

Strawberries were well nigh over, except that excellent cropper, Laxton's Latest of All, which bids fair to provide a supply for several more weeks.

As in many other gardens, the Apple crop, taken generally, will be below the average, although the trees of Blenheims are loaded, and the trees being of a great size, there ought not to be a scarcity of that fruit for a long time. Along the side of a walk are several young trees of an Apple bearing the name of Belle de Boskop. Over the good qualities of this variety Mr. Last waxed enthusiastic, and says he intends to obtain some more of it, for the fruit is a a good shape, a good colour, has a good flavour, and remains firm until Easter.

Currants, especially the Reds, are breaking down their bushes with the weight of the crop; the same thing is happening with the gooseberries. A very good way Mr. Last has adopted with this latter fruit is growing them as cordons, and a long row grown in this manner, although only in the second year from cuttings, are laden with fine berries.

The sweet Cherry crop has been a heavy one and to judge from a row of trees on the wall the Morello crop will also be heavy.

In the centre of this garden is a curious old vinery but one that contains a very fruitful Vine. Its age

Fancy Yellow Ground Carnation Mrs Charles Baring.

must be tremendous for it fills the whole house and the stem is like the trunk of a tree. The vinery is not heated but the crops that are gathered in it annually are astonishing. This year there are 250 large bunches of fruit which have received the second and final thinning. It is a Black Hamburgh, but the berries are somewhat differently shaped to the majority of this old variety, being long and Plum-like.

Running across the garden, and over a hundred yards long, is the most picturesque covered walk we have had the pleasure of seeing. It is composed entirely of cordon fruit trees, and to judge from their gnarled appearance, they must have been there for a great number of years.

The glass is close to the house, and although not extensive ranges they contain some very fine stuff. The stove is devoted almost entirely to plants to be utilised for house decorating. One thing we noticed as especially good was a batch of Begonia Gloire de Lorraine in 60's and 48's. The vineries, of which there are three, have some very good crops hanging in them, the bunches in the early vinery being exceptionally fine, and produced on young Vines which have only been planted a few years. New borders have been put in the Peach houses so the crop there this year will be light.

There is a long lean-to Rose house and to judge from the healthy and clean appearance of the trees they must have made a fine display early in the year.

Mr. Last is not a man to waste an inch of room, and in all directions where there is a little space to spare he puts in a Tomato plant or something equally profitable. The beds on the lawn are look-

Yellow Ground Picotee Glee Maiden.

ng very gay and show a very good taste in the harmonising of colours. In the pleasure ground is another covered walk made by Roses in variety, Lonicera, Clematis and that pretty bramble, Rubus fruticosus flore pleno. There was also a very tiny flowered Rose, much resembling a small Rubus flower, bearing the name of white cluster.

Adjoining the pleasure ground is another kitchen garden and some well kept flower borders, of the good old style, consisting of all the most handsome of the old fashioned flowers as well as many of the newer introductions. The Delphiniums at the present are the most conspicuous feature.

The conservatory is arranged in a very artistic manner, everything being planted out on rock work.

Yellow Ground Picotee Daniel Defoe.

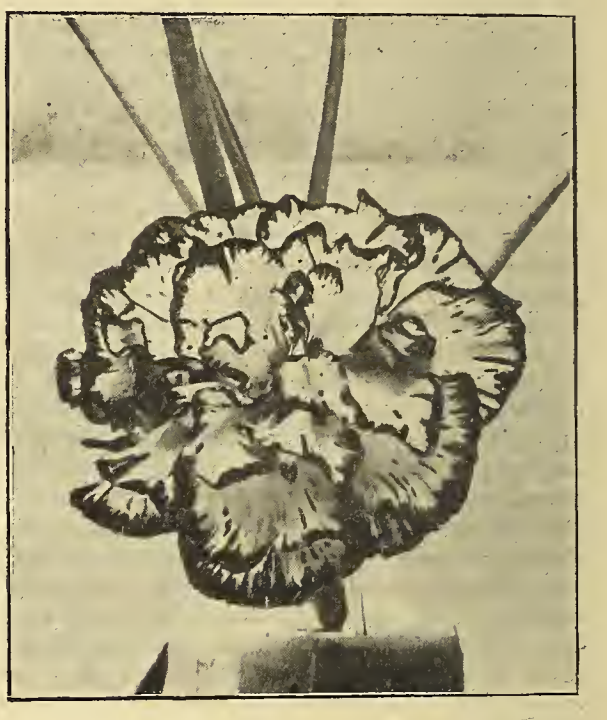
Palms, Ferns and ornamental Begonias are the chief subjects used.

One of the chief crops in the frames is Cyclamen, and of the batch of young plants Mr. Last and his assistants ought to be proud. Many people throw away their old corns, but the old ones are not thrown away here; they are well ripened off in the sun and then placed in a cool frame with about half an inch of finely sifted leaf soil over them. Treated thus they soon break into leaf again and Mr. Last assured us that they well repaid the trouble bestowed on them.

CARNATIONS AT EDENSIDE.

Those who love Carnations, and those who do not, should make a journey to Edenside, Great Bookham, Surrey, where Mr. James Douglas, of Carnation and Auricula fame, has got together a magnificent collection of Carnations in all the sections, such as self and fancy border Carnations, yellow ground Picotees, white ground Picotees, show Carnations (selfs, bizarres, and flakes), Malmaison Carnations, Tree Carnations, and Pinks. The latter, however, are not Carnations, though all the others may be Pinks (Dianthus).

Having resolved to see what the Carnations were like this year, we journeyed to Bookham by rail on Saturday last in such broiling sunshine as London had been enjoying all the week. The journey was well rewarded, for we never saw the Carnations looking finer in their wealth of splendid colours in endless variety, and profusion of flowers. Here we may state that all of the selected and named varieties are grown in pots and flowered under glass. This treatment is necessary for the saving



Yellow Ground Picotee Argosy

of seed with which Mr. Douglas enables gardeners throughout the country to have splendid beds of seedlings from his grand strain. There is a plantation of seedlings at Edenside, from seed sown as soon as it ripened last year. About 85 to 90 per cent. have come double, in all colours, and in great profusion as seedlings are wont to be. Many of the varieties are quite equal to named ones.

The collection includes the many grand Carnations belonging to various sections raised either by Martin R. Smith, Esq., the celebrated specialist and raiser of Carnations at Hayes, or by Mr. Douglas himself. Such vigour has been imparted to the yellow ground Picotees that they may be grown in the open ground, and many growers treat them successfully this way. In order to assist our readers in selecting varieties belonging to different sections, we shall speak of them separately, though all may be looked upon as hardy, and producing such fine and vigorous grass for layering as was unknown to Carnations before the recent revival of them and the production of what are known as

Border Carnations.

New Selfs.—The white varieties have a tendency to be early flowering, so that most of them were over before our visit. The best white, however, was still in perfection, namely, Ensign, which for form, size, perfect calyx, and the rich perfume of its flowers beats all of those hitherto produced at

Hayes, of this colour. Gil Polo represents almost the extreme end of the colour chart, being of a rich crimson, finer than Agnes Sorrel, and the calyx does not burst. A free flowering variety is Almoner, with broad, finely formed yellow petals.

Older Selfs.—A lovely flower is the yellow Cecilia, as large as a Malmaison when grown for mere size. Very little disbudding of any of the kinds is done at Edenside. Cecilia has already gained many prizes, awards, and what is better, admirers wherever it has been shown in public. The plants in pots stand 2½ ft. high and are laden with flowers. A bold and handsome flower is Bomba, of a clear salmon rose. One of the most strikingly distinct in the whole range of colours is Bendigo, with bluish-purple flowers, being the nearest to a blue Carnation. A fine old red variety is Bella Donna, of handsome form, and very free. On the other hand Benbow is reckoned the best formed of the buff selfs.

The soft blush-pink flowers of Alma are very chaste and pretty, the broad outer petals adding to the quality and appearance of the flower. The dark maroon flowers of Agnes Sorrel are of good substance, and it is still a good variety, though surpassed in some respects by Gil Polo. The clear, soft apricot flowers of Etarre are produced in abundance on plants 2½ ft. high, and the young shoots for layering are abundant. Lady Hindlip is brilliant crimson-scarlet with beautiful smooth edged petals.

One of the most singular in colour is that named Lady Jane Grey, the blooms being large, of beautiful outline, and lavender-coloured. In this latter respect it differs from the bulk of those in cultivation, and represents the best of its class. The same may be said of Midas, a handsome Carnation of deep orange-buff, slightly tinted with scarlet towards the base of the petals. A large number of cultivators have a liking for Much the Miller, a very bold and handsome white variety of good form and striking appearance. Sir Isaac is a deep yellow flower of beautiful form. The same may be said of Queen of Sheba, which rejoices in pale buff yellow. Another lovely yellow we cannot omit from the list is The Naiad, which produces finely formed blooms of large size and rich colour. The plant is of vigorous constitution, and finds many admirers. Trojan is equally fine as a white variety, and is as frequently, if not more often, grown as the last named.

One of the most charming of those raised by Mr. Douglas himself, is Rose Celestial, which may not inaptly be termed the Pink Clove. The large, rose-coloured flowers are deliciously scented, and have the recommendation of being non-bursting; for out of 300 blooms none of them burst the calyx. A companion to it, by the same raiser, is Miss Schiffner, the flowers of which are also rose and sweetly scented. There is an occasional outcry that new Carnations, like Roses, are losing their scent. The British public will have themselves to blame if they neglect these two in preference for those having only colour to recommend them. Both of the above are new varieties well adapted for border work. An older variety is Mrs. James Douglas, a very early one with deep salmon-rose flowers of fine form, and practically already dressed as they hang on the plant.

White-ground Fancy Carnations.—In speaking of fancy Carnations, it might be difficult in all cases to state exactly their limits; but a white ground Picotee has its colouring confined to the margin. A white-ground fancy Carnation has stripes, lines, flakes or other markings running the long way of the petals. One of the most handsome of this class is Dalgetty, edged and much flaked with deep purple. There is a deal of this colouring upon the flower and this constitutes its beauty, making it one of the most decided fancies. Miss Florence is quite of another type, its large and bold flowers having an occasional dash of rose-red or scarlet markings.

Other Fancy Carnations.—Don Juan is a buff ground Carnation, this shade being flaked and streaked with reddish-purple in a way that defies description; yet the flower is beautifully formed and well adapted for the exhibition board in the fancy classes. More striking even is Elf King, flaked with scarlet on a dark purple-lavender ground. It is the best of this type we noted in the collection. Another strange and striking flower is Queen Bess, the buff ground of which is heavily striped and flaked with rosy-lilac and rosy-red. It is a free flowering and handsome variety with a strange admixture of colours.

Yellow-ground Picotees.

New Varieties.—White-ground Picotees have long been in a highly developed state, but practically the evolution or development of the yellow-ground Picotee in its most perfectly refined state, so to speak, is still in the crucible, that is, in the hands of the raiser. Two of the finest ever raised are Childe Harold and Dot, both raised by Martin R. Smith, Esq., and looked upon as the acme of perfection. The deep rose margin of Childe Harold is perfect, and the plant vigorous in constitution. It has already received nearly twenty First-class Certificates at various exhibitions and twice in succession has gained for itself the proud position of premier bloom at the National Carnation Society's Exhibition. The fine wire edge of Dot is rich purple, otherwise the variety closely resembles its sister just named.

In passing through the houses one of the most captivating of the yellow-ground Picotees we noted was Argosy, the heavy scarlet edge of which brightens up the well formed flower. The accompanying illustration, prepared from a flower as grown at Edenside without disbudding, shows the nature or disposition of the two colours. The finely formed flowers of Erasmus have a narrow crimson margin. The primrose-yellow ground of Pamela is edged with rosy-lilac. Evelyn has very broad petals of good substance and margined with bright rose. Gertrude is heavily margined with bright rose, and the large flower of admirable form.

The heavy crimson-maroon margin of Mrs. Charles Baring, also took our fancy, and in order to give our readers some idea of the general character and formation of the flower we had the accompanying illustration of it prepared. By way of contrast, we also selected Glee Maiden for the delicacy of its clear rosy margin (see illustration). The flower in every way is perfectly and beautifully formed Frobisher has a rose red, and well-defined margin, and the whole flower is of beautiful and elegant outline. Helios is equally striking in its way, with its heavy crimson edging and profusion of blossom.

Three new yellow-ground Picotees raised by Mr. Douglas and now being put into commerce for the first time are Perfection, Royalist and Conquest. The last named is, perhaps, the loveliest of all. It is a heavy red-edged variety, the colouring covering about half of the petal from the margin inwards. Under canvas shading the colouring seems to stand out much more brightly than in the full glare of sunshine.

Older Varieties.—A lovely flower is Daniel Defoe, the bright yellow ground being heavily margined with a soft rosy-red. The flower is large and attractive, and here again we allow the camera to speak for itself (see illustration). The delicate wire edge of Carracci is of a bright rose, making the bloom well adapted for exhibition purposes. The lemon yellow ground of Alcinous, on the contrary, is margined with purple in well defined outline. The deep rose but narrow margin of Onda is well set off by the bright yellow ground of the well-formed flower.

Those of our readers who have seen Mr. Nigel will agree with us that it is one of the most handsome of the older yellow ground Picotees in existence, the broad and rich crimson edging making a glorious outline to the deep yellow flower. The clear yellow petals of Lauzan have a beautifully defined edging of purple. H. Falkland has a bright rose edging and the flowers do not burst the calyx. The light rose edging and the lemon-yellow ground of Heleodorus, together, make another choice and interesting flower. The ground colour of Lady St. Oswald is rich yellow, and the edging bright rose, so that on the whole it makes a fine companion to Argosy, above mentioned. We must not overlook what must be regarded as an interesting pet, namely, In Remembrance, raised by Mr. Douglas about fifteen years ago, but as it is difficult to increase he has never been able to put it into commerce. It is a yellow ground with a delicate rosy margin.

Yellow-Ground Fancy Carnations.—One of the best and most striking Carnations of this class is Hidalgo, which has been honoured by the National Carnation and Picotee Society as the best fancy in the exhibition. The bloom is heavily striped or flaked with maroon and deep red, making it highly conspicuous on the plant or in a cut state. Goldylocks has a few lilac and scarlet lines or markings on a yellow ground. Don Carlos makes a third variety with a very strange arrangement of colours, the yellow ground being striped and edged with rosy pink.

Of some other sections of leading importance we must defer notice till another occasion.

THE LILY CONFERENCE AT CHISWICK.

Numerous conferences have been held in the Gardens of the Royal Horticultural Society at Chiswick, but we think it would be safe to say that never was one held under more tropical conditions than the Lily Conference. The heat was almost unbearable in the large marquee, and both the speakers and the audience were obliged to wear their hats. The chair was taken by Mr. H. J. Elwes F.R.S., whose monograph on the genius Lilium is so well known.

Recently Introduced Lilies, by Mr. Baker.

One of the first speakers was Mr. J. G. Baker, F.R.S. His remarks brought the monograph by Mr. Elwes up to date, as he dwelt on the thirty-five species not enumerated by that gentleman. Now that so many bulbs of the species L. bakerianum and L. Lowii have been collected, Mr. Baker had some doubt as to whether the two would stand distinct. He spoke highly of the two recent acquisitions to our Lily collections, L. rubellum and L. Henryi. Of L. Brownii he said that he had noted five distinct forms. The paper was full of interest and its publication in the *Journal* is eagerly looked for by Lily-lovers.

After Mr. Baker's interesting paper, the Chairman made a few more remarks and pointed out that gardeners do not realise how much they are indebted to the botanists and *vice versa*. He dwelt forcibly on the importance of co-relating the two sciences. Out of fifty-two species described he had been able through the gardeners to obtain forty-eight in a living state. As dried specimens, no matter how well they may be prepared, are very inadequate material for working on, he was greatly assisted by being able to study the living specimens at home, in England. The one great place left in the world from whence a vast number of Lilies are yet to be introduced, he believed, was W. China. He spoke of the endeavour which Messrs. Veitch & Sons, of Chelsea, are making to unearth some of these unknown treasures by sending out a collector into this wild and exceedingly dangerous region. Mr. Wilson, the man selected for this laborious work, was, like many other collectors, selected from the staff of young gardeners at Kew.

Mr. Elwes has had considerable experience in this work and spoke of the trials and disappointments to be endured. He emphasised the trying experience of finding a desirable species but being at the wrong period for collecting it, it necessitated a return journey at the right season. He pointed out also the great difficulty met with in transport as they often had to be carried for hundreds of miles on the heads of coolies, and then what was more trying than all, after the bulbs were safely on a ship bound for the old country they often succumbed to the excessive heat while passing through the Red Sea. He then asked Dr. Henry, who has been a great traveller in China, to tell them of the climate, soil, etc., in which he found the various species growing.

Continuing, he spoke of the unreliable information which was often received from travellers as to what conditions plants grew under. "What we want," he said "is reliable meteorological observations for the whole year, not part of a year, which information is often most misleading." He thought that Liliums were the most difficult genus of plants to cultivate, and said that because he wrote a book on them many people thought he ought to be able to grow them perfectly. This, no man can do, for as he pointed out, in one garden where he lived they grew beautifully, but on changing his abode the Lilies, even when given every attention, resented their different surroundings.

Chinese Lilies, by Dr. Henry.

Dr. Henry said that he did not pay special attention to Lilies, but he would give a few notes and

observations which he made on the genus. He said that he was sure that the high mountains of W. China were much richer in species than those of the East. He spoke highly of Mr. Wilson's endeavours, and mentioned that he was only in the centre of this vast country, and one man could not do much in a very long time: he said there was room for hundreds of collectors, especially in the high regions of the West, where the average elevation was from 5,000 to 10,000 ft. Travelling in this region, he said, was very fatiguing and very slow; a day's march consisted of going up the side of one ridge and down the other, and there were not a few of these ridges but hundreds of miles of them.

He said we often drew a very erroneous idea of the aspect of China by taking the alluvial valley of the Yantze Kiang with its vast rice districts as an example. Here the country is excessively flat, as may be judged by the fall of the great river, which is only 70 ft. in the last thousand miles. In the gorges leading off from the Yantze valley he found L. Brownii. In a rocky district in Yunnan, at an altitude of about 10,000 ft., he found L. leucanthemum. A peculiarity which he noticed about the flowers was that when growing in their wild rocky habitat they were of a decided greenish tint, but when seen under cultivation they assumed a yellow colour.

L. tigrinum, he said, he never saw growing wild. L. Henryi, he only found growing in two districts, both in the neighbourhood of Y Chang. It grows on grassy slopes at an altitude of 200 ft. to 2,000 ft. The rock formation on which it is found varies, as in some places it is limestone and in others conglomerate. Unlike L. Brownii, it always grew in exposed positions. L. giganteum, he noted, only grew in the high mountain forests and never in open or exposed positions. The colour of the flowers varied, he noted, some being almost pure white, while the others were greenish.

Mr. Wilson collected a large quantity of bulbs of L. nepalense, but when under cultivation they still retained the peculiar habit of varying in colour and in size, which characterised them in their native habitat.

Lilies in a Town Garden, by Mr. Yeld.

After the brief but interesting address by Dr. Henry, Mr. Yeld read a short paper on "Lilies in a Town Garden." "Lilies," he said, "do not find much favour with gardeners in the north; they look at them as decidedly 'mythy' subjects to deal with and only suited for the warmer south." Mr. Yeld's garden is situated in the historic town of York, but, unlike many other gardens in that neighbourhood, it possesses the distinct advantage of being well sheltered, and as Mr. Yeld spares no trouble in getting in new soil, he proves a very successful Lily grower.

L. Martagon, he said, grew anywhere in his garden, and he had some fine ones even under Pear trees. L. Hansoni also grew well, but being very early, often suffered from frost. L. chalcedonicum generally looked untidy in his garden as the leaves withered, but in a neighbouring garden, he said, there is a clump of it which has occupied the same position for twenty years with only the attention of lifting occasionally. L Humboldti, he said, did well for the first two years after being imported, but after that time it went off.

L. canadense, he found, grew fairly well; but washingtonianum, he thought, was a failure. L. sulphurenm grew well, but did not bloom. The finest he grows is L. colchicum. It takes ten years to produce bulbs sufficiently strong to produce flowers, but they well repay the trouble, for he had seen them with thirteen flowers on a stem.

L. giganteum, he found, required much attention, or it was liable to rot. It was over a plant of this handsome species that this Lily enthusiast stood with an umbrella during a terrific thunderstorm.

He gave many pieces of useful advice to Lily-growers. The cream of which was never to move a plant that was doing well, and that in very dry seasons Lilies are not so impatient of manure in the soil as they are in wet seasons. Care and patience, he thought, was almost as good as a good position. In ordinary seasons he agreed with the other speakers that there is much to be gained by planting them under trees, amongst their roots, where the bulbs are kept cool, and there is generally moisture to be obtained.

Culture of Lilies in Pots, by Mr. Wallace.

Mr. Wallace, who exhibited a magnificent group of Lilies in the large vinery, gave a very instructive paper on their culture in pots. He gave a list of species that are most suitable for either forcing or bringing on gradually.

For forcing into bloom in the early spring they should be potted in the early autumn. Two of the best species for spring use, he thinks, are L. thunbergianum and L. umbellatum; the variety L. t. Prince of Orange he specially recommends. L. tenuifolium, he said, is a gem for forcing, but requires a little bottom-heat to start it. L. excelsum is a very good pot plant, but Mr. Wallace says that like L. candidum it will not stand too much forcing. L. rubellum, he thought, was a perfect pot plant. Many people are often deceived over this plant, as none look more weak and unpromising when they first appear above the soil. L. Henryi he recommended, also, as a pot plant, and one which should be started early. Although it grows to a great height it is a very graceful flower, and if removed to a shady position when the buds appear the colour is much improved.

L. giganteum, he finds, makes a good subject for pot culture if it receives careful treatment. One thing that must be specially avoided with this species is excessive heat, as the stems being hollow they soon split. L. odorum, better known as L. japonicum colchesterense, which is now being sent over in such large quantities from Japan, he recommended to be removed to a shady and slightly cooler position when the buds begin to swell, as when grown otherwise the blooms lose much of their colour. The same treatment was also advised for L. Brownii.

For very early forcing he thought there was nothing to beat L. Harrisi and the variety L. H. foliis albo-marginatis, which has ornamental silver-edged foliage. L. auratum, he found, could only be grown to perfection when in an unheated house and allowed to come on naturally.

In conclusion, Mr. Wallace advised all who go in for Lily culture under glass to keep them cool, give abundance of air without draughts, syringe frequently, keep the atmosphere moist, and above all shade the pots and lower part of the stems.

After Mr. Wallace's paper, Mr. Elwes made a few more remarks, dealing principally with the good results he had seen from Lilies planted in odd corners.

Lily Growing, by Mr. F. W. Moore.

Mr. F. W. Moore next gave a short paper on Lily growing. He emphasised the importance of keeping the bulbs cool, and recommended that their roots should have the companionship of the roots of other things. He also pleaded for more attention to the raising of our own bulbs instead of importing them.

Lily Disease, by Captain Saville Reid.

Captain Saville Reid said that after what had been said on the subject there was not much in his paper but would be repetition. He gave some very instructive extracts, dealing principally with diseases. He made some very interesting remarks on the Madonna Lily. He described how that when he came to his house six years ago, he found the garden well stocked with this flower, growing chiefly in a grass border.

After some time the plants became attacked with a foul fungus disease which made the leaves wither from the bottom upwards. Acting on the advice received from the horticultural press he took the whole of the bulbs up in the autumn, and after drying them and cleaning them in a vinery they were put into a bag a few at a time and well shaken up with sulphur. After this they were replanted in fresh positions. By some oversight a few bulbs were left hanging for several weeks in a stoke-hole and were planted later; the others not having been out of the ground more than forty-eight hours. Contrary to the much talked of idea that a Lily bulb ought not to be out of the ground for many hours these bulbs which had been neglected did the best, and two years afterwards they produced as many as fifteen flowers on a stem.

He related a curious experience which he had with L. Parryi. He and several more gentlemen bought some bulbs of this Lily which was known as the Bog Lily. Each one proceeded to imitate as they thought best the natural conditions. He made elaborate arrangements with pipes, &c., to make a miniature bog, but owing to some derangement in the affair the feed-pipe became stopped, and in consequence of the amount of drainage which had been given to carry off the surplus water the compost soon became very dry. This accident saved his bulbs, for while those of his friends perished through excessive moisture, his flourished, and one year his six bulbs produced nine dozen blooms. L. rubellum, he found, grew best in scrub and in loose stony earth.

Diseases of Lilies, by Mr. G. Massee.

Mr. Massee, as he has often done before, used much satire at the expense of the gardener. He has an amusing and fascinating way of making himself understood, and a man more devoted to the fungus family is not to be found. At this conference he waxed enthusiastic over the fungoid diseases of Lilies, and even before such an assembly of Lily fanciers he spoke out and told them that he thought the fungi much more beautiful than the Lilies. Of course this is a matter of opinion, but with the aid of carefully prepared slides, a good lantern and a free and easy delivery, we have known Mr. Massee to hold his audience spell bound from beginning to end. The subject seems to be written before him, for although he has no notes he is never at a loss for words, and the pace he goes would cause consternation amongst the sharpest of shorthand reporters.

He informed his hearers that there were about fifty fungi which delighted to feed on Lilies, but fortunately for British growers there is only about one or two which are found to cause trouble in this country. The one which causes most trouble is a species of Botrytis. Mr. Massee seemed proud of this fungus, as it holds on to life with a wonderful persistency and can either live as a saprophyte or as a parasite. It can exist for centuries as the former, living on the humus in the soil; but as Mr. Massee pointed out, the fungus has a degree of discrimination and if a Lily bulb happens to be put in its vicinity it soon finds that this provides its food in a more concentrated form and consequently begins to live on it immediately and forms a mycelium round the bulb. During the first year it forms sclerotia, and in the second spores, which quickly spread all over the plant. The least movement in the air is sufficient to lift these tiny bodies, even the imperceptible movement which is caused by the slightest change of temperature.

After briefly describing the method of growth of this disease he, perhaps somewhat reluctantly, spoke of the best methods of checking it. "The safest way to protect the bulb," he said, "is to surround it with silver sand with which a small quantity of sulphur has been mixed." This prevents the growing points of the mycelium from reaching the bulb, as they can only grow when in a nourishing medium. Of course this precaution would be useless if the bulb was already diseased, for as Mr. Massee has pointed out times innumerable, prevention is the only method as cure is impossible when once the fungus has entered the tissues, and no amount of spraying will kill it then, as the only method of destroying it effectually is to burn both the fungus and the host-plant.

When the spores settle on the leaves, &c., if they are wet, they germinate immediately and are inside destroying the tissues in a very few hours. When it breaks through to the surface again the work of devastation has already been accomplished and this is the last stage of the disease and not the first as is so often erroneously imagined.

Kainit was recommended by Mr. Massee as a sure destroyer of all fungi, whenever it came in contact with them. But as he pointed out, the gardener is often too great a personage to dabble with such simple remedies. If they were more complicated he would do his best to carry them out.

After a well deserved vote of thanks to Mr. Elwes the conference broke up. The papers which were read and those which were unread for want of time, will be published *in extenso* in the *Journal of the Royal Horticultural Society*.

SOCIETIES.

BECKENHAM HORTICULTURAL.—*July 10th.* The tenth summer show was held in the recreation grounds on Wednesday, July 10th. A principal factor in the success—constant and increasing—of the Beckenham Show is the suitable situation, and

perfect fitness of the show ground, which combines the attractions of a garden and a meadow, fine old trees affording welcome shelter as well as a picturesque finish to the flower borders well filled with shrubs, herbaceous plants and summer stock.

The arrangement of the huge marquees into a rectangle with connecting covered passages of canvas was an admirable one, enabling the exhibits to be displayed to better advantage. The entries in the 106 classes—(1) open, (2) amateurs and cottagers, (3) decorative—were numerous, and the high standard of former years more than maintained.

The committee arranged to hold the show a fortnight earlier this year, with a view to improving the display of the flowers, especially Roses, which proved to be one of the most striking features of the show. Messrs. D. Prior & Son, Colchester, and G. & W. H. Burch, of Peterborough, carried off the chief competitive prizes.

The class for a "dinner table decoration" submitted eighteen tables to the judges. First honours went to Miss Heginbotham for an arrangement of Sweet Peas, "Gorgeous," and pink Carnations. The arrangement of Mrs. A. C. Robinson, of Wallington, was awarded second. The show was visited by a large and fashionable attendance who appreciated the excellent arrangements made by the hon. secs., Dr. G. R. Stilwell and Mr. G. H. Davies.

Messrs. John Laing & Sons, Forest Hill, staged some grand blooms not for competition.

Messrs. T. S. Ware, Ltd., Feltham, staged a magnificent group of Tuberous Begonias.

Messrs. J. Peed & Son, West Norwood, exhibited Caladiums, flowering and foliage plants.

Mr. John R. Box, Croydon, staged a group of foliage plants springing from a vase of Begonias.

Messrs. Henry Cannell & Sons, Swanley, showed hardy herbaceous plants.

Mr. John Carlton, Tunbridge Wells, also showed hardy perennials.

Mr. John Russell, Richmond, Surrey, exhibited ornamental trees and shrubs.

Mr. John Swiman, Victoria Nursery, Beckenham, exhibited a grand display of Petunias.

Messrs. Carter & Co., High Holborn, London, brought Gloxinias and dwarf Japanese shrubs; Mr. T. Horsman, bouquets, &c.

PRESCOT SHOW.—*July 18th.*

In glorious weather the seventeenth exhibition was held by the kind permission of the Earl of Derby, K.G., G.C.B., in a finely wooded portion of Knowsley Park. The entries were slightly less than last year, due probably to Bootle show being held on the same date, and the excessive dry period which in most outside crops has proved detrimental to the desired finish that is expected in competition.

Plants.—In the class for a group of plants arranged for effect, Mr. H. Ogden, West Derby, was the only exhibitor, staging a light fresh arrangement, Dracaenas being most effective.

For the model garden, Mr. T. Eaton, gardener to J. Parrington, Esq., Roby, won with a pleasing design; Mr. J. Eaton, gardener to F. M. Radcliff, Esq., being second with a similar design, but lacking in tone of colour.

For four stove and greenhouse plants, Mr. T. Eaton was to the fore with fair sized plants. For four greenhouse plants, Mr. Eaton again led with fresh plants.

One stove or greenhouse plant in bloom, Mr. W. Lyon, gardener to A. Mackenzie Smith, Esq., won with Swainsonia galegifolia alba. For four and one Caladiums, Mr. T. Eaton won with good specimens. Mr. Lyon took the lead for three Orchids. For six Gloxinias, Mr. W. Lyon led the way.

For two Liliums, Mr. P. Greene, gardener to Col. Gee, won with varieties of auratum. Single foliage plant, Mr. Fairclough won with Kentia helmoreana. Mr. Greene took first for Cockscombs, and Mr. Fairclough for three Fuchsias, and for the single plant, staging good standards throughout.

For three Coleus, Mr. Fairclough won with large plants. For six Begonias, Mr. W. Lyon had the best. For the single plant, Mr. P. Greene was first.

Cut Flowers.—Roses were certainly below the average, being small and wanting in colour. For eighteen varieties, Mr. P. Greene was first, having a few fair flowers. Mr. James Berry was second for twelve varieties, Mr. W. S. Barnes, gardener to J. C. Gamble, Esq., was first out of six lots. For six lights, Mr. Greene won with Her Majesty.

For six double Dahlias, Mr. Henry Banks scored with good flowers, and likewise for six Cactus varieties. For six bunches of Sweet Peas, Mr. George led in a strong competition.

For twelve bunches hardy herbaceous flowers, Mr. J. George was first in three lots, where effectiveness in arrangement told in his favour.

Fruit.—This division was well filled with exhibits of a creditable order, finish being satisfactory throughout.

For four dishes, Mr. W. Oldham, gardener to Jos. Beecham, Esq., Huyton, won with Black Hamburgh Grapes, Hero of Lockinge Melon, Violet Hative Nectarines, Grosse Mignonne Peaches. Mr. Thos. Eaton followed, having smaller bunches of Grapes.

For two bunches Black Hamburgh Grapes, Mr. J. Fairclough, gardener to J. Atherton, Esq., won with well berried bunches; Mr. T. Ragnall, gardener to C. H. Boston, Esq., second.

For two bunches of Muscat of Alexandria, Mr. R. Forbes, gardener to Mrs. Baxter, won with good bunches. Mr. J. Threlfall, gardener to Col. R. Pilkington, M.P., was second with slightly smaller bunches. For two bunches of black, Mr. J. Fairclough won with Madresfield, with well finished bunches; Mr. R. Forbes was second. For two whites, Mr. W. Oldham scored with well finished Buckland Sweetwater.

For one Melon, Mr. T. Eaton won with Best of All. For six Peaches, Mr. Brown, gardener to J. C. Gamble, Esq., won with Alexandra Noblesse. Mr. T. Eaton was first for Nectarines, with highly coloured Elruge, and for Cherries with May Duke. Mr. Threlfall led for Black Currants.

Vegetables.—As usual, these were of high merit in which the exhibitors had fully overcome the hot dry weather. In the class for twelve varieties, the first prize being a handsome Silver Cup, presented by the Hon. Arthur Stanley, M.P., was awarded to Mr. J. Rainford. This fine lot included Celery Rainford's Avalanche, a grand exhibition kind, Turnip White Model, Cauliflower Webbs' Mammoth, Beet Dobbie's Globe, Leek International Prize, Onion Ailsa Craig, Vegetable Marrow Moore's Cream, Carrot Webbs' Market Favourite, Peas Alderman, Tomatos Conference, Scarlet Runner Sutton's Best of All, Potatos International set up in an effective manner on Parsley. Mr. Isaac Case was second; Mr. John Kennedy, third.

For three heads of Celery, Mr. J. Rainford won with grand samples of Wright's Giant White, and in the red for Rainford's Challenge. For three varieties of Tomatos, Mr. T. Eaton won with small, perfect fruits.

For a collection of Potatos, Mr. J. Rainford won with good tubers. For pair of Cucumbers, Mr. J. Rainford was again in the coveted position. For twenty-five pods of Peas, Mr. J. Lyon won with Duke of Albany. For Broad Beans, Mr. J. Kennedy was the winner. Mr. Lyon scored for French Beans.

In the cottagers' classes the exhibits generally showed evidence of high culture.

An Award of Merit was made to Mr. H. Middlehurst, and to Mr. J. Threlfall for excellent assortments of Sweet Peas, and to Mr. J. Rainford for a collection of Celery showing splendid culture.

The arrangements were in the able hands of Mr. W. Case, secretary, and a hard working committee.

BOOTLE SHOW.—*July 18th.*

This exhibition was held in the attractive grounds of Derby Park and was as usual, though only small in quantity, splendid in quality. The exhibition receives the warmest help of the council, who not only places the pretty park at the disposal of the committee, but take an active part in the work of the show, which must in time create an interest in the borough, and so help to brighten the town and give pleasure to its inhabitants.

For the best and most effective group, not exceeding 100 square ft., in which a Challenge Cup, presented by Lord Stanley, M.P., to be won in two successive years, was added to the first prize, it was secured by last year's winner, Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Wavertree, for a very fine collection, admirably arranged, in which highly coloured Crotons showed to advantage. Mr. H. Ogden was second.

For three stove and greenhouse plants in bloom Mr. Bracegirdle won with Erica retorta major, Cattleya Warneri, and Bougainvillea sanderlana. For three fine foliage plants the same exhibitor had the best with Cycas revoluta, Chamaerops excelsa and Anthurium crystallinum. The prize for four Ferns also went to the same for Nephrolepis davallioides furcans, Davallia mooreana, D. fijiensis, and Cyhotium.

For three Fuchsias, Mr. G. Osborne was to the fore with well flowered specimens. For four Begonias Mr. F. A. Rockliff led the way; one Tree Fern, Mr. Bracegirdle, for a fine Dicksonia antarctica.

The Roses were in admirable form, most of the winning stands coming from Formby. For twelve varieties, which gained the first prize and the special presented by Councillor George Lamb, the winner was B. Kennedy, Esq., Maman Cochet, Alf. Colomb, Mrs. Shar, Crawford, Caroline Testout being excellent. The same exhibitor won for six distinct varieties, and for six Tea Roses.

For three Crotons, Mr. Bracegirdle scored with Queen Victoria, Weismanii, &c.

The hardy fruits and vegetables were well shown throughout, the Tomatos shown by Messrs. W. & J. Birch being extra fine.

NATIONAL CARNATION AND PICOTEE.—*July 19th.*

The many attractions of the Crystal Palace were added to on the above date by the show of the southern section of the above society. The classes were well represented and the general condition of the blooms was good, but like many of the visitors who came to admire them, they looked very uncomfortable in huge collars marshalled in military array on artistic herring box arrangements. It is a great pity that the blooms cannot be shown with long stalks, for not only do they look more graceful when thus arranged but there is no show case to hide a defective calyx which ought to tell greatly against the merits of the blooms. There were four cups offered: Martin R. Smith, Esq., Hayes, carried off the one in the first division. The one offered in the second division was won by F. Wellesley, Esq., Woking, and that in the third division by R. C. Cartwright, Esq., King's Norton. D. Walker, Esq., Kilmarnock, N.B., scored the highest number of points in the fourth division and carried off that cup.

The table decorations will be best left without comment, for candid speaking might cause offence, and it is a good policy in the present age not to speak at all unless you can speak good of a being.

For twenty-four blooms of bizarres or flakes, Mr. W. Rowan, Clapham, made a good first; the markings in his blooms being very clear. The second prize exhibit, which was staged by Mr. Charles Turner, The Royal Nurseries, Slough, contained many good varieties, Geo. Herbert being of exceptional merit. The blooms in the third prize exhibit were very good but not sufficiently full. They were shown by Martin R. Smith, Esq., Hayes (gardener, Mr. C. Blick).

The selfs were very good all round, especially in the class for twenty-four blooms, not more than two of one variety. Martin R. Smith, Esq., was successful in winning the first prize with remarkable blooms, both in colour and substance. Cecilia was staged in fine form; Ensign, also in this exhibit was selected as the premier self Carnation. Mr. Charles Turner was awarded the honour of second place. He had no less than eight yellow varieties, a kind he seems specially capable of growing.

The third prize exhibit was well coloured and the blooms of fine form, but they lacked size. They were shown by G. Chaundy, Esq., Oxford.

The fancies were also in good form, and the box of twenty-four exhibited by Mr. Charles Turner, gave that enthusiast great merit, and well deserved the first position which was awarded to them. A sport of Alexandria was a handsome bloom, having the same ground of sulphur yellow as the original bloom, but with rich magenta markings.

Martin R. Smith, Esq., was placed second. He seems to have a decided taste for purple. Mr. J. Walker, Thame, who was deservedly placed third, brought up some small but choice blooms from his collection.

With their white collars, the class for twenty-four Picotees with white grounds looked a ghostly lot, but were very pretty when looked at individually. Martin R. Smith, Esq., was the most successful exhibitor. Mr. Charles Turner was placed second, and G. Chaundy, Esq., third.

The collars suited the yellow grounds better, and the class for twenty-four made a pretty effect. The colours in the first prize lot were very deep and true; they belonged to Martin R. Smith, Esq. Mr. Charles Turner, who was second, had a very deep marking in the majority of his blooms, which gave the appearance of fancy Carnations. F. Hooper, Esq., Bath, was third.

Martin R. Smith, Esq., exhibited the premier bloom in this class; it was a sulphur yellow with a very narrow margin of rich crimson; Childe Harold it was named.

For six blooms of any self, Carnation Cecilia was selected as the best; they were exhibited by Martin R. Smith, Esq.

C. A. Tate, Esq., N. Dulwich, who was placed second with a variety named Bendigo, seems to be on the way for attaining the famous blue Carnation.

A seedling, pure white, grown by G. Chaundy, Esq., was placed third.

Martin R. Smith, Esq., was again to the fore in the class for six fancy Carnations, yellow or buff ground. The variety which he exhibited was named Voltaire.

Mr. C. Turner exhibited a very pretty variety called Charles Martel, for which he received the second prize.

Mr. F. Hooper was third with six handsome blooms of a variety named The Queen.

Childe Harold, before mentioned, secured the first prize for Martin R. Smith, Esq., in the class for six yellow ground Picotees. Those shown by C. H. Tate, Esq., and placed second, were well formed blooms but lacked colour. The third prize was awarded to a box of Countess of Jersey, exhibited by G. Chaundy, Esq.

By far the best way of showing the blooms off was in vases, in the class for twelve distinct varieties, three blooms of each. Martin R. Smith, Esq., was first; J. A. Walker, Esq., second.

The premier bizarre Carnation was a variety named Robert Houlgrave, grown by J. J. Keen, Esq., Southampton. The number of bizarres that were shown in Class XI. was perfectly amazing.

SECOND DIVISION.

For twelve Carnations, bizarres and flakes, dissimilar, F. A. Wellesley, Esq, Woking, was placed first. Messrs. Thompson & Co., Birmingham, had many handsome blooms in their case, which was awarded the second prize. The third award went to A. J. Rowberry, Esq., Stamford Hill.

For twelve blooms, selfs only, F. A. Wellesley, Esq., secured the first place, followed by Messrs. Thompson & Co. for second place; and Mrs. Whitbourn, Ilford, third.

In the class for twelve Carnations, fancies only, F. A. Wellesley, Esq., was first with blooms of very good colour and substance. The second prize was won by Messrs. Thompson & Co.; and the third by A. J. Rowberry, Esq.

For twelve Picotees, with white ground, there were many fine exhibits. Those shown by F. A. Wellesley, Esq., were chosen as the best; the second prize lot was shown by Messrs. Thompson & Co.; and the third was awarded to A. J. Rowberry, Esq., for a dozen very good blooms.

For twelve Picotees, yellow grounds, F. A. Wellesley, Esq., was placed first, and Messrs. Thompson & Co. again took the second. The third went to A. J. Rowberry, Esq.

The first prize for six selfs was also taken by F. A. Wellesley, Esq., with Messrs. Thompson & Co. as second; both exhibitors chose the variety Mrs. Eric Hambro, a pure white. A. J. Rowberry, Esq., exhibited six fine Comets, and was awarded third prize.

The position was reversed in the class for six Carnations with a yellow or buff ground, Messrs. Thompson & Co. being first, and F. A. Wellesley, Esq., second; Mrs. Whitbourn was third.

F. A. Wellesley, Esq., secured another first in the class for six fancies; Mrs Brookes-Smith, St. Mary Church, was a very good second, and Mrs. Whitbourn third. The old position was again assumed in the class for six Picotees, yellow ground, F. A. Wellesley, Esq, being first, and Messrs. Thompson & Co. second; the third went to Mrs. Whitbourn. For six distinct varieties, three blooms of each, Messrs. Thompson & Co. were first, F. A. Wellesley, Esq, second, and Messrs. Phillips and Taylor, Bracknell, third.

There were many exhibits in the class for six Carnations, selfs, being over twenty entries. The first prize was won by E. Charrington, Esq., Chislehurst. Those shown by A. R. Brown, Esq., Birmingham, were selected as second, and those exhibited by R. C. Cartwright, Esq., King's Norton, as third. For six Carnations, fancy, there was also very keen competition. W. Spencer, Esq., Windsor, was placed first, R. C. Cartwright, Esq., second, and D. Walker, Esq. Kilmarnock, N.B, third. Lady Louisa, exhibited by J. J. Keene, Esq., was selected as the premier heavy-edged, white ground Picotee.

Although the blooms were not so large in the third division in which dressing or cards were not required, they looked much more graceful and comfortable.

FOURTH DIVISION.

There were many handsome groups; that exhibited by Martin R. Smith, Esq., was placed at the head of the list of awards and was a much admired exhibit. Mr. Charles Turner was placed second, his group contained many handsome dark varieties. For a smaller group, Mrs. Whitbourn was awarded the premier honours. A. F. Fitter, Esq., Streatham Hill (gardener, Mr. W. Hurst), was a very good second.

MISCELLANEOUS.

Messrs. W. Cuthush and Son, Highgate, exhibited an attractive table of blooms, their fine form and substance and depth of colour, together with the artistic way in which they were arranged, making a very great acquisition to an excessively formal show. A rustic stand of the handsome yellow border Carnation, Cecilia, and a stand of the fine Malmaison, Sault, were a centre of attraction.

Mr. James Douglas, Great Bookham, as might be expected from such a Carnation lover's establishment, made a very interesting and pretty exhibit, mostly new varieties. As we are writing an article on the best of his stock, we did not take note of the varieties.

Mr. Henry Dickson, Woodside, Hailsham, Sussex, staged an effective collection of Sweet Peas with a foreground of Carnations.

Mr. F. G. Foster, Havant, also exhibited Sweet Peas, on a ground work of Fern.

Messrs. John Laing & Sons, Forest Hill, had a large and well grown exhibit of Tuberous Begonias, Streptocarpi and Roses, the latter being in remarkably good form for the season. Messrs. J. Peed & Son, Norwood, exhibited a large collection of Sweet Peas, Carnations and herbaceous cut bloom which helped to take off the stiffness of the whole affair.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends *the most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. Walter Hopkins, Leighton Gardens, Westbury, Wilts, for his article on "Freesias," p. 749.

PHOTOGRAPHS OF PLANTS. — The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in THE GARDENING WORLD. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Best Species of Libertia for Trial.—*G. Donald*: We are surprised to learn that Libertia paniculata does so well with you. For this success you are, no doubt, indebted to proximity to the sea and the influence of the Gulf Stream upon the general temperature. Other species you might well try are L. ixioides (described as hardy), L. caerulescens, L. formosa, L. grandiflora, L. g. major, L. tricolor, and L. pulchella, all of which have been introduced to this country at one time or other. Only a few of them, however, are found occasionally in gardens, L. formosa and L. grandiflora being, perhaps, the most common. We refer, of course, to inland gardens. We note that Messrs. Barr & Sons, King Street, Covent Garden, London, catalogue six species, namely, L. azurea, L. formosa, L. grandiflora, L. ixioides, L. pulchella, and L. tricolor. The first mentioned species (L. azurea) may be L. caerulescens, otherwise it does not seem to be recorded by the botanists. Libertia formosa is also catalogued by Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, Essex. All of the above have white or yellowish-white flowers, with the exception of L caerulescens, in which they should be blue. If L. caerulea is distinct from the last named, it should also have blue flowers.

Tomatos Affected with Disease.—*Templar*: After examining the specimens sent us we failed to find any fungus or insects to produce the appearance the plants exhibit. We have seen specimens similarly affected often, but in all cases it was earlier in the season when the light was bad, the temperature of the atmosphere low, and the houses kept close to keep up the temperature and save the coal bill. The account you give exactly corresponds to the conditions which we consider brings about the evil from which a number of your plants are suffering. "Up till now," you say, "they have been kept in a pretty moist and close atmosphere." That is exactly the conclusion we came to on seeing the specimens. On holding up the brown leaves to the light we could almost see through them in places, the tissues were so thin and soft. When leaves are semi-transparent it is pretty good evidence there is no fungus in them. You have been keeping the house close and moist to hurry on a second batch of plants, and that is all the trouble. We should not remove any of the plants, for if a fungus had been present in a house of 500, about 200 to 300 or more of them would have been diseased instead of twenty. We advise you to keep the atmosphere drier, and give more ventilation. This will soon give texture to the leaves that are still growing and enable the injured stems to recover. We have given this advice before in similar cases, and have been assured that the plants recovered.

Names of Plants.—*G. B.*: 1, Lathyrus rotundifolius; 2, Lathyrus latifolius; 3, Veronica spicata; 4, Convolvulus sepium.—*A. J. B.*: 1, Sedum reflexum monstrosum; 2, Sedum Rhodiola; 3, Helenium pumilum; 4, Coronilla varia; 5, Potentilla formosa; 6, Campanula isophylla alba.—*D. R.*: 1, Spiraea Douglasii; 2, Spiraea ariaefolia; 3, Philadelphus coronarius; 4, Cistus laurifolius.—*T. M. C.*: 1, Geranium armenum; 2, Lychnis coronaria; 3, Lychnis chalcedonica flore pleno; 4, Claytonia sibirica; 5, Tanacetum vulgare crispum; 6, Lathyrus sativus.—*R. M.*: 1, Swainsonia galegifolia alba; 2, Tilia argentea; 3, Pelargonium fragrans.—*R. H.*: 1, Ononis spinosa; 2, Ononis rotundifolia; 3, Calamintha grandiflora; 4, Spartium junceum: 5, Phlomis fruticosa; 6, Lonicera japonica aureoreticulata.—*G. Donald*: Anagallis tenella, the Bog Pimpernel.—*A. S.*: 1, Fuchsia gracilis variegata; 2, Fuchsia Riccartoni.—*W. McIver*: The herbaceous plant is Crambe cordifolia; the Rhododendron is R. calophyllum; and the Campanula is C. Vidalli.

Communications Received.—T. W. Dollery.—J. Gregory.—Wm. Johnstone.—Doonfoot.—R. D.—W. Waite.—G. D.—R. W.—A. R. M.—T. C.—A. L. W.—W. M.—W. Clute,—J. C.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

JULY.

30.—Buckingham Exhibition; R.H.S. Committees.
31.—Wilts Exhibition.

AUGUST.

1.—Isle of Wight Horticultural Association Exhibition.
2.—Devon and Exeter Horticultural Society; Summer Flower Show.
3.—Auldearn Horticultural Society.
5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley; Beddington, Carshalton and Wallington.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
15.—St. Andrews Horticultural Association.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.

"Gardening is the prrest of human pleasures, and the greatest refreshment to the spirit of man"—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, AUGUST 3rd, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.**, where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, August 5th.—Atherstone Exhibiton; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley; Beddington, Carshalton, and Wallington.
TUESDAY, August 6th.—Abbey Park, Leicester, Flower Show (2 days).
THURSDAY, August 8th.—North Oxford Exhibition.
SATURDAY, August 10th.—Keighley Horticultural Society.

THE FIRST EXHIBITION OF THE NATIONAL SWEET PEA SOCIETY.

IT will still be fresh in the memory of our readers that a number of lovers and cultivators of the Sweet Pea had a consultation upon the subject in 1899 and came to the conclusion that it would be a fitting thing to inaugurate an exhibition and conference to celebrate the bicentenary, that is, the 200th year of the introduction of the Sweet Pea to Great Britain. This was carried to a successful issue at the Crystal Palace last year. Since then the question arose as to the advisability of founding a society whose special duty and care should be to foster and encourage the development and improvement of the Sweet Pea. The Bicentenary Committee was a little behind the proper time in formally ascertaining whether it was advisable to establish a society specially for the benefit of this particular flower, but when the matter was placed before the admirers of the Sweet Pea and the public last spring, the promise of support was so prompt and decisive that the society was at once put on a proper footing without delay, and the ultimate result has culminated in a most magnificent display of a flower that has become exceedingly popular within the last decade.

The Prospects of the Sweet Pea.—Last year the Crystal Palace was fixed upon as the place for celebrating the bicentenary of the flower; but on this occasion the exhibition, the first of its kind, under the auspices of the National Sweet Pea Society, was held at the Royal Aquarium, Westminster; and whether or not that was the best place to take it, there is little doubt in the minds of the majority of its admirers that it was the most convenient for the time being.

When the society was first mooted a needless agitation was raised—a groundless fear—that the Sweet Pea was to be lassoed, tamed and tied down to the canons and formalities that have strangled several of the florists' flowers more or less. Nevertheless, we can say that the bicentenary celebration and the first show of the society proper has shown that a really effective, artistic and useful display can be got up without the use of formal green boards of regulation size and number of holes, without the use of moss or other aids of that kind, and without the stiff paper collars of the Pink and Carnation. The formalities that hamper the Rose, Dahlia and Carnation in the matter of staging with their artificial and monotonous appendages have been disregarded, so that there will be no necessity for wrangling over an abortive attempt to discard them. As to making the flower itself regular and formal there is no danger of that, for Nature has so fashioned and fixed the stability of the irregular and papilionaceous or Butterfly flower that we can never get the primness of the incurved Chrysanthemum, the dressed Carnation or the circular outline of the Auricula. Nor are we likely to get the hard and fast outline of the arrangement of colours as in the last named flower or the narrow limits to variation as defined in a laced Pink or gold laced Polyanthus.

Limits of Variation.—At the time of the bicentenary celebration the idea was entertained, and is yet by some, that a society would have had a better prospect in view if it had been founded years ago before the Sweet Pea had so nearly reached the limits of its variation; but the fear seems groundless in face of the fact that no one has yet been able to determine what the final limits of variation may be. The same idea may have been entertained and promulgated nearly 200 years ago that no further variation, or rather that no more varieties would be obtained than existed at that time. Probably in the language of the times the Sweet Pea was considered a creation over whose destinies we had no control, and that it was fixed for ever as Joannes Bauhinus described it thus, "Lathyrus angustifolius, flore ex albo et rubro variegato, odorato"

At the present day, notwithstanding the couple of hundred or so of Sweet Peas, the cry is still they come, and though many of them do not differ much from types already in cultivation, a salient variation now and again occurs, giving fresh hopes to the raiser and the public. The new variety which was brought before the Sweet Pea Committee by Mr. Silas Cole was so distinct in its way that many regard it as he prospective parent of a new race. The leading feature of it is the great development of the standard and the wings, and the growth being slightly unequal in places causes those organs to be slightly waved, a characteristic which most of those who saw it observed at a glance and admired. Whether this innovation can be developed along these lines in the progeny derived from it remains to be seen; but we regard the variety as a valuable addition to the many existing sorts, and being nearly of a uniform rosy-pink colour it belongs to the section of selfs, the most universally popular with all classes of growers and admirers. With these facts before us we hope and believe that the *Ultima Thule* of the Sweet Pea has not yet been reached. According to the rules laid down by the society and the fixed determination of the committee, no unnatural monstrosities or oddities in the way of new varieties will be encouraged to mar the essential features of the Sweet Pea as it is. Beyond this the limits of variation may be free and unfettered so long as it is intrinsically beautiful and well balanced as to form.

Utility and Necessity for the Sweet Pea.—A large proportion of the late summer flowering plants of a hardy character belong to the Composites, the prevailing colour being yellow, with a few white flowers, many of which are by no means characterised for their elegance. The need for something that can easily be grown by the masses, and that will answer for house decoration in the manifold ways in which flowers are required and utilised at the present day, is apparent to everyone who has to furnish the flowers and those whose duty it is to arrange them. There is nothing that can supply this want so well as Sweet Peas. The varieties already existing include an almost endless list of shades and tints of the most delicate as well as the most intense order, so that they can be had to harmonise with almost any style of house furnishing, either by daylight or artificial light. The colours themselves are of the most lovely that may be had in any order of plants, and the graceful and elegant habit of the plant lends itself to the lightest form of decoration. The fragrance of the flowers recommends itself to almost any one, even the most sensitive to smell; and, indeed, this character has been recognised by botanists and other writers from the earliest times, that is, since the plant was discovered or was brought into notice 200 years ago. The lovely colour and the scent were recognised in the descriptions given of the plant by such words as *flore peramoeno, odorato*, and *odoratissimo*, the superlatives meaning very lovely and very fragrant, or much scented. Some of the modern varieties have partly lost this scent, but we hope it will not become lost to the same extent as in the Rose and Carnation. In a word the Sweet Pea takes its place in the homes of rich and poor alike far more gracefully than does the Chrysanthemum. Some evidence of this lies in the fact that 19 out of 21 entires for table decorations came forward on the day of the show.

Number of Flowers on a Stalk.—The original and normal number of flowers on a stalk of Lathyrus odoratus was two, and this is the more permanent characteristic of all the modern varieties, though many of them produce three freely, while as a result of fresh and good soil and careful cultivation some of them produce four, and occasionally a greater number, up to nine. In the latter case the stalk was forked as if it was fasciated and this is probably the true explanation. We have seen the photograph of six flowers on a stalk, likewise forked. The production of an extra number of flowers by good cultivation should be encouraged and the attempt made to fix the character, if possible, by selection.

Some prominent Flowers at the Show.—Most observers noticed the frequency with which the variety Miss Willmott turned up in all the collections shown, attention being drawn to it on account of the size, lovely and rich colouring of the flowers, though in this latter respect it is excelled by the lively orange-scarlet of the standard of Gorgeous. Both of these are bound to take a leading position at shows for a long time to come, unless we are very much mistaken as to the improvements ahead of us in the immediate future. The great expanse and shapeliness of the flat or erect standard of Mrs. Dugdale, as well as of Prince Edward of York, also enlisted the special attention of onlookers. Prince of Wales seemed to take the place of Her Majesty, the latter not being very much in evidence. Many of the rich crimson varieties were well shown notwithstanding the very hot and trying weather of the weeks preceding the show. Mars is recognised as very telling for a garden display while Salopian is more serviceable for cutting. Coccinea is notable for the rapidity with which its dark cerise colour gives place to a pale hue in the open. The standard varieties were all strongly in evidence as might be expected.

Enthusiasm of the Growers.—The exhibitors of the coming flower, whether gardeners, amateurs or nurserymen, gave evidence of an enthusiasm and love for their flowers, falling little short, if any, of that accorded the Chrysanthemum in November. Mr. W. Simpson, who took the leading award for 36 bunches in as many varieties, not only knew all his flowers, but had them in his mind's eye as they were ultimately staged, for some time prior to the exhibition. Mr. H. J. Jones and Hobbies, Ltd., staged huge exhibits more or less associated with other plants such as they are wont to treat the Chrysanthemum in November and December, the latter devoting his space

more entirely to Sweet Peas, giving them all the prominence possible. Messrs. H. Cannell & Sons and Dobbie & Co. most nearly represented the Sweet Pea as grown in a huge bank or hedge, or as they might be in a field of them, and were unique in this respect. Not merely were the flowers shown, but long leafy stems carrying their own flowers were tastefully set up and the colours judiciously blended. Messrs. Hurst & Son, Robert Sydenham, Peed & Son, Harrison & Sons, and Jones & Sons, devoted their attention more particularly to a display of the flowers themselves, and this arrangement was undoubtedly useful for comparison. The suitability of Sweet Pea foliage as greenery for their own flowers, was amply demonstrated both in the competitive and non-competitive exhibits. As in the case of the Rose at least one clergyman gave evidence of a love for Sweet Peas by taking several leading prizes with very good flowers, showing, indeed, first-class cultivation.

Sweet Pea Committee.—It is but right and fitting that the committee of the Sweet Pea Society should preside over the destinies of their chosen flower, and encourage its advancement by awarding certificates to meritorious new varieties. They have also resolved as a body to deal only with Sweet Peas in that respect. Of the varieties that came to the table at the first meeting held on the 25th ult., two of them were accorded First-class Certificates.

The Mean Temperature for the week ending July 20th at Chiswick was 81·5, and the grand total of rain nil.

Royal Warrant of Appointment for Messrs. Wm. Cuthush & Son.—The undermentioned is a copy of the Warrant of Appointment granted by his Majesty the King to Messrs. Wm. Cuthush & Son, Highgate, London, N.—

Board of Green Cloth,
Buckingham Palace, S.W.
July 26th, 1901.

Sirs,—I am desired by the Lord Steward to inform you that the King has been graciously pleased to grant you a Warrant of Appointment as Nurseryman to his Majesty.

I am, Sirs,
Your obedient servant,
GEORGE A. COURROUX,
Secretary.

Retirement of Mr. George Nicholson.—For some weeks past there have been rumours of a general change in the staff at Kew. It is a well-known fact that for a long time the health of the respected and well-known curator, Mr. George Nicholson, has been failing, and we understand that it is on this score that he will resign his position almost immediately. The great and world-renowned work, Nicholson's *Dictionary of Gardening*, will keep the memory green of this respected botanist and horticulturist for ages to come, and we are sure that the gardeners of the present staff and those of the old staff, who are members of the Kew Guild, will adopt some means of testifying the admiration they have for their venerable chief. It is not many men who have charge of such a staff of men that can retire with every man having the profound respect for them that goes with Mr. Nicholson. He is admired and looked up to on every side, and his loss will be greatly felt, by the men at Kew especially. Mr. Watson, the assistant curator, we believe, will take his place. He, also, is a man much respected by the men under him, and a more clever man with plants could not be found. He mixes freely with the young gardeners, and that distant reserve which so often characterises a man who has risen to an eminent position is entirely absent from his manner. For years he has been chairman of the Kew Gardeners' Mutual Improvement Society, and his wide knowledge of plants and skilful diplomatic way of avoiding ugly arguments is well remembered by all who pass through the course at Kew.

Fresh Appointment for Mr. Alexander S. Galt.—From September, 1894, to March 11th, 1899 Mr. Galt was assistant editor on the staff of THE GARDENING WORLD, having previously served his full term at Kew. Since then he has been sub-editor of *The Gardener* till within the last two months. He is, therefore, an old Kewite, an ex-member of the staff of two horticultural papers, and is now actively engaged on two books, of one of which he is editor. Besides these occupations, he has recently secured the appointment as Horticultural Instructor to the Berks County Council, and with that end in view will shortly take up his head quarters at Reading, the capital of the county, so that he may be in the midst of his work and at hand whenever required by the County Council. While at Kew, he made the best use of his time by attending the numerous lectures given there and also to his duties, so that he fully earned his reputation for diligence. While on the service of THE GARDENING WORLD, he attended to his duties with attentiveness, diligence, and energy, proving of great service to us in the multifarious and often untimely duties ever attendant upon the workers in a newspaper office. He has our good wishes for success in his new undertaking in Berkshire; and if given a fair trial, we feel confident that his sobriety, diligence, energy, and earnest endeavour to succeed will carry him through.

Mr. Cook's Appointment.—Mr. Cook, who has been appointed head gardener at Sandringham, is quite a young man, being only thirty-two years old. The vacancy has been caused by the transference of Mr. McKellar to the Royal Gardens at Windsor, where he will fill the place of Mr. Owen Thomas, who has retired on a pension. The charge of such well appointed gardens as those at Sandringham carries with it an enormous amount of responsibility, but from what we know of the past career of this enthusiastic young gardener, we are sure that the reputation which they had when in charge of Mr. McKellar will be efficiently maintained by Mr. Cook. He has had a thorough training in horticultural work, and, like many more who hold high gardening appointments, he owes much of his training to Mr. A. Pettigrew, head gardener to the Marquis of Bute, Cardiff Castle, under whom he worked for nearly six years. When he left Cardiff Castle he obtained the post of outside foreman at Whittinghame Gardens, the seat of A. J. Balfour, Esq. From Whittinghame he undertook a similar charge at Gosford, the seat of the Earl of Wemyss and March. Ultimately, he was appointed head gardener at that place, and from there he comes to fill his present high position. His name was brought before the public recently when he was fourth out of 134 applicants for the post of head gardener to the City of Edinburgh. We tender him our most hearty congratulations and wish him a continuance of his successful career.

Bristol and District Gardeners Mutual Improvement Association.—The monthly meeting was held at St. John's Parish Room, Redland, on Thursday, July 25th, Mr. A. J. Hancock presiding. The lecture on "Carnation Culture" was given by Mr. Skinner of Stoke Bishop. Dealing first with the Malmaison tribe he gave very clear details for successful cultivation, advising propagation by layers which should be done in July, potting as soon as rooted, and into flowering pots in September. The compost he recommended was loam and leaf mould, with a little peat and sand. He urged the need for great care in watering, advising "Clay's" as the best fertiliser. Tree Carnations he said should be propagated by cuttings put in early in the year, and grown on in much the same way as Malmaisons, all stopping to be done by August, the plants to be put in their winter quarters by the end of September. For these, too, great care was required in watering and ventilating. Touching on Border Carnations he advised beds if possible with a south-west aspect, planting to be done in the autumn or March according to circumstances. Mr. Skinner gave much valuable information on the general culture of these favourite flowers, the insect pests to which they were liable and methods of eradication, concluding by claiming for Carnations that for perfume or for decoration they were second to none. The hearty thanks of the meeting was accorded him for his lecture. Prizes for six bunches of Sweet Peas were awarded to Mrs. Talmadge (gardener, Mr. Harford); Mr. W. Howell Davies (gardener, Mr. Curtis), and Mr. Nash (gardener, Mr. Barrow). For six Carnations, Mrs. Talmadge and Mr. Spry. Certificates of Merit went to Mr. T. D. Sibly (gardener, Mr. Lee), for Cattleya Leopoldii; and to Mr. Ambrose for a basket of Peas.

Correction.—In the supplement of our last week's issue the block at the bottom of the plate was shifted to the top, leaving the names as originally placed. Some copies of THE GARDENING WORLD were published before the error was noticed. Those who have got early copies should see to correcting the name. The small plant with spreading flowers is Lilium Coridion. The plant with large flowers and revolute or curled back segments is Lilium Burbankii.

Death of Mr. George Cuthbert.—Passed away July 30th, in a quiet sleep, at Southgate, George Cuthbert, senr., the youngest and last surviving son of James Cuthbert, at the Southgate Nurseries, Middlesex, and for many years a member of the firm of R. and G. Cuthbert, in the 86th year of his age. An old subscriber to the Gardeners' Royal Benevolent Institution from the year 1849.

The Horticultural Club.—Many of the members of the Horticultural Club enjoyed a most interesting outing on July 17th, some forty-five ladies and gentlemen in fairly equal numbers participating in an excursion which had been kindly arranged beforehand by Mr. Harry J. Veitch. Leaving Liverpool Street at 10.25 the party reached Cheshunt and were met by brakes which conveyed them to the nurseries of Messrs. G. Paul & Son, Mr. Geo. Paul meeting them there, and, after hospitably entertaining them, conducting them through the literally rosy prospects the nurseries present and deserve to enjoy. Field after field and acre after acre, teeming with the queen of flowers in a thousand-and-one disguises, were traversed, the latest and best being pointed out. *En route* to Broxbourne, where Mr. Thos. Rochford provided a lavish lunch as a preliminary to a ramble through Tomatories by the acre, Graperies on the 100-ton scale, Palmeries *a la* tropics, &c., until a plunge on the part of some of the boldest (or rashest) of the party into his renowned refrigerating chambers for retarding plants, afforded a cool reception which contrasted markedly with the previous one, and also the outside temperature to boot. From 130° in the sun to 70° below zero, with hoar-frost thick on the walls and snow on the ground which covered one's boots, was a contrast indeed which the bulk of the party prudently shirked experiencing. Inner humanity refreshed and invigorated, we then drove to Penshanger through a very delightful country, not forgetting to discuss on the way the very interesting and up-to-date developments of the nursery trade we had just had the opportunity of inspecting at Mr. Rochford's. Not merely are the various glass arrangements admirably adapted for their purpose, as the condition of the Vines and plants attested, but the proper cultivation of the fellow man was also evidenced by a capital institute liberally provided with literature, and conjoined with dwellings and cubicles, which in their neatness, cleanliness, and comforts form a marvellous contrast to the ancient bothies of less fortunate generations of gardeners. At Penshanger the party had an opportunity of admiring the fine old mansion liberally draped with huge Magnolias and other climbers, and filled with untold treasures of old pictures, old and priceless furniture, and last but not least to the ladies' delectation any amount of old china. Time precluded much inspection of the grounds or houses, though the renowned Penshanger Oak was seen and appreciated. The brakes then returned through the park and drove to Hertford, where, at the Dimsdale Arms Hotel, a capital dinner capped a capital day, prior to a pleasant return journey to London in a special saloon. Among those present were Sir John Llewelyn (the president of the club), Mr. and Miss Osman, Mr. and Mrs. Watkins, Mr. Sweet and party, Mr. R. W. Kerr, Mr. and Mrs. Druery, Mr. Shoutts and party, Mr. Alfred Rivers, Mr. P. Kay and party, Mr. and Mrs. Assbee, Mr. P. R. Barr, Mr. de Graaf, Mr. and Mrs. G. Monro, jun., Mr. F. W. Moore, Mr. Cockett, Mr. H. B. May, Mr. G. Paul and party, Mr. and Mrs. Harry Veitch and party, Mr. and Mrs. G. J. Ingram, Messrs. Thomas and Joseph Rochford and friends, &c.

A Good Food.—Black bread, Onions, and Water Melons wonld soon starve the Englishman who, to quote a term recently copied from an esteemed morning paper—It is not in Webster's—" is too beafsteakialitious," and consequently always more or less dyspeptic. Yet on this scanty diet the Spanish peasant works all day, and dances half the night without feeling any ill effects.

A FINE EXHIBIT OF SWEET PEAS.

THE groups or exhibits of Sweet Peas at the Royal Aquarium, on the occasion of the first exhibition of the National Sweet Pea Society, were many and varied in character. That set up by Hobbies, Ltd., Dereham, Norfolk, was distinct in character from all the rest, being, in fact, unique as to its method of arrangement. Many there were who regarded it as the finest and most artistically arranged group of Sweet Peas put up In the non-competing sectlon. There were other fine exhibits, some consisting of Sweet Peas entirely, and others largely mixed with other plants, but with the exception of a few specimens of Cocos weddeliana and the necessary greenery, this exhibit was entirely confined to Sweet Peas neatly arranged in pyramidal masses to break the monotony of a uniform surface. Some of them along the front of the exhiblt were arranged in baskets and vases for the sake of variety. From front to back they were staged in ascending tiers in such a way that the staging was entirely concealed. The exhibit was very extensive, and all the leading varieties of Sweet Peas were utilised in its composition, showlng what can be done with this extremely varied and beautiful florist's flower. We have seen various extensive exhibits put up by Hobbies, Ltd., but we were more taken with their arrangement of Sweet Peas than with anything else they have staged at a London show.

A FINE EXHIBIT OF SWEET PEAS.

PLANTS RECENTLY CERTIFICATED.

THE Sweet Peas described below received First-class Certificates from the Committee of the Sweet Pea Soclety on the 25th ult. The Conifer received a First-class Certificate from the judges.

SWEET PEA COUNTESS SPENCER.—Thls seems a variety of unwonted vigour, for every stalk shown carried four flowers of great size, the standard being of a warm rosy-pink hue, and the wings slightly darker. The wavy character of the broad standard and wings is unique, and promlses to give rise to a new type of flower. It was exhibited by the raiser, Mr. Silas Cole, gardener to the Right Hon. Earl Spencer, Althorp Park, Northampton, and was greatly admired by all who saw it.

SWEET PEA JEANIE GORDON.—The standard of this lovely tricoloured variety is pink, fading to a paler hue at the base. The wings are creamy-yellow, tinted with flesh, changing to blush on a white ground as the flower reaches its full development. Mr. Henry Eckford, Wem, Shropshire.

RETINOSPORA OBTUSA CRIPSII.—A shapely, conical tree of this variety was exhlbited by Messrs. Cripps & Son, Tunbridge Wells, Kent. It stood about 6 ft. high, and besides being amply and handsomely tinted with a golden hue, was remarkably clean, giving evidence of its having been grown at some distance from the smoky atmosphere of London. It was much admired by gardeners at the show.

"TROUBLESOME GARDEN WEEDS."

EVERY good garden soil is productive of weeds; indeed, the richer the soil the more abundant the crop of weeds is likely to be. Moreover, the quality of a soil or soils has long been regarded as either good, indifferent, or bad by the nature of the weeds they bear. Doubtless there is much truth in this observation when taken in a general way. While a certain soil produces undoubtedly weeds peculiar to itself, in many cases the same soil under different conditions produces quite a dissimilar crop, so that in some instances, at any rate, the crop of weeds depends very much on the state of the soil; drainage is a case in point.

Perhaps, in ordinary circumstances, the most fertile source of weeds is a soil's age and loamy nature together with, of course, the all important matter of not giving due attention to the ordinary means of preventing them reproducing themselves. This process is often very trying and sometimes impossible where weather and labour are defectlve, hence most gardeners have learned to regard weeds as among the higher order of the many pests that obtain to sap their lives of much of their wonted happiness and good nature.

Yet there are some among us who look at this matter from a loftier standpoint and instead of being cast down by the regular reappearance of the garden weeds they receive not a small amount of pleasure from their presence. I do not wish to be misunderstood. A gardener who is the real child of nature looks with a kindly feeling on all that springeth forth from the soil. He is not less remiss in the duties of his art because of his feelings towards the lowly intruders that may occupy part of his attentlon. His heart is large enough to spare the common fate of at least some of these garden weeds. And who is boor enough to decapitate the pretty little Pimpernel, the blue or the scarlet, the Centuary, or Buxbaum's very pretty Veronica.

Many of our garden weeds, notwithstanding, deserve the determined attitude which the gardener takes up against them on a hot scorching summer's day. The common groundsel (Senecio vulgaris) in heavy solls is indeed very trying, and if allowed even to approach flowering it must be carried off the ground forthwith or the seeds will ripen and grow up in a short time again seventy fold. The chickweed (Stellaria media) is a weed which to properly luxuriate revels in soils of the very best quality. It seldom comes to much in heavy stiff solls, but where it does flourish it may be considered among the most difficult to thoroughly extirpate. The Shepherd's Purse (Capsella Bursa-pastoris) is a very annoying weed in the garden when it gets a footing. It freely reproduces itself by seed. Several of the Speedwells are also troublesome, especlally (Veronica agrestis, V. polita, and V. hederaefolia). These are annuals and seed freely. The first is a perfect pest in some places, and like the Chickweed is very tenacious of life. Perhaps the ublquitous annual meadow grass (Poa annua) is the most persistent little weed in existence. It grows, flowers, and seeds all the year round, and no wonder why it is for ever in evidence do what one will to exterminate it. The best remedy for Poa is weedkiller.

In old gardens the annual Nettle (Urtica urens) is simply a pest, and it is difficult to know where the yearly prolific crop has its source. It evidently seems of little matter whether it is allowed to seed or not, for no apparent alteration is obvious from the most rigid execution. I think that indeed the old adage is true in respect of this weed, viz., "If a weed seeds once it takes seven years to exterminate."

One or two of the knotgrasses are rather troublesome in some places; Branks (Polygonum Fagopyrum) is among the most common; P. Aviculare is also annoying; P. Convolvulus, with its twining stems, is also common. The whole three are annual. Goosefoot and Good Henry (Chenopodium album and Bonus-Henricus) are in some places very common and if allowed to seed the crop the next season is very extensive. The former has egg-shaped leaves, those of the latter are more or less arrowshaped. Enchanter's nightshade (Circaea lutetiana) on account of its root budding powers is one of the very worst of garden weeds. It is not so common as a garden weed on this side of the Tweed as on the other. It is a pretty weed not unlike a Fuchsia with white flowers, spotted with red. The roots creep like bindweed, and once in a garden it is like mealy bug in an old stove—permanent.

Another of this nature is Bishop's-weed, or Goutweed or Herb Gerade (Aegopodium Podagraria), and is well known to every person. It is not often found very common in gardens, still, it is a pest in some, and a very bad one to boot. When it comes into a garden it generally does so in the roots of plants from the nurseries or other infested places, and should it get a hold it is by no means an easy matter to get it eradicated. Like the last it has creeping roots every bit of which buds, and is perennial.—*D.C.*

(To be continued.)

APPRENTICE GARDENERS.

Our friend, who is writing on the above subject, is evidently rather despondent, and probably run down through anxiety and overwork, during this trying season.

He writes, "Can head gardeners at the present put any advantages before intending young men as inducements to serve an apprenticeship?" In the majority of cases certainly they cannot; that is, if he expects the young men to pay a premium. A young man working his way up and gaining a good all round knowledge of the profession, serves quite enough apprenticeship without paying a premium and binding himself by indentures.

Then he compares the wages of journeymen gardeners and unskilled men, in favour of the latter; but he must remember the latter have reached their maximum wages, but the journeymen have the prospect of progressing. It will be interesting to some of us to hear how the *head gardener*(?) gets on, whose previous knowledge had been gained in one season. There is an old maxim, "Knowledge is power;" this is very true in gardening, and a good all-round knowledge of the profession is very necessary to organise the working and cropping of a garden. There is always something unpleasant in every calling, and should our friend change places with the unskilled men, he would, I feel sure, soon be discontented with being merely a mechanical man. When he is despondent again—we all are sometimes—will he kindly read on the leader page of The Gardening World, "Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—*C.P.C.*

BANANA CULTURE UNDER GLASS.

The Banana has been cultivated from time immemorial, and is now largely imported into this country from the Indies. There are very many varieties of Musas, but one of the best is Musa chinensis, better known as Musa Cavendishii. When I first commenced "my gardening career," we had Musa Cavendishii planted out in a large bed in the centre of the stove. It was planted in very good loam, and did exceedingly well in a warm moist temperature, fruiting finely and giving the house a beautiful and somewhat tropical appearance. The leaves of this species seldom exceed 5 ft. or 6 ft. in length and about 2 ft. in breadth. The propagation of the Banana is by suckers, which are continuously springing up from the base of the plant; it is best to save and pot one, so that it may take the place of the old plant when it has done fruiting, when it should be dug out and the young sucker planted in its place, using some nice fresh loam to plant it in. It is about twelve months or nearly so (though there are exceptions) when it throws up a huge flower bud, which comes on very rapidly after this. The syringe should be kept off the flowers till the young beans have set. The fruit of the Banana is very luscious and wholesome, and greatly esteemed by most people. It should be eaten in a fresh state when ripe, as it soon turns.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

ERYNGIUMS (SEA HOLLIES).

At the present time no more beautiful plants can be found in the herbaceous border or rockery than the Sea Hollies. In general appearance they resemble the Thistle, having a head of flowers surrounded by an involucre of bracts, which, with the stem, are covered with a vivid metallic sheen. They succeed in any well drained border, though partial to a sandy soil. As the roots are difficult to divide, propagation is best effected by seeds sown as soon as ripe in a cold frame. These germinate in spring, and when ready can be planted out in the open ground. Such species as alpinum, amethystinum, and maritimum, are best increased by root cuttings. In early spring, cut the roots into 3 in. lengths and insert in pans of sandy soil, and place in a frame. Among the best species is E. alpinum, the first to flower and well suited for the rockery. The numerous bracts are steel blue, and, contrary to the others, it prefers a shady position and a good stiff soil. Amethystinum is a real gem, growing 1½ ft. high, deriving its name from the fine amethyst blue flowers. Intending purchasers should be careful to get the right plant, as oliverianum is sometimes sold by nurserymen in its place. E. giganteum (Ivory Thistle) reaches over 3 ft. in height, and makes a bold group. The ivory-like stem and flowers dry well, and are useful for mixing with grasses.—*C. F. B.*

HUMEA ELEGANS.

Now is the time to sow the seed of the above, using a compost of loam, leaf soil, and sand, the whole run through the ¼-in. sieve. The seed should only just be covered with a slight sprinkling of sand. As the seedlings begin to appear, gradually give them more light and air, and when ready, prick off into pans, keeping the plants about 3 in. apart. When they are ready to be moved, pot off into 60's, adding a little charcoal to keep the soil open. When the plants have taken a hold of the soil, keep the lights off night and day, especially at night, as the night dews help them immensely. In about a month they will be ready to be potted off into 48's, using a mixture of loam, leaf soil, sand, and a little wood-ash, adding some bone-meal and "Clay's." If the plants are wanted for flowering in pots, they can be potted straight out of the 48's into 12's and 16's, but they will be found to want very careful watering until well rooted. When the plants are well rooted, apply liquid manure occasionally. Humeas treated in this way will be found to go from 10 ft. to 12 ft., branching out from about a foot from the bottom right up to the top. There is also a white variety of Humea named Humea e. alba, a striking contrast to the red.—*H. Fleming, The Gardens, Wexham Park, Slough.*

CHRYSANTHEMUMS.

It is time that the standard Chrysanthemums were staked, tied, and given plenty of room on an open ash ground. The bush will also require plenty of room, but will not need to be staked yet. Great attention must be paid to the watering of the plants, for on no account must they be allowed to lack water; on the other hand, they must not be over watered. As the pots get full of roots, a daily allowance of weak soot water will suffice to encourage the growth, and will also destroy slugs and worms. A good syringing on sunny days will be very beneficial. The standard varieties should not be allowed to cultivate side growths, these being pinched out. A great cause of weakness to the plants is the existence of suckers, which should be cut off as soon as they appear above the soil. Insects will trouble the plants, therefore time should be spent in hunting them out. Green and black fly can be eradicated by dusting the affected parts with tobacco. All caterpillars must be removed. If mildew attacks the plants, syringe them with sulphur and water. The lady bird whose larvae feed on aphides should not be destroyed. Continue to stop the bush varieties until a sturdy plant is obtained. The Japanese incurved and reflexed standard varieties flower better on the second crown bud. The great thing is to obtain the medium bud. House the plants in a light airy house by October.—*G. W. D.*

SMALL TABLE PLANTS FOR WINTER.

Those who desire small plants for the table for winter should now take cuttings of Crotons, Acalyphas, Coleus, Panax Victoria, Pandanus Veitchii, and Dracaenas. The cuttings should be inserted in small pots, filled with light sandy soil, and put in a propagating pit, or kept close under a hand-light in the stove. Syringe them twice a day and shade from the sun. When rooted, give a little air, gradually increasing it until the stove temperature is reached, when they can be taken thereto. When they are well rooted pot them (using a mixture of loam, peat, leafsoil, and sand) into 3 or 4-in. pots. Give the Crotons, Coleus, and Acalyphas the benefit of full sun, as they colour better with plenty of light. The Dracaenas, Panax, and Pandanus will need shading while the sun is so powerful. When the pots are full of roots an occasional watering with manure will be beneficial to them. If the plants are taken care of during winter and repotted into 5-in. pots in spring, they will make splendid plants next summer. Narrow leaved Crotons are the most graceful in small pots.—*E. Brown, The Gardens, Nostell Priory, Wakefield, Yorks.*

FUNKIAS.

These are a class of plants, which, from their adaptability to many situations, the small amount of attention which they require, and the beautiful tints of the young foliage in spring, or the fully developed leaves and flowers in summer, are worthy of a place in every garden. To grow them to perfection they should have a deeply dug and well-manured soil and plenty of moisture. They will, however, succeed in a poorer situation, provided it is moist enough for them. They may also be used as pot plants for the greenhouse, but are more adapted for the shrubbery border or for beds on the lawn, where they can remain undisturbed for several seasons. If it is required to increase the stock the strongest clumps should be cut in two with a spade; this is best done in the spring, as there is then less likelihood of decay setting in.

F. ovata is, perhaps, the best known, one of the strongest species, and very handsome when in flower.

F. marginata has its leaves broadly edged with white and makes a splendid edging to large beds.

F. Sieboldii is the most ornamental, as it grows about 18 in. to 3 ft. high, with large heart-shaped leaves, often 1 ft. across. The flowers are in tall one-sided racemes, well above the foliage, and are a creamy lilac. Major and marmorata are varieties of Sieboldii, the first being very large and the latter having beautifully marbled foliage.—*F. W. M.*

CULTURAL MEMORANDA.

"Asclepias curassavica" (Swallow Wort)

Is a very showy flowering plant staged in the greenhouse or conservatory at the present time. Introduced some 200 years ago from South America may be the reason why it is seldom met with in our collection of stove or greenhouse plants. There are some fifty varieties, a great many belonging to the herbaceous borders of perennial growth. The one under notice if sown early in the spring, and given intermediate treatment, may be had in bloom early in July, if grown on without any pinching; but it is the second year when you get specimens. Keep slightly on the dry side during winter, similar to the Bouvardia, and treat as you would that plant in early spring.

The flowers borne erect are of an orange scarlet colour, and prove useful for button holes, sprays, &c. The syringe must be frequently plied underneath the leaves or red spider may soon get the upper hand. The same compost that will grow the ever useful Bouvardia will also be found amenable to these.

Poinsettia Pulcherrima.

The last batch of cuttings should now be taken off with a heel of old wood attached, and placed in fine sand immediately to stay the loss of sap, placing five or six cuttings around the edge of 3-in. pots filled with finely sifted foam, leaf soil, and a dash of peat with plenty of sand. Water in and stand in a close case with a little bottom heat in a temperature of 70° during night. I find a slight dewing overhead twice daily will keep them erect with a shade during

bright weather. As soon as rooted pot off into small pots, using the greatest care of the tender roots and not potting too firmly at first. Returned to a close case for a week or ten days they soon begin to grow afresh, when the grower must admit air gradually and place near the glass when all signs of drooping is past. Five inch pots will grow useful decorative stuff from now onwards.—*J. Mayne, Bicton.*

Kitchen Garden Calendar.

PLANTING out as soon as the ground is cleared is one of the chief occupations of the kitchen garden at the present time.

Seed Beds.—See that they are kept properly watered and do not suffer overcrowding, or the plants become leggy and greatly weakened.

Cauliflowers.—Those of the spring sowing which are now fit should be planted out into a piece of good ground.

Brussels Sprouts.—These should now be planted into their final winter quarters without delay, and whenever the weather is dry they should be watered freely if well buttoned heads are to be obtained.

Celery.—It is time now that this was all in the trenches and growing away freely. It must not be allowed to get dry, neither must it be given water immediately before earthing up, as nothing is more conducive to rotting.

Leeks.—Continue to plant out this valuable winter vegetable as space becomes available, and give them water whenever they require it.

Lettuce.—A batch should now be sown for late autumn and winter use. Those which are now in the seed beds should be planted out as room permits, as they form a very useful salad at any time and are always in demand.

Tomatos.—Attention should be given to the stopping and thinning out of all surplus growth, and when four good trusses are going away the main shoot should be stopped. The fruit should be exposed as much as possible to light and air. Tomatos should be given all the sunshine possible, and it is useless to try and grow them in shady positions, or where they are crowded by neighbouring plants.

Savoys.—It is time now that all Savoys should be in their winter quarters, and if they are not planted out yet the sooner they are the better it will be for them.—*K.*

THE FLOWER GARDEN.

THE recent rains have given the ground a thorough soaking, especially in the neighbourhood of London, where 2 in. fell in three hours. Where they have not been too heavy, the showers have given the gardener a rest from the watering pot for a few days and he should now make the best use of his time bringing those things up to date which have been left to themselves and neglected for the more important work of watering.

Clipping of Hedges.—This is one of the things which generally, in the words of the gardener, "have to go." Now is the time when it should be attended to, as when the shoots are allowed to extend too much beyond their proper limits, they often spoil the shape of the hedge when cut back. Summer pruning of hedges is always best done with a knife, as it does not give such a "hand-cut" appearance.

Lawn Edges.—Now that the turf is moist, these can be shaped without breaking them down. They should never be left too long, as they look untidy when cut. Coarse plants also should never be allowed to grow in the turf, especially near to the edging, as when they get to such a size as necessitates their removal they make an ugly gap and one that takes a long time to fill unless a new square of turf is put in entirely. Never attempt to cut the edges with the edging blade when the weather is too dry, as this only makes the wall edge crumble and ofttimes more untidy than it was before being operated upon. They should be frequently clipped with the edging shears, and if done systematically every week the use of the edging blade will be very seldom required.

Whenever a barrow or other wheeled affair is brought from a walk on to the grass, the precaution of laying down a piece of wood against the edging to bring the wheels up on should never be forgotten; but it is one of those simple precautions which is so often overlooked, with the consequence that at frequent intervals, what should be a neat, clean cut edge of turf, is broken down and makes an eyesore. Perhaps no vehicle is more responsible for this than the water tank which is brought to water the beds, where they are not fortunate enough to have the water laid on. In such places, it is well to have a recognised place to go on to the lawn and to have a piece of wood concealed somewhere handy, which can be put down when there is any wheeled traffic to go up. As I said before, it is a very simple precaution, and if the time taken to put down the wood is compared with the time taken to cut and lay several feet of new turf, it will be found that there is not any time lost and the former has the advantage of always looking neat and not broken and untidy as is too often the case.

Walks.—If they are not kept in good condition they have a deteriorating effect on the grass edge, as people are almost sure to walk along on the grass if the surface of the walk is not comfortable to walk on. The recent heavy rains have given the gardener a grand opportunity to bring the roller into play, and if he does not grasp it now, he has only himself to blame for the condition of his walks and the wear of his turf. If the walks along the flower borders are in a bad condition it takes away much of the pleasure which might be experienced when a visitor inspects them. It is not many gardens that have sufficient men to accomplish properly the amount of work required, and very often the walks have to take their chance, and consequently become a mass of loose gravel in a very short space of time.

Lawns.—Speaking of grass edges, walks, &c., I might as well give a reminder to those who are too busy to think of everything—that this is a very good season for eradicating weeds, which are plentiful in most lawns. It is somewhat difficult to define a weed, but speaking of lawns, such things as Daisies, Dandelions, Plantains, &c., are not required and should be removed whenever time will permit, especially the Daisy, as it so quickly seeds and very soon overruns the whole lawn, and although some sentimental writers may eulogise the Daisy-bedecked lawn, there are very few people who care to see the vernal sward flecked with a mass of Daisies, whose beauties are better fitted for a meadow or bank than for the tennis courts. Daisy rakes are very useful implements to keep down the mass of blooms, but they do not prevent them from seeding and multiplying by offsets. The only way to effectively rid the lawn of them is either to drop a small quantity of acid into the centre of the plants or to remove them by spudding them up. Where the lawn is very badly infested with them, it makes a very ribald appearance to kill them off all at once, and whenever this is contemplated the gardener will do well to choose a time when the "family" are away and likely to be away for some time. I choose the present time as the best, as we shall soon be expecting moister weather, and then when the grass grows quickly the bare patches are very soon covered again.

Propagation.—Now that things are looking at their best, instead of laying down his tools and admiring his handiwork, the gardener has to begin to prepare for next year's display. July and August are important months in this respect, and just at present the gardener will find plenty to do to attend to the layering of his Carnations and Pinks and the striking of cuttings. Carnation layering ought to be now in full swing and the recent rains have just put the plants into proper condition.

Antirrhinums are now at their best in the borders, and it is now that next year's batch of plants must be looked after by selecting good sturdy cuttings and inserting them in a cool frame in light sandy soil. Double Wallflowers ought now to be looked to for cuttings, selecting those which are half ripened.

Pansies for summer flowering ought to be struck in cool borders or in shady, cool frames. Those struck now make a nice succession of bloom for those which are planted about September for the early spring display.

Bulbs.—As their leaves wither they should be taken up and ripened if they require this treatment, but never attempt to ripen a Lily bulb in this way or it will be learnt from experience that they resent such treatment.

Weeds.—These will spring up now in abundance, and frequent hoeing will be necessary and also beneficial, as the breaking of the surface will help to conserve the moisture in the soil.

Roses.—Budding should now be done without delay, as the bark will open freely after the rain. When they have not had sufficient, see that they receive a good watering a few days before they are worked or many of them will fail.—*P. R.*

Gleanings from the World of Science.

(Concluded from p. 767.)

Hybrid Passion-Flowers.—Dr. Masters undertook to report on some examples received from Dr. J. H. Wilson, St. Andrew's.

Tuberose Diseased.—He also brought some specimens received from Mr. C. Maers, Hockley, Essex, upon which Dr. Cooke reports as follows:—"In the decayed crown of the corm I find no mycelium, or evidence that the decay was caused in the first instance by fungi; but plenty of insects were present." Dr. Masters observed that such decay was usually at the base, not the apex, of the corm, as in the present instance.

Carnations Diseased.—Mr. G. Roberts, of Exton Park, sent some plants which were in a failing condition. Dr. Cooke examined them, and reports as follows:—"The Carnations evidently suffered in the first instance from worm at the roots; afterwards, when the foliage was failing, they became attacked by the Carnation mould (Heterosporium echinulatum) (figured in *Gardeners' Chronicle*, August, 21st, 1886, fig. 50). It is doubtful whether these particular black moulds will attack healthy and vigorous plants; but when they are weak, sickly, or injured, they then become a ready prey."

Apple-stems attacked by Caterpillars.—Specimens were sent by Mr. W. Camm, of the Abbey Gardens, Battle, Sussex, upon which Mr. Saunders reports as follows:—

"The Apple-stems from Mr. Camm are, I should say, undoubtedly bored by the caterpillars of the 'Wood Leopard-Moth' (Zeuzera Aesculi). The entrance to the gallery may be easily found by examining the tree, and if moisture is seen to be exuding from any part mixed with sawdust like particles of wood, there the hole will be found; a sharp-pointed wire should then be passed in as far as possible, so as to stab the caterpillar. If this cannot be accomplished, the entrance should be somewhat enlarged, and some tow or cotton-wool steeped in tar or paraffin oil should be pushed in as far as possible so as to stifle the insect. When no more can be got in, the entrance should be closed tightly with well-kneaded clay or wax. If a large grey and white moth with delicately-spotted wings is found on the trees, it should be killed, as it is probably the parent insect."

Palms flowering.—Mr. A. Doig, 36, Alleyn Road, Dulwich, sent a portion of the male inflorescence of Chamaerops Fortunei. The plant is described as being some 4 ft. high to the top of the crown. Another plant has flowered at Chislehurst this season, and a third elsewhere. Lastly, a fourth has flowered after an interval of twenty-seven years. This summer has therefore appeared to be particularly favourable to the flowering of Palms in the open.

Plants from Asia Minor.—Miss Willmott sent specimens of a white-flowered Larkspur, and a golden-yellow Centaurea, both of which appear to be new to science, and at present unnamed.

Lavender, failing.—Plants were received from Mr. A. H. Smee which failed to produce their flower-spikes. The stems were remarkable for the large size, and flat form of the leaves; the leaves on the lower part being small and with cirrated margins. This feature appeared to show that the plants had grown in too moist a locality, the vegetative vigour being abnormally stimulated; this and possibly a frost had arrested the flower-spikes.

Hints for Amateurs.

THE Rose season is past, and now the attention of garden-lovers seems to be divided between the Lily family and the Carnations. It is with a few hints on the former family that I intend to occupy my space this week. Lilies as a speciality are exceedingly difficult to grow, but those which I intend to select are not in the least difficult, neither are they botanically, strickly Lilies, but they belong to the Lily family, and to the amateur, and very often to the professional, they are known as Lilies, so I will keep the same name here.

Day Lilies.—These are now looking at the best on the herbaceous borders, where the bold outlines of the strap-like foliage and the trusses of yellow and orange flowers make a picture not easily effaced from the mind. They are quite easy to manage, and as little trouble as any plant in the garden, because when once planted it is not wise to disturb them for several years. Like all other plants which have to remain in the ground for several years without disturbance, they require a well prepared soil to grow in. Autumn, just as the leaves die down, is the best time to shift them. As they resent fresh manure in the soil, and it is necessary that they should be in well manured or rich ground, it would be a good plan for those who intend to plant this handsome flower to prepare the soil for its reception now. By doing so, it will be in a better condition for them in the autumn. The blooms do not last long, but they keep up a succession for some time. The proper name of the genus is Hemerocallis, a name which was chosen through this feature, as it is taken from the Greek, meaning the "Beauty of a Day." The best species is a Japanese one, bearing the name of H. aurantiaca major. The foliage is ample, covered with a kind of bloom, and the flowers, which are large and open, are of a deep rich apricot colour.

Plantain Lilies.—The Funkia family is another which is very easy to grow, and one that gives very good results. For grouping near to streams, at the base of rockeries or on the edge of borders, they are most useful, especially the variety of Funkia ovata, known as marginata, which has its leaves edged with a broad band of white, which gives a very ornamental appearance to the plant. Like the Day Lily, the Plantain Lilies do not require disturbing for several years. To produce the luxuriant masses of foliage which so characterises the species, the plants must have a deep, rich soil to root in and never suffer for want of moisture. The fertility of the soil may be kept up for a long time by mulching with well decayed manure during the winter. They propagate easily by division. If they are to be divided, the best time to select is early spring, and in doing so be careful not to injure the roots more than necessary. Funkia ovata is about the easiest species for outdoor culture. The flowers which are produced from May until late in July vary from pure white to bluish-lilac, and are borne high above the foliage in graceful racemes.

African Lily.—This handsome plant which bears the name of Agapanthus umbellatus is well known by its great umbels of bright blue flowers. There are few places in Great Britain where it is quite hardy, but the protection of a slightly heated house in the winter is all that is required. It is an ideal plant for making a specimen by the side of a doorway or at the base of steps. As it requires protection in winter, it is best grown in pots or tubs. When potting, they should be given a rich, firm soil and a good sized pot. It is surprising to see what length of time they will remain in a pot without showing signs of starvation, especially if helped with copious applications of weak manure water during the summer and autumn. They are moisture loving plants, and when the pots are full of roots and the weather is hot and dry, they will require water three times a day. There are several variegated forms, but they are very seldom seen.

Star of Bethlehem.—The common small varieties of this hardy genus have been known in cottage gardens for generations, but somehow such beautiful types as Ornithogalum arabicum do not seem to be known to the majority of people. This magnificent species is making a grand display in several big gardens at the time of writing, and seeing how cheaply the bulbs may be procured and the ease with which they may be cultivated, they ought to be in every garden worthy of a name. The flowers are borne on scapes of 2 ft. long, and are quite 2 in. across. The colour is a creamy white, with conspicuous yellow anthers and a shining black ovary in the centre. They grow freely in any good garden soil, and are easily increased by offsets. The species mentioned is not quite so hardy as many of the others, so to keep the bulbs safe during winter they should be covered with dry leaves or litter.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

To Increase Cerastiums.—*F.* : The Cerastiums are easy to propagate and readily increase either by division, cuttings or seeds. If they are divided, the early autumn or in the spring are the most suitable times. Cuttings strike easily during the summer in a cool border. Seeds should be sown as soon as they are ripe and placed in cold frames. Almost without exception, they delight in an open sunny position. They are not very particular as to what soil they grow in, and will flourish in an ordinary herbaceous border.

Arenaria balearica.—*Thomas* : The plant which you have seen covering the face of rocks in the rock gardens is, we should judge by your description, the unique little plant known under the above name. It delights in covering the surface of a moist rock in a shady but airy position. Long exposure in the direct sunlight quickly parches it up. The best way to increase your stock is to fill some shallow boxes with fine soil and peg down pieces of the plant on it, covering them at intervals with soil. If kept cool and shady, they will very soon take root, and in the following spring can be transferred to the rockery.

How to Grow the Common Rose of Sharon.—*Curtis* : It is best grown in a sunny position, as it hails from the Mediterranean district. A good place for it is on the sunny side of the house and close to the wall. It resents being shaded to any great extent by other plants, likes plenty of root room, and a soil that is inclined to be sandy or chalky. It strikes readily from cuttings, which should be of half ripened wood and struck under a hand light. Seeds germinate freely if sown as soon as ripe and soon produce good plants. We understand you refer to Hypericum calycinum.

Wistarias.—*S. E.* : We do not advise you to place much hope in your cuttings, as they very seldom strike. The best way to get a young plant is to layer one of the long trailing shoots in the same manner in which Carnations are layered. It is rather late now to think about doing this, but still you may succeed if it is done at once and not severed from the parent plant until growth is about to commence in the spring.

To Make Kerrias Flower.—*Rex* : You have been too sparing with your knife, a fault which often has to be found with amateurs. As soon as the plants have passed out of flower, much of the old wood should be cut out to allow the young wood room to develop and ripen properly. If you take cuttings you should choose a sandy soil as they grow best in that. They are often propagated by division of the roots, but this necessitates pulling them about a lot. No place suits the double variety better than when trained on a sunny wall.

Layering Carnations.—*Viv* : Yes; you should now get this done without delay, and with the present showery weather they will soon take root if attended to carefully.

When to Plant Chionodoxas.—*Hughs* : The best time to plant them is in the autumn. They do not require protection in the winter, being perfectly hardy. They make such a bright cheery show early in the year that they ought to be grown more extensively, especially as their bulbs can be obtained at such a small cost. Flowers outdoors are very scarce at that time of the year, and like the welcome Snowdrop, it comes into bloom as soon as the weather will permit, and is often covered with snow. Indeed, its name denotes this, as it is from two Greek words meaning "Glory of the Snow." There are several varieties, and like its cousin the Bluebell, the colours are mostly of a pretty shade of blue. The bulbs should be planted about 3 in. deep, and if possible in a light soil. You will find that they do well planted in the grass.

Price of Tuberose Bulbs.—*Symonds* : For good bulbs you ought not to pay less than 2s. 6d. to 3s. per dozen. Of course you can get them cheaper, but the quality and quantity of bloom is not so good. If you get a good bulb catalogue, which any of the big growers will be pleased to send to you on receipt of a post card, you will find all the prices of the bulbs you want, ranging from 1d. to nearly £100; also directions as to their requirements.

When to Plant the Scarlet Windflower.—*S P.* : Anemone fulgens is best transplanted early in September, taking care that it does not get dry afterwards, and that the roots do not remain exposed to the air too long.

When to Divide the Dog's Tooth Violet.—*Tame* : The proper time to divide this plant is either in the early autumn or in the spring. Whenever it is done it requires very careful handling or the plants will go off. Most of them delight in a moist shady situation.

Outdoor Chrysanthemums Weak.—*G.* : Perhaps they are starving through being in poor soil, or perhaps they have not been properly watered during the dry weather. Try watering them with liquid manure or sprinkle a few spoonfuls of nitrate of soda round the roots and water it in carefully, and if they are crowded by other plants give them all the air possible.

When to Pot the Umbrella Plant.—*Greenhouse* : This plant may be potted at any time during the spring or summer, and if potted on now it will make some good growth for the winter. It must be borne in mind that although the Cyperus is a moisture-loving plant it will not grow in a water logged soil; therefore when potting it use plenty of sand in the compost to make sure that it keeps open.

When to strike Offsets of Pandanus Veitchi.—*Q.* : They will root at almost any time of the year if they are given a little heat. If they are not required they should be rubbed off as soon as they appear, as they spoil the shape of the plant—that is if it is to be restricted to a small specimen. It makes a very handsome specimen plant, and we have seen plants in which two or three men could hide, and growing in pots too.

Abutilons.—*Sida* : There are many handsome species and varieties of this genus, but none of them are sufficiently hardy to stand the rigours of our winter climate. They root easily if cuttings are taken off in the spring and placed in a gentle heat. They are very desirable plants for conservatory work, and with good treatment they bloom all the year round. With a little scheming they may be induced to grow on a roof, and it is when grown in such a position that their flowers are seen to the best advantage. A handsome variety, whose colour is defined in the name, is Golden Fleece. The varieties raised from Abutilon Darwini, a species with orange-coloured flowers with veins of a deeper colour, are very numerous, and all worth growing. They are very much subjected to attacks of red-spider and therefore should not be grown where the syringe cannot be used freely.

Linums.—*F.K.* : The best time to take Linum cuttings is during this month. Well ripened shoots should be selected and struck in pots of sandy soil, and placed under bell glass in cool and shady places. They come well from seeds, which may either be sown in the autumn or in the spring.

To grow Hardy Impatiens.—*S.P.* : The hardy species of Impatiens as a rule will grow almost anywhere and will reproduce themselves from seed with as much vigour as if they were free growing

weeds. This being their nature cultural details are unnecessary. They are plants which are pretty in themselves, but which will soon spoil the beauty of their neighbours if their encroaching habits are not checked.

Mint and Sage in a Small Town Garden.—*Kitchen*: Yes; with proper attention they may be grown in quantity on a very small patch of ground. The Sage should either be put in as young plants or cuttings may be struck in the place where they are to grow. Mint seems to thrive in London gardens, and we have seen large patches of vigorous shoots which would not disgrace the best of county gardens. The underground stems and roots of Mint are best planted in the spring, but by pulling up the dwarfest of the shoots so that a portion of the root remains attached they may be established at any time. The same applies to many of the other herbs used for kitchen purposes, and surely if they are a little soiled by the carbon deposit from the innumerable chimneys of towns the soot is preferable to the deposit from the hands that hawk them round the streets.

When to strike the Variegated Euonymous.—*P. R.*: These popular plants may be readily increased by inserting the ripest of the tips in pots of good soil in the autumn. They should be put in a cool place and kept damp overhead until they put out roots. To produce a good plant the growing points should be pinched out occasionally, which will induce the lower buds to push into growth and thus make a compact bush.

Lupines Failed.—*J. P.*: The cause of your annual varieties going off was undoubtedly the transplanting. They will not stand transplanting and should therefore always be sown in the positions in which they are to flower. The cause of the perennials going off may be the presence of too much lime in the soil, for it is useless to try and grow them in a soil where there is much lime. A light sandy loam suits them best, or one rich in vegetable mould.

BOLD METHOD OF SHOWING SWEET PEAS.

Happily the Sweet Pea does not lend itself very well for exhibition on boards or in paper collars. Otherwise, however, a great variety of methods has been adopted, or at least used by different exhibitors, both nurserymen, gardeners, and amateurs. One of the worst possible ways of displaying the Sweet Pea is to cut the flowers with short stalks till a handful has been obtained, and then to stick this formless and dense bundle into a blacking bottle. The other extreme is much more effective, and might be employed to advantage in many ways. The plan is to cut Sweet Pea stems, with foliage, tendrils, flower buds, and all combined, and to arrange them tastefully and artistically in a large bunch, which can then be tied, and the ends dipped into a vase sufficiently large to hold the bunch steadily without the liability to topple over.

This plan was very effectively put into practice by Messrs. H. Cannell & Sons, Swanley, Kent, on the occasion of the Bicentenary Celebration of the Sweet Pea at the Crystal Palace last year, and also on the occasion of the first show of the National Sweet Pea Society last week. The accompanying illustration, for which we are indebted to the Messrs. Cannell, shows an individual bunch in a vase, similar to that with which they made such a huge bank at the Royal Aquarium last week. The Peas were arranged in bunches of a variety, which we think the best way of displaying this popular flower; but a number of varieties may be mixed together, choosing those that will blend together in one harmonious whole. It requires more artistic skill on the part of the exhibitor or decorator to practice this method successfully.

No foliage is more natural than that of the Sweet Pea itself as an accompaniment to the flowers; but it should not be overdone or the stems and foliage will too largely preponderate to the disadvantage of the floral effect. The bunch represented has a pleasing and evenly balanced arrangement of both foliage and flowers. The foliage remains good for a considerable time, and the tendrils keep on growing and clasping objects near them, or shaking hands with one another, which is one of the most natural and attractive features of this method of display. Those who adopt this method may cut off the tops of the row entirely or only the outside stems of a row. Those cut in this way will develop side shoots and bloom more or less grandly a second time, thus affording a succession, which the gardener and floral decorator cannot fail to appreciate.

A Vase of Sweet Peas as Exhibited at the Aquarium.

Lime.—Lime in the soil is a very valuable agent and manure. Some of its good qualities are that it liberates nitrogen, assists in liberating potash, neutralises unwholesome acids in sour soils, prevents the loss of ammonia, checks insects injuries to roots, such as wireworm, helps to make heavy soils more friable, and as lime itself is a constituent of all plants it is also a manure.

THE APIARY.

Removing Surplus.

The end of the honey season is drawing nigh. With the exception of those situated in Heather districts all honey should be removed within a fortnight from now. With a few this is rather a formidable task, but thanks to the Porter bee escape whole racks of comb honey can be removed at one time without hurting a bee or receiving a single sting. This is a great consideration with those who have timid neighbours to contend with.

Those who only work one rack of sections on their hives remove the sections whenever they are filled. This should be done about the middle of the day when the bees are gathering honey freely. Remove the coverings and give just a little smoke or the bees will tear open the cells. Remove the follower, "that keeps the sections tight in their place," when those of the sections that are fully capped over may be removed, shaking the bees adhering to them on to the alighting board; any stragglers left may be brushed off with a feather.

Bee keepers who go in for tiering one rack above another will benefit by receiving more honey and of a better quality. It is a well known fact amongst beekeepers that the bees, as long as they cover or remain on the honey comb, will improve it to a wonderful degree.

When the season is drawing to a close no more room should be given and the racks may be taken off one at a time or all together by the use of the bee escape fixed to a board with bee space on both sides. Lift up the surplus boxes; if firmly glued down use a chisel as a lever; give a little smoke and place bee escape on top of frames, replacing surplus boxes on top. See that the bees have no other outlet but through escape; and if this has been done in the evening all the honey may be removed in the morning clear of bees. Of course if the queen has got into sections, or if there is brood in any of them, the majority of the bees will remain. In all cases it is the most profitable to use excluder.

Shallow frames that have been used for extracting should have the honey taken from them and given back to the bees to clean. All honey whether extracted or comb should be kept in a warm room for a few weeks. A vinery that is ripening is a good place for it, shaded from the sun and dust. The warm dry atmosphere ripens it up, giving a flavour and consistence to it that is well worth the extra trouble taken.

Scrape all propolis and wax off the wood with a blunt knife or piece of glass. Glaze on both sides and keep in a warm dry cupboard until used. Extracted honey may be kept in bulk or run into 1 lb. jars. Have two or three grades for your honey and lower the price accordingly.

Although the early part of the year was sore on bees and beekeepers alike, those who kept a kindly eye on their stocks and had them ready for the flow when it did come reaped the benefit. Takes of from fifty to hundred sections per hive are fairly common, while those who go in for extracted honey are well above 100 lbs.

The Heather season will soon be on us with all its excitement of furious bees, frightened drivers and horses and the jolly bee-men.

Before sending bees to the Heather, they generally have to go through a special preparation if the most is to be taken from them. There are a great many methods used by different bee-keepers; but I will only give the way adopted by those who have been most successful at the Heather. Take a nucleus that has a fine young laying queen and a strong stock that has done well at the Clover. Two or three days before you send them to the Heather, remove the old queen and join the two together, giving the nucleus nine frames as well filled as is possible with hatching brood. Any that are over may be given to other stock. Give at least two section racks which will be filled with bees at once and will provide ample ventilation when shifting, provided a sheet of scrim cloth is tacked over the top and the sides between rack and hive firmly filled with any old rags handy. Nail a bit of wire cloth over entrance, pass a rope round the hive and over the roof to keep all firm and convenient to handle. These simple precautions will insure safe transit in nearly all cases and with any ordinary hives. Most firms stock, at least, one hive more or less convenient for shifting to the Heather. Heather is eight or ten days earlier this year, and with fair weather, should help to swell the record for 1901.—*Doonfoot.*

Sweet Pea Blanche Burpee.

SWEET PEA BLANCHE BURPEE.

Amongst Sweet Peas there are two varieties which seem to be running one another in competition for the first place in the affection and estimation of cultivators. These are Blanche Burpee and Sadie Burpee, curiously enough both from America. Both are hooded flowers, the hood being most decided in the case of Sadie Burpee. Now and again there is a sort of campaign against hooded flowers, but notwithstanding this a large proportion of the most popular or standard sorts possesses hooded flowers. There is, however, an element of beauty in hooded Sweet Peas, and the public appreciate them. The form also assists greatly in lending variety to the form of a flower that has been developed into all shades of colour, of which the Sweet Pea seems capable, but we do not imply that the limits even in this respect have been reached. The next, that is, further improvement on Blanche Burpee, would be greater size and substance, though in the former case some might consider it no advance, or not desirable. With increased substance, however, we think it hardly possible to make the Sweet Pea coarse on account of size. The accompanying illustration shows the hooded character of the standard of Blanche Burpee.

SOCIETIES.

NEWCASTLE SUMMER FLOWER SHOW.—*July 23rd and 24th.*

The above show was held in the Leazes Park on July 23rd and 24th. The society claims to be the oldest of the kind in England, having been established in 1824. The show was a splendid one from every point of view. The entries exceeded those of last year by fifty, having reached 370, which were divided into sixty-seven classes. The exhibits as a whole were of an exceptionally fine character, and reached a high standard of excellence. When the show opened the weather was dull and threatening, occasional glimpses of sunshine alternating with ominous clouds. However, Old Sol broke out, and the weather was all that could be desired. The Roses were a superb lot, and were the cynosure of all eyes. The herbaceous stuff was splendid, and better one could not desire to see. Fruit was up to the average, but stove and greenhouse plants were hardly up to the usual standard. Table decorations were very good, too, and greatly admired by the public. The arrangements for the show were efficiently carried out by the council, ably assisted by the courteous secretary, Mr. Read. The public was well looked after in the way of entertainment, the committee having arranged with Mr. Will Sley to provide a good programme of star artistes, a military band was in attendance, and there was a splendid pyrotechnic display each evening. The judges were Mr. James Douglas, Edenside, Great Bookham; Mr. James Hudson, Gunnersbury House, Acton; Mr. George Paul, Old Nurseries, Cheshunt; and Mr. Henry Hudson, Cragside, Rothbury.

Appended is a list of the principal prize-winners:—

Open Classes.

There were several very artistically arranged groups of plants. That shown by Mr. H. Hilliar, Darlington, was well deserving of its position as first in the awards, and in addition to this honour it was also awarded a Silver Banksian Medal of the Royal Horticultural Society. Mr. F. Edmondson, of Newcastle, was placed second. His arrangement and the quality of his plants was very good, but it would

have been mnch more effective if it had been put together a trifle lighter. The third prize was won by Mr. E. Sharratt, Gosforth.

Tbe class for six plants in hloom, distinct, drew some very fine specimens; Mr. J. Ellison, Cramlington, was placed first; the second place was taken by Mr. S. Bewick, Seaton Delavel; and the third by Mr. J. W. Pinkney, Middleshoro'.

Mr. G. Hopper, Morpeth, won the first prize for three distinct Orchids; Mr. J. McKenzie, Heddon House, won the second; and the third was carried off by Mr. J. McIndoe, Hutton Hall, Guisborough.

Although late in the year, Gloxinias were well shown, especially by Mr. S. Bewick, who won the first prize for the hest six varieties; Mr. J. Harris was second; and Mr. J. W. Pinkney, third.

The first prize for the hest three Dracaenas was won by Mr. R. Arthur, West Wylan; the second best three were exhibited by Mr. J. Harris, East Cramlington; and the third by Mr. H. Hilliar, Darlington.

Crotons were not well represented, and the tbird prize in the class for three was not awarded. Mr. R. Arthur was first, and Mr. J. Harris, second.

Mr. J. Hunter, Hexham, secured the first prize for four single tnberous-rooted Begonias; Mr. J. Harris was second.

For six table plants, Mr. N. Walker, Low Fell, who exhibited some very graceful plants, was first; the second prize was annexed hy Mr. Hilliar; and the third hy Mr. Arthur.

The collection of Roses arranged for effect was a very pretty feature; those shown hy Mr. Hngh Dickson, the well known Belfast Rose grower, received the place of honour, and well deserved their position. Messrs. D. and W. Croll, Dundee, were awarded the second prize for a very beautiful collection; Messrs. Harkness & Sons, Bedale, were placed third, also with a very fine display.

Mr. Hugh Dickson also won the first prize for tbirty-six Roses, distinct, and the other two firms maintained the same positions as in the collection.

For forty-eight Roses, distinct, Messrs. D. and W. Croll turned the tables; Mr. Dickson had to fill the second place; and Messrs. Harkness & Sons, third.

In the class for twenty-four hlooms, the old position was resumed, hut in the class for twelve, Messrs. D. and W. Croll heat Mr. Dickson; and Messrs. Harkness & Sons were third.

Messrs. D. and W. Croll were also at the top in the class for twelve blooms of any H.P., with Mr. Dickson as second. Horace Vernet was the winning variety; Mr. Dickson put up Capt. Haywood.

Mr. J. Henderson, Falloden Hall, Chathil, did not let these three well known competitors have it all their own way, for he carried off the first for twelve Teas of any one sort; Messrs. D. and W. Croll having to take second place.

The class for twenty-fonr hunches of herhaceous cut hloom made a striking feature. Those shown hy Messrs. Harkness & Sons were selected as the hest; Messrs. G. Gibson & Co, Bedale, were a very close second; and Messrs. Kerr Bros., Dumfrles, were also very close as third.

Messrs. Harkness & Sons were also first for eighteen hunches; Messrs. Gihson & Co. this time heing third; as Mr. Edmonton, Newcastle, stepped in and annexed the second.

Mr. J. Paisley, East Kilbride, was given the premier place for twenty-four show Pansies, distinct; Miss Davison, Eastwick, was made a very good second.

For twenty-four fancy Pansies, distinct, the same positions were maintained.

Mr. J. Paisley was also at the head of the poll for twenty-four sprays of Violas; Messrs. Kerr Bros. secured the second prize.

Messrs. J. Thompson & Sons were placed first for twelve specimen glasses of Carnations; the second place was awarded to Mr. W. B. McLean, Gosforth; and the third to Messrs. Laing & Mather, Kelso.

Fruit.

There was a very good display, and in some of the classes a very keen competition was witnessed. Mr. McIndoe, Hutton Hall, Guisboro', was awarded the first prize for a collection of eight dishes of distinct kinds. Grapes and Plums were a conspicuous feature hy their very high quality. Mr. J. Tullett, Rahy Castle Gardens, was close to him for second place. Mr. J. McPherson, Market Wrighton, was third.

In the class for four dishes, Mr. J. Tullett was first; Mr. J. McIndoe was second; and Mr. W. Nicholls, Carlton Towers, York, third, all with very good samples.

Mr. McIndoe carried off the first prize for four bunches of Grapes; his Muscat of Alexandria and Black Hamburgh were very fine. Mr. J. McPherson exhibited some very fine bunches, and was placed second; Mr. W. Nicholls was placed third.

Mr. McPherson carried off the first prize for two bunches of Muscats, followed by Mr. J. McIndoe, and Mr. S. Russell for the second and third places.

Mr. T. Cowperthwaite, Castle Eden, secured the place of honour for two hunches of white Grapes, Muscats excluded.

Mr. W. Nicholls was successful in obtaining the second place, and the third was ohtained by Mr. J. McIndoe.

Mr. Nicholls beat Mr. Cowperthwaite in the class for two bunches of Black Hamburghs; Mr. W. Fulford, Castle Eden, was third.

Mr. Nicholls was also first for two buncbes of any other hlack Grape; Mr. McIndoe was second; and Mr. Fulford, third.

The hest Melon was exhibited by Mr. C. English, Benwell Hill. Mr. E. Hopper showed the best dish of Peaches; and Mr. McIndoe the hest dish of Nectarines. The dishes of Cherries shown hy Mr. R. Elliot were selected as the best.

Mr. MacFarlane, Alnwick, was the only exhibitor in the class for Strawberries, and was awarded the first prize for dish of a grand new seedling named Magnificent. Mr. Nicholls was first for a dozen Tomatos.

In Division "B," Mr. J. Ellison won the highest award for four plants in hloom, distinct. In the same division, Mr. Melville won the first prize for twelve Roses, and Mr. A. Brydon secured the first in the class for twelve hnnches of hardy herbaceous flowers.

Fruit and Vegetables.

Confined to gentlemen's gardeners living witbin thirty miles of Newcastle.

The first prize for the four hest dishes of fruit was won hy Mr. T. Cowperthwaite; the second was won by Mr. W. Fulford; and the third hy Mr. R. Elliot.

Mr. S. Bewick won the first prize in the class for eight distinct kinds of vegetahles; Mr. W. Hodgson and Mr. Patterson were equal second.

Mr. A Brydon won the first prize for Sweet Peas, which was offered by Mr. Rohert Sydenham, of Birmingham.

Mr. McIndoe won the first prize for vegetahles grown from seeds supplied hy Messrs. Sutton & Sons, Reading, who offered the prizes.

Mr. McIndoe also won the first prize for a collection of vegetahles grown from Messrs. Wehb & Sons' seed, who also supplied the awards.

Exhibits not for Competition.

There were several very fine exhibits which were not for competition. Messrs. Fell, Hexham, put up a pretty and interesting group of miscellaneous plants, which included Conifers, Palms, Ferns, herbaceous plants, &c.

Messrs. Ord Bros. staged a beautiful collection of plants, and were given an Award of Merit.

Mr. John Forhes, Hawick, Scotland, exhibited a large collection of cut flowers, and the white Begonia Caledonia.

Messrs. Laing & Mather, Kelso, made a bandsome display with a collection of Carnations.

Mr. J. Martin's collection of Cacti aroused a deal of interest, and were a very fine selection.

Mr. Irving also staged an effective group of cut hloom.

Mr. A. Edwards, Notts, showed off his system of decorating to the best advantage by a very tastefully arranged stand of flowers.

Mr. J. Douglas, Great Bookham, Surrey, showed two very fine Picotees, both of which were recommended for Certificates. Argosy was one (the same that we figured last week, p. 770), and Lady St. Oswald the other.

After reporting the show we made a tour of the park, and were struck with the excellently worked out carpet bedding. The geometrical designs on the eastern section of the terrace were splendid, and the beds a sight worth seeing. The grounds were in a very neat and well kept condition, and great credit is due to the able curator, Mr. Moffatt, who has charge of them.

LEATHERHEAD HORTICULTURAL AND COTTAGE GARDEN.—*July 24th.*

The annual summer show of this society was held on the 24th ult. in the very central and convenient grounds of Elm Bank, Leatherhead, the seat of Mrs. Rickards, a lady whose kindness and enthusiasm has incurred the indebtedness of the society on several previous occasions.

Although the show was smaller than usual, there were some very good exhibits of plants in groups, particularly one from Mr. Mease, gardener to A. Tate, Esq., Downside.

Notwithstanding the wealth of talent and material in the numerous good gardening establishments in this, one of the hest districts in Surrey, there seems to be a very prevalent antipathy among employers to allow their gardeners to exhibit.

Tbis is a great pity, as not only wonld a more general unity and combination of these residents promote in tbe most practical manner the success and welfare of this, the most beautiful and instructive of exhibitions, but would also be placing, at least once a year, a great pleasure within tbe reach of tbeir many less fortunate neighhours, who are probably equally enthuslastic and appreciative, and without militating against the home arrangements wbich some employers seem unfortunately only too ready to fear.

Several trade exhihits were interesting, including a nice collection of herbaceous flowers from Messrs. Jackman & Sons, Woking, and Messrs. John Peed & Son, Roupell Park Nurseries, West Norwood, S.E., who showed some very fine hlooms of douhle Begonias and Gloxinias.

SOUTHERN COUNTIES' CARNATION.—*July 24th.*

The fourth annual exhibition of the above society was held in the Royal Pier Pavilion, Southampton, on tbe ahove date, and was a huge success; in fact it was the best exhibition which the society has held. The competition was keen in all the classes and there was nearly double the numher of entries to what there has been in previous years. The judges were Messrs. John Ball and T. E. Henwood for white ground Picotees, and Messrs. James Douglas and Charles Blick for the other exhibits.

In the class for twelve flakes or hizarres F. Wellesley, Esq., Woking, was a very good first; Messrs. W. Pemherton & Son, Walsall, were placed second, and Martin R. Smith, Esq., third.

Messrs. W. Pemberton & Son carried off the first award in the class for twelve dissimilar white-ground Picotees; R. Cartwright, Esq., King's Norton, was a very creditahle second, and A. R. Brown, Esq., Handsworth, a good third.

The first prize in the class for twelve yellow-ground Picotees, not less than six varieties, was won hy Martin R. Smith, Esq.; F. Wellesley, Esq., was placed second, and the third went to S. A. Went, Esq., Thames Ditton.

Martin R. Smith, Esq., also won the highest award in the class for twelve yellow-gronnd and fancy Carnations, and F. A. Wellesley, Esq., was again second; Messrs. Thompson & Co. were third.

The class for twelve selfs again saw Martin R. Smith, Esq., at the top of the awards, with R. C. Cartwright, Esq., as second, and Messrs. Thompson & Co. third. In tbe classes for single hlooms there were many fine samples shown.

J. J. Keen, Esq., was the most successful exhibitor of scarlet bizarres, Messrs. Pemberton & Son were second, and J. J. Keen, Esq., also third.

J. J. Keen, Esq., was also the most successful with the crimson hizarres, F. Wellesley, Esq., was second, and Martin R. Smith, Esq., third, all with very fine blooms.

Martin R. Smith, Esq., was at the top for the single pink hizarre, Messrs. Pemherton & Son second, and Thompson & Co. third.

F. Wellesley, Esq., carried off the first and second for the purple flake, and A. R. Brown, Esq., the third.

Messrs. Pemherton & Son exhibited the hest scarlet flake, W. Goodfellow, Esq., the second best, and R. C. Cartwright, Esq., the third.

F. Wellesley, Esq., won the first and second prizes for the best rose flake; A. R. Brown, Esq., being third.

Picotees.

R. C. Cartwright, Esq., exhibited the best red heavy-edged Picotee; Messrs. Pemberton & Son the second, and F. W. Goodfellow, Esq., the third.

Messrs. Pemberton & Son won the first and second awards for the best red light edge; F. W. Goodfellow, Esq., was third.

Messrs. Pemberton & Son were also first for the best purple heavy-edged; the second and third prizes went to A. R. Brown, Esq.

The class for the best light-edged purple also saw Messrs. Pemberton & Son at the top; Messrs. Thompson & Co. were a very close second, and F. Wellesley, Esq, a very good third.

R. C. Cartwright, Esq, was first for the heavy-edged rose, and F. Wellesley, Esq., for the best rose, light-edged.

A. R. Brown, Esq., exhibited the best scarlet, heavy-edged, and R. C. Cartwright, Esq., the best light-edged.

For the best yellow-ground with heavy edge, Martin R. Smith, Esq, was first; he was also first for the best light-edged.

The premier bizarre Carnation was Gordon Lewis, exhibited by F. A. Wellesley, Esq; Queen Bess was the premier fancy, also won by F. A. Wellesley, Esq. The premier self was won by F. W. Goodfellow, Esq.

Premier Picotees.—Pride of Leighton, selected from F. A. Wellesley, Esqr.'s, exhibit, was the best white-ground shown. Childe Harold, grown by Martin R. Smith, Esq., was the premier yellow-ground. Martin R. Smith, Esq., exhibited the best dozen varieties grown on the open border; Messrs. Thompson & Co. were second, and J. E. Tuplin, Esq, third.

F. W. Flight, Esq., won the Silver Cup offered for the best six varieties of self or fancy Carnations; this is the second time he has won it. It can only be competed for by amateurs.

Messrs. Toogood & Sons, Mr. R. Sydenham, and Messrs. Ladham & Son offered prizes for Sweet Peas, and some very keen competition and good exhibits were seen.

F. W. Flight, Esq., was awarded a First-class Certificate for a handsome light pink self named Mrs. Flight.

W. Garton, Esq., was also awarded a First-class Certificate for a pretty yellow-ground fancy named Miss Sheila Garton.

At the luncheon, which was served in the refreshment rooms on the pier, a very distinguished party sat down, and were presided over by W. Garton, Esq. In proposing the toast of "Success to the Society," the chairman coupled with it the names of Mr. Sydenham and Mr. Douglas. It was expressed on all sides by Carnation specialists that the quality of the blooms were much superior to those seen recently at the Crystal Palace.

NATIONAL SWEET PEA.—*July 25th and 26th.* The first grand exhibition and fair of the National Sweet Pea Society was held in the Royal Aquarium, Westminster, and was an unqualified success as far as the show itself was concerned. The visitors might have been more numerous on the first day, but no doubt many of them had kept at home owing to a terrific thunderstorm which broke over the Metropolis during the fore part of the day, bringing with it a downpour of rain of such weight and duration as we had not seen for a long time previously. All the horticulturists, however, were pleased rather than otherwise at the downpour, and everyone hoped it had visited their own district. As to the finances the committee take the matter with a light heart, as the society has been well supported by subscribers and all the leading Sweet Pea growers in the country.

All the classes were open and the display of Sweet Peas excelled that of the Bicentenary Celebration at the Crystal Palace last year, as gardeners and growers alike had been better prepared for such an exhibition than last year, notwithstanding the late period at which the society was formed and its intentions promulgated. The hon. ex-secretary, Mr. Richard Dean, V.M H., being so familiar with the space at disposal in the Aquarium, carried out the arrangements admirably for the disposal of the exhibits, and everything proved very satisfactory.

Competitive Classes.

The premier honours in the class for thirty-six bunches of Sweet Peas were secured by Mr. W. Simpson, gardener to R. C. Foster, Esq., J.P., The Grange, Sutton, Surrey. The quality of his flowers was very good and the colours varied and well disposed. Many of the varieties were notable for the intensity of their colours, the latter being the darkest seen in the respective varieties. Some of the finely coloured varieties were Miss Willmott, Venus, Salopian, Countess of Radnor, Gorgeous, Lady Grisel Hamilton, Queen Victoria, Lady Mary Currie, Lottie Hutchins, Mrs. Dugdale, Prince Edward of York, Dorothy Tennant, Fashion, Chancellor, Hon. F. Bouverie, Lord Kenyon, Black Knight, Lottie Eckford, Aurora, and Prince of Wales. All of the above were in the best form as to colour, but the lighter and white ones were also well represented by Blanche Burpee, Emily Henderson-Mrs. Sankey and Lemon Queen. Considering that Mr. Simpson has to grow his Sweet Peas, and every, thing else for the matter of that, on a soil of 18 in. overlying the live but dry chalk, we consider that his success was all the greater and due entirely to his own exertions and cultural skill.

Mr. Robert Bolton, Warton, Carnforth, took the second place with more loosely arranged flowers, and rather more hooded. He had good bunches of Miss Willmott, Salopian, Lady Nina Balfour, Emily Eckford, Gorgeous, Mars, &c. The third prize was taken by Messrs. Jones & Sons, Coton Hill Nursery, Shrewsbury, with a really splendid exhibit, tastefully arranged, so it may be taken for granted the competition was good. Mr. Thos. Leitch, gardener to H. Thornton, Esq., Beaurepaire Park, Basingstoke, came fourth with a beautiful exhibit. All were set up with their own foliage as stipulated by the schedule.

In the class for twenty-four bunches of Sweet Peas, other foliage was permissible, including flowers of Gypsophila. The leading prize was taken by Mr. F. J. Clark, gardener to Mark Firth, Esq., Wistow Hall, Leicester. He must have occupied a great amount of time and taste in setting up his collection for they were very neatly arranged with Grasses, Asparagus and Gypsophila. He had grand bunches of Lady Mary Currie, Prince of Wales, Chancellor, Venus, Prince Edward of York, &c. Messrs. Jones & Sons, Shrewsbury, took the second award in this case, with telling bunches of Miss Willmott, Black Knight, Countess of Powis, Lottie Hutchins, Prince Edward of York and America.

Messrs. Jones & Sons came to the front for twelve bunches of Sweet Peas, set up with their own foliage. They had handsome bunches of Mrs. Eckford, Mars, Miss Willmott, Emily Eckford, Little Dorritt, &c. Mr. Robert Bolton took the second place, with a fine lot of good quality set up in tall glass vases. He had a lovely yellow named Hon. Mrs. E. Kenyon, Miss Willmott, &c. Mr. Silas Cole, gardener to Earl Spencer, The Gardens, Althorp Park, Northampton, took the third place with a very fine exhibit indeed, his telling bunches being Coccinea, Miss Willmott, Triumph and Hon. Mrs. Kenyon. Mr. W. Simpson took the fourth award with rather short-stalked bunches, but the colours were lovely.

The first prize for six bunches of Sweet Peas was taken by Mr. F. J. Clark, who had beautiful bunches of Lady Mary Currie, Countess of Radnor, Salopian and Prince of Wales. Mr. Robert Bolton was second with finely-coloured Hon. Mrs. E. Kenyon, Miss Willmott, &c. Mr. Silas Cole was a very good third, Miss Willmott, Othello and Blanche Burpee being in good form H. A. Needs, Esq., Heath View, Horsell, Woking, was a good fourth, with grand bunches of Triumph, Miss Willmott, &c. There were fifteen entries in this class.

Mr. Silas Cole came to the front for six bunches in three varieties, those selected being Galety, Miss Willmott and the Hon. Mrs. E. Kenyon. Messrs. Jones and Sons took the second place with more loosely-arranged bunches and less foliage. Mr. Robert Bolton took the third place; Mr. George Crabb, The Gardens, Park House, Addlestone, came in fourth; and an extra prize was accorded to Mr. Thos. Bolton, gardener to B. Weguelin, Esq., Coombe End, Kingston-on-Thames. All had flowers of a high order of merit, and showing the result of the cultivator's hand.

The premier award for two bunches of white Sweet Peas was taken by the Rev. L. Knights Smith, Brightstone, Isle of Wight, with grand flowers of Blanche Burpee and Sadie Burpee (black seeded). Messrs. Jones & Sons were a good second, and Mr. Geo. Crabb came in third, but the flowers were in all cases smaller than in the first prize lot.

The Rev. L. Knights Smith also took the lead for the two best bunches of crimson or scarlet varieties, showing Sunproof and Coccinea in splendid form. Messrs. Jones & Sons were second with Mars and Salopian, also in grand form.

For two varieties of yellow or buff Sweet Peas, the lead was again taken by the Rev. L. Knights Smith, who showed the Hon. Mrs. E. Kenyon and Lady M. Ormsby Gore, tastefully set up. He was followed by Mr. Geo. Crabb, who had the same varieties.

The Rev. L. Knights Smith again led for two varieties of pink Sweet Peas, showing Countess of Lathom and Prima Donna. Messrs. Jones & Sons were second, and Mr. Thos. Bolton came in third, in seven entries.

For two bunches of rose, Messrs. Jones & Sons were placed first. Mr. F. J. Clark, Wistow Hall, Leicester, was a very close second. Mr. Robert Bolton, who was placed third, had some very fine blooms.

Two bunches of mauve won the first prize for Messrs. Jones & Sons in that class. Mr. J. Watson, Ham Common, was awarded the second, and Mr. W. Roy, Brentford, third.

For two bunches of blue, Messrs. Jones & Sons won the first with Navy Blue. Emily Eckford won the second prize for Mr. Watson, Ham Common. Mr. A. Chandler, Haslemere, was placed third.

The first prize in the class for two bunches of striped Sweet Peas was won by Mr. R. Jeffery, Southampton. Messrs. Jones & Sons were second, and Mr. Thos. Leitch, Basingstoke, third.

Floral Decorations in Sweet Peas.

For a dinner table decorated with Sweet Peas and their own foliage only, the first prize was won by Miss M. Anstey, daughter of Mr. H. Anstey, nurseryman, West Norwood; it was a very tasty arrangement, but might have been carried a little higher.

Speaking candidly, we think the awards ought to be reversed in the second and third places, for the second prize table arranged by Mr. R. Chamberlain, Reading, was, to use public opinion, inferior to that which was placed third. It was, of course, a matter of taste in the judging, and tastes differ.

The third prize was won by Messrs. Jones & Sons, Shrewsbury, with an arrangement of scarlet and white. It was a very light and artistic display, but like the first was inclined to be flat.

The entries in this class were very numerous, and made a pretty effect in the long gallery.

In the class for a decorated dinner table, any foliage allowed, there were many very pretty arrangements, but there seemed an oversight in the majority, and that was that the schedule defined it as a *dinner*-table decoration. One great point to bear in mind in this special line is lightness, and an arrangement through which the persons who may be sitting on one side of the table may see those opposite to them. With such an arrangement as that which received first prize in this class this would be impossible, and we consider that this ought to be taken into account when awards are made. It was arranged by Messrs. E. S. Cole & Son, Park Lane Nursery, Bath. The second prize table showed much better taste, and did great credit to the firm of Messrs. Jones & Sons, Shrewsbury. The third prize was a heap, and entirely unfit for a dinner table, but would have graced a drawing room table.

It was a great relief to get to the class for epergnes, for here there was some truly artistic work, and the first prize arrangement which was put up by Messrs. Jones & Sons, Shrewsbury, was a pretty picture. The second prize, one arranged by Miss Cole, of Feltham, was also very pretty and well worth its award. The third prize arrangement, worked by Mr. Chamberlain, of Reading, was very good, and would have had a much better effect if the epergne had been more graceful.

The baskets brought out some very fine work, and that exhibited by Messrs. Jones & Sons was deservedly placed first, for it showed a very artistic taste and skilful workmanship. Miss Cole was placed second with a very pretty basket. Messrs. Cole & Son. Bath, were third.

The bouquets of Sweet Peas were very fine; that exhibited by Miss Cole was awarded the first prize, and was a tasty arrangement of pale purple. Messrs.

Jones & Sons were second with a pretty but massive arrangement. The third prize was won by Miss F. Roff, 203 Upper Street, Islington, with a very neat and graceful blue and white arrangement.

There were several pretty wreaths. That made by Messrs. Jones & Sons was placed first. It was a large cross of white Sweet Peas with a relief in the centre and at the base of scarlet. That made by Miss Anstey was a very simple and artistic wreath of purple Sweet Peas with a join of a darker variety. The colour was well chosen, and in this, like many other exhibits which we have noted by the same lady, the style was artistic, the colours subdued, and the whole free from the vulgar conspicuous display which too often passes off as art. It was placed second, and well deserved its position. Miss Roff made a very pretty cross of blue and white, and was awarded third prize.

Exhibits not for Competition.

Hobbies, Ltd., Dereham, made a very effective display with their fine strain of Sweet Peas. They were arranged in a most artistic manner in conical mounds with light foliage plants, such as Cocos weddeliana, Adiantum, and Grasses. Some of their best varieties were Aurora, a handsome flaked variety; Miss Willmott, a rose-salmon; Lady Ormesby Gore, a large creamy-white flower with a beautifully hooded standard; Sadie Burpee, a pure white with a very prettily curled standard; Hon. Mrs. E. Kenyon, a very pale cream; Othello, a rich chocolate red; Lady Mary Currie, orange pink; Lady Nina Balfour, a delicate mauve shaded with dove grey; Blanche Burpee, a very good white; Prince of Wales, a bright rose self; Countess of Powis, orange, suffused with light purple on the wings and possessing a fine satiny polish; Navy Blue well represented that colour. The group filled half the end of the Great Hall. They had also on another table a large mound of Turner's Crimson Rambler Rose, and another exhibit of Cut Roses. (Gold Medal.)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, occupied his old place at the end of the hall, where his famous 'Mums have stood so many times. The exhibit adjoined Hobbies, Ltd., and together the two made a very pretty end. Mr. Jones' group was very tastefully arranged, with the white Humea elegans and Bamboos, and even if his blooms had been inferior it was well worthy of the Gold Medal which was given to it. The blooms were far from poor; in fact they were as good as any in the hall, and this feature, together with the artistic arrangement, called forth much praise from the crowd of visitors. Mars, a satiny bloom of a beautiful shade of cerise, came in for much admiration, Emily Eckford, Blanche Burpee, Chancellor, Salopian, Gray Friar, Lovely, Othello, and Firefly were also shown to perfection.

Messrs. Harrison and Sons, Leicester, exhibited a good collection of varieties, but we think the ground work might have been better chosen as it did not harmonise well with the majority of the shades. Some of their best varieties were Lady Mary Currie, Captain of the Blues, Blanche Burpee. Stanley, a deep crimson-maroon, Lovely, a pink and white; Miss Willmott, Salopian, Aurora, and Bronze King, which has a bronzy red standard with wings and pink keel. (Silver Gilt Medal.)

Messrs. H. Cannell and Sons, Swanley, made a grand display with large bunches cut and arranged with their own foliage; the number of varieties was confusing. The colours which this firm have in their selfs cannot be well described as they include the best of the fine art shades. Lady Mary Currie and Maid of Honour, a beautiful blending of pink and white, were general favourites with the public. The exhibit was worthy of the award of a Gold Medal which was bestowed on it.

Messrs. Hurst and Sons, Kelvedon, Essex, exhibited a pretty table of varieties. Prima Donna, a pink, was very good, so also was Oriental, an orange-pink, and that beautiful cerise variety, Salopian. Coquette, a cream suffused with rose on the standard, Queen Victoria, a very clear cream, Lady Grisel Hamilton, a Cambridge blue, suffused with purple, were also good. (Silver Gilt Medal.)

Messrs. E. W. King and Co., Coggeshall, Essex, staged a very good lot of their strain of Sweet Peas.

They are not growers for exhibition purposes but have acres of them growing to supply the trade. That their blooms were of a good quality was shown by the award of a Silver Medal which was given to them.

Mr. Leonard Brown, Brentwood, was awarded a Silver Medal for a tastefully arranged collection of well grown blooms. They were set up in tubes on a wire frame-work with a dark background. Chancellor, a bright orange pink, was one of the best varieties; other good ones were Captivation, Salopian, Princess of Wales, Lottie Hutchins, Othello, Queen Victoria, and Stanley, a very rich velvety maroon.

Mr. Robert Sydenham, Tenby Street, Birmingham, well known as a Sweet Pea enthusiast, brought a grand collection of his best varieties. He has a specially good strain, and both for size and colour his blooms would be difficult to beat. Under the artificial light which was necessary at the time we noted his exhibit, it was impossible to give a true account of the colours. Amongst the varieties we noticed Mars, Princess of Wales, Gorgeous, Countess of Radnor, Blanche Burpee, Stanley, Miss Willmott, America, Dorothy Tennant and Emily Eckford. (Silver Gilt Medal.)

Messrs. Dobbie & Co., Rothesay, brought a large and handsome collection of varieties and staged them in large bunches, with their own foliage as relief. Some of the best bunches were Black Knight, George Gordon, Mrs. Eckford, Captivation, Prima Donna, Golden Gate, Aurora, Triumph, Miss Willmott, Navy Blue, Crown Jewel and Mars. (Gold Medal.)

Mr. H. Eckford, Wem, Shropshire, had a large table filled with light glass vases of his best varieties, but we were sorry to see that during the terrific thunderstorm his exhibit suffered terribly through the faulty roof. The style of arrangement was very effective, and showed off the flowers to the best advantage. It was impossible to pick out the best varieties, as they were all of one quality and that of the very best, and received a Gold Medal.

Messrs. John Peed & Son, Norwood, made one of the brightest exhibits in the show and furnished a lingering spot for a number of admiring visitors. There was not a large bulk of stuff, but it was arranged tastefully over a large table, and every bloom was shown perfectly. The arrangement struck the happy medium—it was neither too heavy nor too light, and space but just enough to make what one might call a really artistic display. Sweet Peas were well represented, and included most of the best varieties. Carnations were in good form and endless variety. The background was made up of herbaceous Phloxes, amongst which we noted the new variety recently raised by this firm and sent out under the name of Streatham Gem; it is a rosy-salmon with dark centre. Another very good variety was Eugene Danzanvilliers, a delicate rosy-lilac with a pure white eye. There were also several pots of well-flowered Carnations at the end of the table, amongst which we noticed J. W. Christmas, a perpetual flowerer with a very fine scent, also one or two very fine varieties of Malmaisons. (Silver Gilt Medal.)

Messrs. Jones & Sons, Shrewsbury, were awarded a Silver Medal for a very pretty table of Sweet Peas, set up in their usual good taste.

Mr. J. Williams, Ealing, made a very fascinating display with a table of his rustic table decoration work, tastefully filled with Sweet Peas, and was awarded a Silver Medal.

ROYAL HORTICULTURAL.—*July 30th.*

The tables were well filled on Tuesday last with a considerable variety of subjects, though the attendance was thinner than at several previous meetings at the Drill Hall, Westminster. Gloxinias, occupying the whole of the central table, were a conspicuous feature. Other prominent subjects were hardy herbaceous plants, Roses, Sweet Peas, stove and greenhouse subjects, &c.

Orchid Committee.

Messrs. J. Veitch & Sons, Ltd., Chelsea, exhibited a small but interesting group of Orchids, chiefly hybrids. Very fine were Laeliocattleya callistoglossa, Lc. c. ignescens, Lc. Clonia, Lc. duvaliana, Lc. Ascania, and Cattleya Atalanta. The most gorgeously coloured of the above was Laeliocattleya callistoglossa ignescens; the white ground of Lc. duvaliana, and the pale yellow sepals and petals of Lc. Ascania made them strikingly distinct from the rest. The exhibit was the most important in the way of Orchids in the Drill Hall. (Silver Flora Medal.)

C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham, exhibited four small but well flowered plants of Cypripedium warnhamense, with declinate, spotted petals.

G. W. Law-Schofield, Esq. (gardener, Mr. E. Shill), New Hall Hey, Rawtenstall, exhibited Cypripedium Maudia magnificum, and a seedling named C. stottianum.

Sir Frederick Wigan, Bart. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, exhibited cut flowers of Orchids. Amongst them we noted Cattleya Atalanta, C. F. W. Wigan, C. porphyrophlebia, Laeliocattleya Henry Greenwood, Cypripedium niveum, C. concolor, and C. Godefroyae, all in very fine condition.

Floral Committee.

One of the features of the show was the large exhibit of young Gloxinias grown by Messrs. Sutton & Sons, Reading. They were a brilliant lot and filled the whole centre of the hall. They were all in 48-size pots, and were most useful plants for decorative purposes. Some of the best we made note of were Empress, a pure white ground densely spotted with small light purple spots and large darker ones; Duke of York, a deep crimson throat shading off through rose to a pure white margin; Reading Scarlet, a brilliant scarlet with a suffusion of purple in the throat and very prettily fimbriated margins; Sutton's Purple, a very rich dark purple throat with a royal purple margin. Her Majesty caused quite a sensation as it is without a doubt the best white grown. It is a pure chaste white without a blemish of any kind. The flowers are of large size, good form and as freely produced as any variety in the exhibit. Sutton's Spotted Hybrid was a very good bloom as was also The Giant Violet Queen, a handsome variety having a lemon throat and purplish white segments, the whole profusely spotted and pencilled with violet. (Silver Gilt Flora Medal.)

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, staged an effective exhibit of greenhouse plants, including well grown specimens of such old favourites as Celosia pyramidalis, many pretty varieties of Heliotrope Petunias, Campanula Mayi, Acalyphas, Humeas, cool house Ferns, Grass, &c., &c. (Silver Banksian Medal.)

Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood, made a pretty show with a choice collection of Achimenes.

Messrs. R. Wallace & Co., Colchester, made a varied exhibit with a quantity of their well grown Lilies. The exhibit also contained a large assortment of Carnations and a choice collection of herbaceous cut bloom, amongst which Calochortus clavatus, Delphinium ranunculiflorum, Helianthus Soliel d'Or and Delphiniums figured conspicuously. (Silver Banksian Medal.)

Messrs. Paul & Sons, Cheshunt, made a pretty exhibit with a collection of Roses. They were a varied collection and contained such well-known varieties as White Maman Cochet, The Monstrosity, Viridiflora, Miss Ellen Willmott, J. B. M. Camm, Alfred Colomb, Marechal Niel, Jubilee, Killarney, L'Innocence, Mrs. John Laing, Perle d'Or, and Roger Lamberlin, which is one of the most unique Roses grown, having the appearance of huge scarlet and white Picotee. (Silver Gilt Banksian Medal.)

Messrs. Cannell & Sons, Swanley, Kent, brought up a very good collection of double tuberous Begonias. It was a fine strain, a great number of them possessing quite a distinct fimbriated margin. One of the best, in our opinion, was Lady Helen Stewart, a huge canary-coloured bloom. Other good varieties were J. W. Swan, a very deep salmon; Lady Hampton, light salmon; Countess of Ross, pure white; Dr. Nansen, a rich crimson; Lady Bathurst, a lemon; Mrs. Cecil Leigh, a pure white with the centre petals shaded lemon as they open; Earl of Erne, a huge cerise bloom with large shell-like petals; and Lord Stradbroke, an elegantly made flower of a rich crimson hue. (Silver Gilt Banksian Medal.)

Mr. Arthur Wade, Riverside Nurseries, Colchester, staged an artistic and well-grown collection of Sweet Peas, including most of the up-to-date varieties. (Silver Banksian Medal.)

Miss Easterbrook, Fawkham, Kent, made one of the prettiest decorative displays which we have met with lately; Geraniums (zonal Pelargoniums) were the chief class of flowers used. (Vote of Thanks.)

Messrs. Thos. S. Ware, Ltd., Feltham, exhibited a large and striking collection of herbaceous cut bloom. It was impossible to make any comment, only that they were excellent, as it was a representative collection of the best of the plants now in bloom in that department of the garden.

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, staged a pretty group of Campanula isophylla in all its best varieties. Their trailing masses of bloom made a pretty picture, the beauty of which was greatly enhanced by a judicious interspersal of Eulalias and other similar graceful plants. (Silver Banksian Medal.)

Mr. Amos Perry, Hardy Plant Farm, put up an exhibit which attracted a deal of attention, as it included an expensive collection of handsome Nymphaeas. When we say that such superb varieties as the following were included in the exhibit readers can judge the beauty of the show: N. gloriosa, N. Carolina, N. marliacea flammea, N. odorata rosea, N. candida, N. rubra punctata, N. chromatella, N. pygmea helvola, N. marliacea ignea, N. alba plenissima, N. fulva, N. Laydekeri fulgens, N. Robinsoni, N. odorata exquisita, N. odorata sulphurea, N. marliacea rosea, and N. lucida. They were arranged in trays in front of a background of Liliums, Statice, Phlox, Rudbeckia, and Yucca blooms. (Silver Gilt Flora Medal.)

Messrs. W. Paul & Sons, Waltham Cross, made a blaze of colour with a large exhibit of herbaceous Phlox Etna, a fiery scarlet; Coquelicot, orange scarlet; Fiancé, pure white; Hecla, white, heavily shaded with royal purple; Diamond, a very chaste white; Iris, vivid purple; and Le Mahdi, a deep purple, were some of the most striking varieties. (Silver Flora Medal.)

Messrs. Webb and Brand, Saffron Walden, brought a very fine collection of Hollyhocks which were admired by all who saw them, and were the talk of the show. The varieties were not named, but the selection was exquisite and deserving of the award of a Silver Gilt Banksian Medal.

Messrs Barr & Sons, Covent Garden, as is always expected of this well known firm, made a large and varied exhibit of herbaceous plants, and some of the best varieties of Nymphaeas.

Fruit and Vegetable Committee.

One of the most tempting exhibits of the day was that of Gooseberries made by Messrs. James Veitch & Sons, Ltd., Chelsea. There were over a hundred baskets, and all were of such excellent quality that it was impossible to name one without naming the lot, and with such a large collection as this space would not allow of it. The high quality of the exhibit was noticed by the committee as they awarded it a Silver Gilt Knightian Medal.

Messrs. G. V. De Luca & Co., bottle manufacturers, 6 and 7, Long Lane, Aldersgate St., London, E.C., made an interesting exhibit with a collection of air-tight bottles and jars for preserves, etc.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends *the most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

The prize last week was awarded to Mr. T. W. Dollery, The Gardens, Whitburn, Sunderland, for his article on "Adiantum farleyense," p 766.

PHOTOGRAPHS OF PLANTS. — The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in THE GARDENING WORLD. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Single and Double Delphiniums.—*Delphinium*: You have already selected two of the best for your purpose, but particularly Belladonna, which is dwarf in habit with light sky-blue flowers. If the flower stems are cut down after blooming, the plants will start into growth again and furnish flowers later on. It is one of the freest flowering we know. Another good single is Conspicuum, which has bright blue flowers and a pure white centre, the contrast being beautiful. For a dark variety with single flowers we should select Orion, with deep Gentian-blue flowers. The very darkest should not be chosen, as they are only telling by contrast with others in a good sized collection. In the way of semi-doubles (which are really more handsome that fully double flowers) you might select Sir Trevor Lawrence, as the rosy inner petals and the white centre make a fine contrast with the sky-blue outer petals. By way of contrast you might get Wilkie Collins, which has rich Oxford-blue outer petals and rosy-violet inner ones. This is as dark a flower as is necessary to be effective. All of the above are grown in the collection you name, and neither of them are very expensive.

Seaweed to Name.—*Tomas*: The specimens you sent were those of Ulva latissima, known as Green Sloke, or Laver, although the latter name is often applied to Porphyra laciniata. Both are occasionally eaten in a dried state in Wales, possibly elsewhere. The specimens arrived in rather bad condition, as thin seaweeds soon dry and shrivel up. They should have been put in a box with damp moss.

The Limb of a Flower.—*E. C. H. D.*: The limb of a flower is the upper or apical expanded portion as opposed to the lower and narrower portion of the flower which is described as the tube. The five-lobed purple portion of the floret of Arctium Lappa is the limb; the lower, slender, white portion is the tube. Each individual in the head of a Composite constitutes a whole flower, but when they are small and crowded together in a head, as in the case under notice, they are spoken of as florets, that is, small flowers. The florets, taken together with the outer green bracts that surround them, are spoken of collectively as a head or capitulum.

Earliest Time for Dividing Delphiniums.—*Delphinium*: This may be done as soon as the weather becomes cool and fairly moist, provided they have no long flower stems upon them. If young shoots are just being thrown up from the base, this will be a guide as to where the crowns are. If dug up while they have long, leafy flower stems, the roots would be unable to supply the necessary moisture to prevent flagging, which would be a serious loss to the plants. If only furnished with short leafy shoots, the foliage would assist in re-establishing the plants, provided the weather is sufficiently moist to encourage fresh growth. We should not lift them when the ground is very dry if the plants are at all leafy. You will have to use your discretion in this respect. We understand you intend to put the pieces into pots; if so you could keep them moist and shaded during the day till the roots take hold of the fresh soil. You see it is chiefly a question of moisture, and the stage of growth or maturity of the plants that will determine when you may safely lift them. All the old soil should be carefully shaken away, and the divisions made by an old knife, so that every crown with roots attached may be saved and nothing wasted by the operation.

Terete and Angular Stems.—*E. C. H. D.*: A stem is said to be terete when it is round like a straw, not round like the sun's disc or like a plate, the outline of which would more properly be described as circular or orbicular. Examine the stem of Pimpinella Saxifraga again and see whether the stem is round like a straw. Possibly you would describe it as cylindrical. Stems that are angled should have strong ridges running lengthways upon them. Stems that are angled and furrowed have furrows or grooves between the ridges.

Male and Female Flowers of Melons.—*Wm. Forgan*: The male flowers have five green lobes or sepals outside and a broadly expanded five-lobed yellow corolla, having a knob in the centre surrounded with wavy, yellow anthers containing the pollen. The female flowers may be recognised at once by having a round, hairy berry or young fruit placed immediately beneath the five green lobes of the calyx above mentioned. There is no fruit attached to the male flower. To effect fertilisation, take a fully expanded, but young male flower and remove the green and the yellow coverings. Then place the central knob inside the female flower and leave it there. That is one of the simplest ways of effecting the fertilisation of the female flowers.

Public Parks and Gardens worth visiting in Glasgow.—*Lancashire*: When in Glasgow you should make a point of seeing the Botanic Gardens at Kelvinside, and which can be easily reached from the Central Station (Railway) by 'bus or tram. Before leaving this neighbourhood you should visit Kelvingrove Park, where an interesting lot of shrubs, Bamboos, &c., has been planted. Then you might see the large glass house or Winter Garden on Glasgow Green. Next to the Botanic Gardens in importance is the Queen's Park and Camphill at Langside, measuring in the aggregate 148 acres. The Queen's Park has a curious raised terrace and a considerable amount of bedding is done here. Camphill adjoins it, and contains the principal glass ranges in Glasgow away from the Botanic Gardens. You should also see Tollcross Park, consisting of a private estate recently procured as a public park, and extending to 82¾ acres. The grounds are very pretty, some bedding is done, and some glass ranges have recently been built for the cultivation of plants, so that it is well worth visiting if you can spare the time. There are several other parks of considerable extent, but they are not yet developed, having merely been secured in good time for the enjoyment of the citizens of St. Mungo, when the city has grown sufficiently to warrant the expenditure of laying out and planting them.

Packing Grapes for Switzerland.—*H. P.*: We should prefer wood wool, and a lining of tissue paper to anything else. Cotton wadding is too heating during the present weather, and too inelastic at any time, while it should not on any account be allowed to come in contact with the Grapes. It is wretched stuff in which to pack flowers, fruit, or anything else. Some people advise the use of a little soft, dry moss, as a layer for the bottom and sides of the basket or box This cannot always be procured. Use wood wool of fine quality covered with one or two layers of tissue paper. Then fill up the box with the Grapes, stalk upward, putting in just as many bunches as will fill the space, leaving no room for them to roll about. Cover the top with the same packing material and fasten down the lid securely. Sawdust would encourage heating, while at the same time it would rub the bloom off the berries and leave fine particles of dust upon the berries. We should be pleased to hear the result of your experiment.

Names of Plants.—*A. R. M.*: 1, Lathyrus platyphyllos; 2, Lathyrus platyphyllos albus; 3, Impatiens Roylei; 4, Helenium autumnale pumilum; 5, Erigeron speciosus; 6, Erigeron philadelphicus.—*G. D.*: 1, Helianthus rigidus; 2, Cistus laurifolius; 3, Veronica longifolia; 4, Echinops Ritro.—*W. M.*: 1, Erodium Manescavii; 2, Polygonum cuspidatum; 3, Potentilla formosa; 4, Lychnis chalcedonica flore pleno.—*K. W.*: 1, Carpenteria californica; 2, Ligustrum sinense; 3, Ligustrum japonicum; 4, Spiraea Douglasii; 5, Spiraea palmata; 6, Achillea Millefolium roseum; 7, Anaphalis margaritacea, otherwise known as Antennaria margaritacea.—*C. M. G.*: 1, Begonia Dregei (sometimes called B. parvifolia); 2, Begonia weltoniensis, or some allied hybrid; 3 and 4 are Codiaeums (Crotons) which we do not recognise; 5, Brunfelsia calycina; 6, Maranta bicolor.

Communications Received.—Webb & Sons.—J. Guthrie.—W. Garton, Jun. (S. Hayter.)—T. W. Dollery.—G. S.—A. T.—R. M.—A. J. B.—B. W.—R. L.—E. W.—D. M.—David Wilson.

TRADE CATALOGUES RECEIVED.

T. METHVEN & SONS, 15, Princes Street, and Leith Walk, Edinburgh.—Bulb List.

WM. CUTBUSH & SON, Highgate, London, N.—Catalogue of Hyacinths, Tulips, &c.

LITTLE & BALLANTYNE, The Royal Seed and Nursery Establishment, Carlisle.—Bulb Catalogue.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

AUGUST.

5.—Atherstone Exhibition; Castleford Exhibition (2 days); Eynsford Exhibition; Cholmondeley; Beddington, Carshalton and Wallington.
6.—Abbey Park, Leicester, Flower Show (2 days).
8.—North Oxford Exhibition.
10.—Keighley Horticultural Society.
13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
15.—St. Andrews Horticultural Association.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.

"Gardening is the prest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S..

SATURDAY, AUGUST 10th, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.,** where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, August 13th.—Royal Horticultural Society's Committees.
WEDNESDAY, August 14th.—Clevedon Exhibition; Sevenoaks Exhibition.
THURSDAY, August 15th.—St. Andrew's (near Great Yarmouth) Horticultural Association.
FRIDAY, August 16th.—National Co-operative Festival at the Crystal Palace (2 days).
SATURDAY, August 17th.—Bankfoot (Perth) Horticultural Society.

ROSES THAT MIGHT BE IMPROVED.

CONSIDERING the great popularity of Roses at the present day, and the growing love for single and double varieties of all kinds that are suitable for garden decoration or cut flowers, apart from exhibition purposes, there are many that might be taken in hand and improved with the intention of getting new varieties, belonging to distinct types. There are gardens where the more rambling species could be grown in the form of unkept hedges that would be more ornamental, particularly when in bloom, than banks of shrubbery that are usually allowed to grow into a meaningless tangle simply because they are wanted to screen certain undesirable objects from view. They might even be planted on the top of earth banks or mounds, whether natural or artificial, and if the sunny side of these banks look down on walks, or are situated in the vicinity of the mansion or other frequented places, the prospect would be handsome and effective in their season. Roses are fond of the sun and must always be more or less directly exposed to its influence. That is why we advocate that they should be planted on southern exposures, for then the branches would all bend in that direction, and the wealth of Roses produced in June and July would be inconceivable except by those who had seen them. This does not apply to Roses that are pruned annually nor to those that are naturally of upright habit, but which produce long arching stems, giving a profusion of lateral branches bearing flowers the following year.

In other cases free flowering Roses of various habits might be planted in beds or clumps upon the grass, upon mounds or in hollows set apart for them so that they could develop their natural habit unrestrictedly. There are many ways of beautifying a garden with Roses and it only awaits the presiding genius of the place to turn the many kinds to use by producing effects peculiar to individual places as a result of the geological characteristics, the physical features or the surroundings of the same. Some magnificent Roses for adornment of this kind might yet be produced or evolved from species in cultivation, if the same energy and enthusiasm were devoted to their interests as are at present given to hybrid perpetual, Tea, Noisette and hybrid Tea Roses, more or less of formal and bushy habit.

Rosa sinica.—The original wild type of this climbing Rose, introduced from China in 1759, has single white flowers of handsome size, though in this latter respect it has been excelled by the beautiful variety known as R. sinica Anemone, the individual blossoms of which measure 4 in. or 5 in. in diameter. They are of a rich rose and singularly attractive in association with their own foliage. The leaves consist of three leaflets, of a leathery character and of a shining dark green colour. These features in association with their great size remind us of the leaves of a Portugal Laurel rather than a Rose. Nor are they in any way coarse. It may be remembered, however, that leaves on unpruned plants are never so large as those from plants that are annually subjected to a more or less severe trimming. The variety Anemone shows that the species is capable of being improved; and some well directed efforts might give us choice varieties of a climbing Rose, with blossoms of the largest size occurring in the genus. It is also an early Rose, as an Award of Merit was granted it by the Royal Horticultural Society on the 5th of June last year.

Rosa sericea.—The Rose season might be greatly extended by the use of species that naturally flower early. The Himalayan species, R. sericea, offers a good starting point for improvers in this respect. The flowers are naturally produced towards the end of May, and if grown against a wall the plant would bloom even earlier. The leaves are not unlike those of the Austrian Brier and the Scotch Rose, the leaflets being somewhat larger. Here we have a feature of great distinctness, associated with a great profusion of white flowers, followed in the autumn by yellow heps. A peculiarity of this species is that its blossoms are made up of four petals, a very unusual feature amongst Roses. It would be interesting to know what form of double Rose they would produce, if raisers could induce it to enter that stage of variation, either as a result of its own evolution as induced by cultivation, or by crossing with other species. In its present form, however, it is a charming Rose when in full bloom, anticipating as it were the coming of the Rose season in the open air.

The Small-leaved Rose (Rosa microphylla).—With respect to the fineness of the foliage this might very well be compared with R. sericea. That under notice is of sturdy habit and comes to us from China. The deliciously scented flowers are pale rose in colour, and of great size, so that as in the case of R. sinica, a large-flowered race might be produced either for furnishing pillars or as huge clumps by themselves in a suitable position. The prickly yellow fruits remind us of several of our native Roses, and while forbidding to handle have a wild beauty of their own that should not be ignored in garden decoration.

Rosa canina dumalis.—With the exception of the Scotch Rose, the Sweet Brier and the Ayrshire Roses, it does not seem to have occurred to Rose breeders to improve the native Roses. Exotics are imported from all parts of the world, and Rose growers seem to be proud of the feat of flowering them, even if the flowers are scanty and small. Many of them have flowers, scarcely if at all larger than those of the British R. micrantha, and inferior even to that, considering the freedom with which it blooms. There are, of course, Dog Roses and Dog Roses, so called, but some of them have flowers 1½ in. to 2 in. in diameter even in a wild state, and are produced in such profusion that they can hardly be surpassed as single Roses even by exotics, if we except such cluster Roses as R. multiflora and R. moschata. R. canina dumalis varies from a bright rose to white, the latter being the scarcer. R. canina lutetiana is usually of a pale rosy-pink, but the flowers are as large as those of the variety previously mentioned, and both being naturally inclined to vary in a wild state there can be little doubt they could be greatly improved by cultivation, intercrossing, and the selection of the best forms. A third one might be added, namely, R. c. dumetorum, which is also, as a rule, brightly coloured and of large form. Several others are scarcely inferior. The best plan for making a commencement would be to look for them while in bloom and mark the bushes that produce the largest and most highly-coloured flowers. They could then be budded upon roots of Brier Roses, raised from seeds or cuttings, preferably the latter, as they are less inclined to strike deeply into the soil. In a few years they would make vigorous bushes and flower profusely. In the meantime, they could be crossed with more highly-coloured single Roses with the view of intensifying their colours. A skilful hybridist should, in the course of a few years, produce something more worthy of garden space than half the single Roses in cultivation. The natural habit of the above is to produce huge arching bushes, which, if sufficiently isolated, would produce a mass of bloom, equally effective on all sides, and highly ornamental from all points of the compass. There seems no reason why we should not have a section of Dog Roses, by that or any other name, than of Scotch Roses or Sweet Briers.

Rosa stylosa.—There are several wild forms of this British Rose, including some white ones; but the more common form, R. s. systyla may easily be procured from any chalky district, and turned to useful account in the Rose garden, wild garden or shrubbery. The flowers are rather pale in colour, but of large size and produced in great profusion during the latter part of June and in July. It has the same arching, bushy habit as the Dog Roses above mentioned, but usually flowers with the greatest profusion when not much more than half the height.

Fruiting Roses.—Several Roses are highly ornamental whether in flower or fruit, and advantage might be taken of that fact to continue their decorative value after the flowers have fallen. Some of them ripen early and others late, so that they could be arranged in beds or masses in the order of ripening. One of the finest is the Romanes Rose (R. rugosa), whose fruits are bright red and about twice the size of the Siberian Crab Apple. It ripens in August. The fruits of R. pomifera and R. mollis are also of handsome size, the latter being British and ripening late in August and the beginning of September. The top-shaped or subglobular fruits of the latter weigh down the bushes in the Highland glens during September. The long fruits of the dwarf and bushy Alpine Rose (R. alpina) are bright red, curious, and ornamental. The bright scarlet and bristly fruits of R. micrantha are no means devoid of ornament. They ripen in October and would form a succession to those of the other species. It is a British Rose, closely allied to the Sweet Brier, and individuals amongst the wild specimens have distinctly scented foliage, the scent, more or less, closely resembling that of the Sweet Brier.

A Belt of Open Spaces.—Several writers in the daily papers are advocating a scheme for preserving a belt of open spaces round London. If carried out it would, as they suggest, be a most suitable national memorial to the Queen, and such a memorial would be a permanent blessing to the heart of the Empire, and on a scale worthy of the great reign it would commemorate. A similar scheme was advocated by Mr. J. C. Loudon, many years ago.

The Name of the Station.—First Holiday Traveller (as the train stopped): "What station is this?" Second Traveller: "Sutton's Seeds."

Examination in Horticulture.—The examination syllabus has been revised recently by the Council of the Royal Horticultural Society, acting on the advice of the examiners. Intending students should send a penny stamp for a copy of it.

Miss Ormerod's Book.—The volume on her personal reminiscences on which she was engaged a few months previous to her death, will be a uniquely interesting one, and arrangements have been made for completing it without delay.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, August 13th, in the Drill Hall, Buckingham Gate, Westminster, 1—5 p.m. A lecture on "Tender Plants for Outdoor Gardening" will be given by Mr. Wm. Townsend at 3 o'clock.

Horsham Horticultural Society's Show.—The 30th annual show of this old society is to be held at Springfield, Horsham, on August 22nd. The schedule which we have to hand shows that it is well up to date and all classes of exhibitors are well provided for, especially the amateur classes. Providing as it does for this class of people, it has given a great impetus to cottage gardening in the neighbourhood, and the good work of the society in thus promoting a higher standard of horticulture deserves every encouragement. There are 100 classes besides special prizes offered by the trade.

A Law Note.—There has been a large amount of interest created lately over the case of Mr. James Beisant, head gardener at Castle Huntly, versus the Caledonian Railway Company. The case arose out of the alleged damage of blooms of Chrysanthemums, 144 in number, which were entrusted to the above company last November, to be conveyed to Edinburgh, where they were to compete for the Edinburgh Cup. While the van was being shunted it was run into so violently by the shunting engine as to injure the van and upset the boxes of bloom so that they were rendered useless for exhibition. Mr. Beisant claimed £100, and after a long hearing in which much expert evidence was called, defendants had to pay £60 as damages.

Bank Holiday.—The weather prophet was out of it again on Bank Holiday, and, doubtless, for once he was congratulated on the failure of his prognostications, as he said it would be wet. It was an ideal day for a holiday, and thousands betook themselves to that favourite holiday resort, the great lung of London, Kew Gardens. It was a day to make one feel happy, ir was not too damp to indulge in a lounge on the green sward, and that fatiguing heat which has been troubling Londoners so much during the past few days was conspicuous by its absence. We have not yet heard the estimate as to how many passed into the gardens, but doubtless the statistic fiend, like the camera and death, was with us and marked all in their turn, irrespective of quality.

Founder's Day at Reading.—In previous years this has been celebeated in December, but after considering the many advantages of a summer celebration it has been changed to July. This was the fourth Founder's Day Celebration, but in other years there has been nothing more than this. This year saw the first Hostel show, held in conjunction with the Founder's Day festivities. Students are provided with a plot of ground on which to grow things for this show, and this year they were the subject of many complimentary remarks from the judges. Besides a good show of garden produce there was a good exhibit of honey, jam, bottled fruits, &c. A working dairy was open for inspection both days, and there were several demonstrations in the dairy art. There were many speeches, but all were commendably short and concise. The work of Lady Warwick's Hostel is known throughout the British Isles, and is highly spoken of in many countries on the Continent. It is a good work and we wish it success. Speaking to an old gardener on the subject of lady gardeners recently elicited the following bold reply—"Eh, lad! they may not mek gerdeners but gi' 'em a chaunce and if they dinna manage the job they'll make rare gerdeners' woives."

There is a photo of a Cattleya labiata in a recent number of *American Gardening* showing seven perfectly developed blooms on one spike.

Costly Odontoglossums.—The Chronique Orchidéenne says that at a recent sale of Orchids made at London, a plant of the hybrid Odontoglossum Rolfae, with two pseudobulbs, was sold for 210 guineas; and O crispum The Earl was bought for 160 guineas.

Royal Horticultural Society.—At a general meeting of the Royal Horticultural Society held on Tuesday, July 30th, forty-one new Fellows were elected (making 688 since the beginning of the present year), amongst them being:—Lady Cranworth, Lady Pollock, the Hon. Mrs. Gretton, the Right Hon. R. W. Hanbury, M.P., the Hon. N. Charles Rothschild, and Clement Godson, Esq., M.D.

Inspecting Orchards.—There is an outcry in the Australian Press against the apathetic way in which the Department of Agriculture are carrying out the inspection of Orchards in Victoria. According to the accounts to hand the parks, cemeteries, and large private gardens are swarming with scale insects, and the dreaded San Jose scale has put in an appearance in many places. Surely the terrible effects of letting such matters exist without some organised attempt to prevent their increase was sufficiently pointed out in the Californian fruit districts some years ago, or are all our Government bodies obsolete?

Cannell's Championship Belt for the Best Fruit, Flowers and Vegetables, the latter grown from Cannell's own home-grown seeds, and exhibited by the various gardening societies in Kent, was sharply contested for at the Eynsford Show held last Bank Holiday. All the productions were of the greatest excellence, and although the Eynsford Society was awarded first prize, Chislehurst second, and St. Mary Cray and Orpington third, the difference between them was trifling. The judges pronounced the exhibits the best that this now popular county prize has ever brought forth, and the keen rivalry caused a great deal of excitement during the day.

Cutting off Seed Pods.—One of the greatest mistakes a gardener makes when growing plants for the beauty of their flowers alone is to allow those plants to seed. It is not the object of plants to produce flowers for appearance, but they throw all their energy into the mission they have to fulfil, and that is to provide for the future generation by producing seeds for the reproduction of their species. This is the one aim of a plant, and if the young seeds are taken off it will make another endeavour to fulfil its mission, and will do so until it becomes exhausted. By checking the production of seeds on annuals, their blooming period is greatly extended, and they are bright throughout the season, instead of giving one batch of bloom and then ripening off.

Flowers and Fruits.—Mr. R. Lloyd Praeger, B.A., has a most interesting article on this subject in the current number of *Knowledge*. He brings forward numerous examples of unique methods which plants adopt in attracting insects for fertilising purposes. As one of the examples he mentions the Umbelliferae, where the flowers are small and inconspicuous, but nature has made them more conspicuous, crowding them together in simple or compound umbels, which from a very short distance look like one huge bloom. In plants which have large and highly coloured flowers this is not necessary, and they are borne on solitary stems as a rule. Another striking instance which he points out as an example is that afforded by the uncultivated Snowball, Viburnum Opulus, whose flowers when perfect are small and inconspicuous, but to make them more attractive the sexual organs are aborted in the outer rows of flowers in the head of bloom, and instead of having small corollas they have large and showy ones, thus sacrificing some of the flowers to make a bold advertisement to attract insects to their smaller companion flowers. He writes in an interesting manner on seed dispersal, and illustrates his article with numerous examples of the various methods and agencies employed, amongst which wind seems the predominant agent.

Crystal Palace Fruit Show.—The Royal Horticultural Society's eighth annual show of British grown fruit will be held at the Crystal Palace on October 10th, 11th, and 12th. The prize schedule is now ready, and contains, in addition to the list of prizes, an authoritative list of dessert and cooking Apples, Pears, and Plums. Copies can be obtained on application to the secretary, Royal Horticultural Society, 117, Victoria Street, Westminster. Applicants should enclose a stamp.

Edinburgh Spring Show.—We have just received an advance prize schedule of the Royal Caledonian Horticultural Society for the spring show, and call attention to a very interesting competition for young gardeners, which is to be one of the features. It is quite a new scheme, and we are sure that when well known it will prove a very popular one. It is only for young gardeners, and taps a class of work to which little study is given at present—the laying out of grounds. The competition is for the best plan drawn to scale (40 ft. to 1 in.) for laying out a piece of ground about twenty acres in extent, arranging for kitchen garden, flower garden, and pleasure grounds. We will report further particulars when the chief schedule is prepared.

Edgbaston Botanical Gardens.—These pretty gardens, which are not patronised nearly so much as they deserve, were enlivened on July 31st by the attraction afforded by the Carnation Show. The blooms were very fine, as were also the non-competitive exhibits. Mr. J. H. White, Worcester, made a bright show with a stand of cut flowers. Mr. Davis, Yeovil, brought some fine Begonias; Mr. Amos Perry, Winchmore Hill, London, made an interesting exhibit with Water Lilies; Messrs. Jones & Sons, Shrewsbury, staged a collection of Cactus Dahlias; and Mr. Robert Sydenham, Tenby Street, Birmingham, showed Sweet Peas. It was not a large floral show, but a select gathering, and proved a most enjoyable event.

Tritonias at Kew.—Visitors to this museum of living floral specimens should not fail to note the magnificent bed of these now in bloom near the Palm house. If they visit that part of the garden they are bound to be attracted by the bright glow of orange colour which they are now making. They are growing in the kind of soil which is well suited to their requirements—a light, deep, and rich loam. Of course this is not the natural soil of Kew Gardens, as that is almost pure sand in places. They are in a sunny position, too, and that suits them, as the more sun they get the better will they bloom, and the brighter will the colours be. They should have plenty of drainage, so that they can have a good supply of fresh water when growing.

An Orchid which Drinks.—The *Westminster Gazette* recently had a remarkable article in its columns on the above subject. It would be ungracious to doubt the authority of the article, but we should be pleased to ascertain the name of the genus to which this peculiar plant belongs, also whether the discoverer thought of bringing away a specimen of it, for we are sure that if all that is said about it is true, it will cause a sensation. We have the name of the discoverer, and perhaps it is his address which makes one a bit wary of swallowing the article in its present form, as he hails from the land of large ideas—the neighbourhood of Philadelphia. Here are his own words, we will not attempt to judge for you, as we might "Put our foot in it." "I noted one different from the rest, the leaves, sharp, lancehead shaped, growing all around the root and radiating from it. From the centre or axis of the plant hung a long, slender stem about one-eighth of an inch thick by one-fourth inch wide, the lower end of which was in the water to a depth of about four inches. By subsequent observation I found that when the plant was in want of water, this tube would gradually unwind till it dipped into the water. Then it would slowly coil round and wind up, carrying with it the amount of water that that part of the tube which had been immersed contained, until when the final coil was taken the water was dumped, as it were, direct into the roots of the plant. The coil remained in this position until the plant required more water. Should the plant, however, be touched while the tube is extended the Orchid acts like the sensitive plant (Mimosa) and the coiling is more rapid.

Pollen Showers.—Plants that rely on the agency of the wind for fertilisation produce an enormous amount of pollen. Nowhere is this more noticeable than in the Pine Forest. These trees rely on the agency of the wind to carry their pollen from one to another,and when the cones shed their bloom, which is always on a dry windy day, it is carried through the air in such quantities as to resemble a sulphur shower.

Death of Mrs. Bishop, of Paget, Bermuda.—News has just reached us of the death, under painful circumstances, of the wife of Mr. G. A. Bishop. She was leaving the room to attend to her baby when she staggered and would have fallen but for the support of her husband. Medical assistance was summoned immediately, but death was instantaneous. The deceased lady was the daughter of Robert Revell, Esq., of Norwich, Norfolk. She was only forty-one years of age, and leaves two children, both girls, one about ten and the other an infant. Mr. Bishop has our sincerest sympathy in his sad and unexpected bereavement, and we are sure he will have the sympathy of Bermuda people, where he is so well known.

CURRENT NOTES AND NOTIONS.

THOMSON, in his beautiful poem on "The Seasons," beautifully describes the coming of August, which he says is—

"Crowned with the sickle and the wheaten sheaf."
"While autumn, nodding o'er the yellow plain,
Comes jovial on."

The first day of August was one of the four great pagan festivals supposed to be a day of thanksgiving to the gods for the incoming of the harvest. The Jews from the earliest period of their history kept a feast at the beginning of the harvest, and also offered their first fruits, and the custom seems to have prevailed universally. The young beauty of spring is now lost in the ripeness of autumn. The fruit trees are now weighed down with fruit of the richest hue, and delight the eyes of both old and young, while on many ponds whose waters have not yet been polluted by poisonous dye stuffs, the beautiful Water Lily floats through the day; at night time folding her white petals and sinking to sleep beneath the water till the sun rises, and wakes her into life and beauty again. The gardener is still very busy, in fact he is never done, but is always on the move, studying and thinking what he will do the next season, and try to eclipse the present one.

"Therefore, though few praise or help or heed us,
Let us work with head, or heart, or hand;
For we know the future ages need us.
We must help our time to take its stand."

—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

TOMATOS IN WINTER.

To have Tomatos at Christmas the gardener must begin now (August), the earlier in the month the better. The best Tomato that I know of for winter work is Sutton's Earliest of All, which should be sown very thinly in pots or shallow pans, and kept in a cold frame near the glass; the cooler they can be kept the better. The secret of success is to obtain a good set of fruit in October. No forcing is necessary till November, and then only sufficient heat to develop the fruit. I prefer pots (8 in.) to planting them out in prepared borders, the growth being more compact and they set much better. For potting I use turfy loam with some bonemeal rammed hard into the pots. Smooth Tomatos, such as Sutton's Perfection, do not set so well, the ribbed kinds, such as Sutton's Earliest of All, being much better and set freely. The flavour of the ribbed kinds is quite equal to that of the smooth. Sutton's Earliest of All is equally good for early spring work; seed sown in January and well attended to will give ripe fruit in April.—*F. Ross, Strathtyrum Gardens, St. Andrew's, N.B.*

CUCUMBERS.

No time should be lost in sowing the seed which will supply the winter fruit. Sow the seeds singly in 3-in. pots, filling them to half their depth, using equal parts loam and mushroom dung, plunge them in bottom heat of 80°, and as soon as they appear remove them to a light position. When the plants require it top dress them, and when the pots get filled with roots, plant them in their winter quarters, so that no check to growth is caused. Make up a hotbed of leaves and short manure, making the bed firm as the work proceeds. Let a layer of turves be placed over this, and at intervals of 3 ft. place a few large crocks and make hillocks 9 in. high of two parts turfy loam, one part Mushroom dung, with a little old mortar rubble to keep it porous. When the soil is warmed throughout, plant one to each hillock, and water them; never using the water below 70°. Keep the house close for a few days after planting, then afford air, gradually increasing its volume as the plants get established. Add fresh soil to the hillocks as the roots show on the surface, and remove all male flowers as they appear. The plants should not be allowed to fruit until well established. Cardiff Castle and Telegraph are two of the best for winter work.—*Walter Hopkins, Leighton, Westbury, Wilts.*

CYCLAMEN PERSICUM.

To obtain an early start with this most popular plant seed should be sown this month. Prepare shallow pans by well draining and filling with loam, leaf soil, and a liberal quantity of sand. Place the seeds into the soil a quarter of an inch deep and 1 in. apart. Water them and place them in a warm house, or on a little bottom heat and shade from the sun. The seed will sometimes germinate very irregularly. When the seedlings appear keep them close to the glass in a greenhouse temperature. In about three months from time of sowing they should be large enough to handle, and should be pricked off into other pans, using similar soil, but not quite so fine. They will winter best in an intermediate house close to the glass. In February pot them singly into small pots, keeping the crown of the tuber level with the top of the soil. From these pots they can be shifted into the flowering pots, or have yet another shift into 4-in. pots first. By the end of May a cold frame will suit them best. For the final potting get good fibrous loam broken up roughly, good leaf soil, a little bone meal, and enough sand to keep the whole porous. Pot them firmly (only half burying the tubers), and water carefully. When well rooted give manure water occasionally. Shade from bright sun and give air freely, removing the lights at night.—*E. Brown, The Gardens, Nostell Priory, Wakefield, Yorks.*

WIREWORMS.

WIREWORMS are larvae of certain species of beetles, some of which are called click beetles owing to their possessing the ability to make a clicking noise when put upon their backs. Whenever a wireworm is discerned among any soil it should be instantly destroyed, for its existence will mean increase. They gnaw at the roots just below the surface of the soil, and are particularly fond of Carnation roots. The worms seldom reach a length of 1 in.; their body is semicircular, hard and wiry and composed of segments separated by joints. The body is of a dirty yellow colour, the head is somewhat flattened, darker than the body, and possesses two inwardly curved moving horns whereby all the damage is done. The three rings nearest the head each have a pair of short legs. It has been found that Mustard is their enemy, therefore grounds largely infested should be sown with this plant which will be the means of starving them out. Traps can be set by placing slices of Turnip, Potato or Mangold on pieces of wire and inserting the bait about 2 in. under ground. Then this can be pulled up every morning and the ravenous insects caught. This month the larvae change into a state of pupa, after having descended to a great depth and formed an earthen cocoon or egg-shaped case. After remaining a considerable time in the pupa state the beetles emerge and can be caught when seen.—*G. W. D.*

CURE FOR CABBAGE MAGGOT.

GARDENERS have to try all plans to keep up a good supply of everything, whether the season is in their favour or not, as the bigger majority of our superiors never look to the difficulties we sometimes have to contend with. As everyone knows, this destructive pest (Anthomyla Brassicae) has made its appearance in almost every garden this summer on our Cabbage breaks, etc., destroying in some cases almost every plant. If the maggots appear in the seed beds a dressing of lime or muriate of potash should be given to the soil, or enough of the "kerosene emulsion" to wet the ground 1 in. deep. If the plants in the breaks are attacked a hole should be made near each plant with a sharp stick about 1 in. in diameter, and as deep as the roots of the plant, and filled with the emulsion. If this does not moisten the soil on all sides of the plant a similar hole on the opposite side should be filled. The emulsion should be made of half-a-pound hard soap, one gallon water, and one gallon of kerosene oil, diluted with nine times its bulk of cold water before using. When in experienced hands the work of putting it on is simple, quick and very effective, destroying the maggots, and disturbing the plant not in the least, nor injuring growth.—*T. S. Dick, Castlemilk, Lockerbie, N.B.*

HYPERICUMS.

THESE are now in bloom, and their bright yellow flowers are very conspicuous against the light green foliage. There are many species, some herbaceous and others shrubby; others are dwarf-growing undershrubs, some of which are useful for the rockery or for planting beneath trees. H. calycinum is the most useful, as it will succeed beneath trees or at the base of a wall where scarcely any other plants will grow, and where grass always looks shabby. It can, however, scarcely be expected to live beneath Conifers or similar trees where it would be very heavily shaded. Its flowers are a bright yellow colour and about 2 in. in breadth; it grows about 1 ft. high and spreads rapidly by its creeping roots, by which it can easily be propagated. It is commonly known as the "Rose of Sharon." H. oblongifolium forms a handsome shrub about 3 ft. high, with numerous flowers scarcely less than those of H. calycinum. H. hircinum is said to smell like goats, from which peculiarity it gets its name. Its flowers are smaller than those of H. oblongifolium, but in greater numbers. Both are suitable for a position at the top of a rockery. They can be propagated either by seeds or by cuttings, which latter is the best method. These should be taken when sufficiently ripened, placed in frames and planted out in the spring.—*F. W. M.*

FLOWER GARDENS.

THE appearance of flower gardens has greatly changed within the past few years. About ten or twelve years ago carpet bedding in Scotland at least was a kind of craze, but that style of bedding out—or we may call it "art"—is fast disappearing. My opinion is, the fashion while it lasted forced us to push aside many useful plants with the perfection of beauty stamped on them, to make room for dwarf weedy rubbish, suitable perhaps for some small gardens where neatness is a principal point; but it could never be compared with present day bedding out. A few moderately sized beds filled with white or crimson Begonias for instance towards the end of July is a sight that the eye never tires resting on. They have almost given the death blow to the scarlet Geraniums and yellow Calceolarias, although the variegated and bronze Geraniums are still very useful for variety and for giving the Begonias a better effect. The scented Geraniums also serve that purpose well. A good permanent bed that I can recommend is Hydrangea paniculata planted 18 in. apart, doing the groundwork with blue, or purple Violas; the Hydrangea only requires to be pruned down early in April like hybrid Roses, and every shoot will bear its panicle of bloom in August, and keep in good form until well on in October. It certainly does best where the soil is not too wet or clayey.—*John C. Dick, Champfleurie, Linlithgow.*

CYCLAMEN.

THIS beautiful genus belongs to the natural order Primulaceae. The plants are of great beauty, and their compact habit, and the long foot stalks on which the flowers are borne, make them useful for winter and also spring decoration, either for pot or cut work. The best time to sow the seed is about the end of August. Seed pans should therefore be got ready and filled with a compost of good loam, leaf mould and silver sand. Dibble the seeds about an inch apart and about a quarter of an inch deep.

Some growers cover over the surface with a thin layer of cocoanut fibre, which prevents rapid evaporation and keeps the surface free from moss. Place the pans on a shelf in the greenhouse close to the glass, shading them from the sun. They germinate more quickly, however, in a mild bottom heat. By November they will be large enough to handle, when they should be pricked off, using the same compost as previously mentioned, and placing nine or a dozen plants in a 48-sized pot. When large enough pot them singly into thumbs, but do not pot too deeply. Pot the plants as they require it finishing with those of 48-size, which is generally large enough for them to flower in. This should be done about July. Grow the seedlings on to the flowering stage without a check. Avoid draughts, maintain an even temperature, shade in the summer and keep free from insects.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

ARCTOTIS GRANDIS.

CROCUSES GROWING AMONGST THE GRASS.

IT is a glorious sight to see large masses of these in bloom on a sunny day in spring, and the more so if they are allowed to extend in an informal way. Some growers mix the colours altogether, but this I do not appreciate, in this way the one colour often kills the other for distant effect.

This year, when in bloom, in our pleasure grounds, I had an object lesson of the advantage of having them in one colour, in each mass, in a portion of our grounds where the grass is allowed to grow in a somewhat natural way, being only mown twice in the year, under some large Oak trees which are somewhat thin in herbage from age. Under this close up to the foot of the trunk one mass was all ablaze with colour of the large giant yellow; another with striped blue, and so on in other positions having been planted in a natural way. In some bunches there were scores of bloom and as they were practically supported by the long grass the wind and rain did not beat them down in the the way it does when on beds, or where the grass is very short. When growing on the grass they do not get splashed by the dirt which spoils them.

A good combination is Yellow Crocuses and Snowdrops as they are in bloom at the same time. It is astonishing how much colour and enjoyment may be had in a garden at a little cost, and what is more refreshing to the sight and mind after the dull winter than to see these and many other bulbs a mass of bloom on the grass. It may not be restricted to the dressed ground, for more pleasure is obtained by massing them about the grounds, so that you come on them unexpectedly. This type of gardening has many charms, and costs but little. In our grounds these have been going on for upwards of twenty years since first planted.—*J. C., Chard.*

ORCHID NOTES AND GLEANINGS.

BY THE EDITOR.

Freak of Cattleya gigas.—The behaviour of Orchids under various conditions and circumstances is notorious. We frequently get specimens of a most curious order, some of them so much reduced and deformed in their floral organs as to be practically worthless. On the other hand, there may be a multiplication or an amplification of parts so that for mere decorative purposes they cannot be regarded as inferior to the normal form. In this latter category comes a specimen sent us by Mr. David Wilson, Tollcross Park, Glasgow, one of the foremen under the superintendent, Mr. James Whitton. It is a specimen of Cattleya gigas, in which the lower flower on a spike of three has behaved in a very curious way. The stalk has become amalgamated with the main floral axis, almost to the base of the ovary. The dorsal sepal has a half petal on one side of it; yet the petals themselves are normal. The two lateral sepals, on the contrary, have simulated both petals and lip. On their outer border they have developed a half petal, while the inner or contiguous edges have developed a half lip each. It is not a case of one lip split up. The lip proper is normal. The two half lips on the lateral sepals being on the inner edges of the latter it follows that they are halves belonging to two different lips, so that the flower has three half sepals and two half lips extra. It might be argued that two flowers were amalgamated in one, but externally there is nothing to show it.

ARCTOTIS GRANDIS.

OF the best of these South African Composites which have been introduced to cultivation that which most nearly approaches A. grandis in the colour of its flowers is A. arborescens; but the tall woody habit of the latter will serve to distinguish it from the plant under notice, which is an annual. By sowing it in the autumn it might practically be considered a biennial; but if sown in February or March it may be flowered the same year in the open ground. The best method of treatment to give it is that generally given to half hardy annuals, namely, to sow the seed in heat, and prick off the seedlings, planting them in the open ground about the end of May after thoroughly hardening them off. So treated, a fine bunch of flowers was exhibited by Mr. Arthur W. Wade, Riverside Nursery, North Station Road, Colchester, at the Lily Conference held at Chiswick on the 16th ult.

The rays are white, with a pale lilac reverse, and slightly tinted with yellow at the base. The disc is violet, and that alone would distinguish it from A. arborescens, an old inhabitant of the greenhouse. The plant under notice grows about 1 ft. high, and has runcinate pinnatifid leaves, that is, deeply divided and lobed in an irregular manner, and thinly woolly on both sides. The seeds were procured from South West Africa, and like all other Composites from that sunny clime it delights in sunshine, and would therefore prove a useful subject in droughty and warm summers in this country. It would serve for beds or borders, or for cut flower purposes.

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned hereunder were made by the Royal Horticultural Society on the 30th ult.

Orchid Committee.

CYPRIPEDIUM MRS. REHDER OAKWOOD VAR.—The parentage of this variety was C. Argus × rothschildianum, and the progeny has the large flowers of the latter, with the colour recalling the former to a considerable extent. The petals are long, decurved, pale yellowish, and beautifully marked with black spots. The dorsal sepal is enriched with maroon spots and markings following the course of the principal veins. The pale lip is brownish in front. (Award of Merit.) Norman C. Cookson, Esq. (gardener, Mr. W. Murray), Oakwood, Wylam-on-Tyne.

CYPRIPEDIUM MAUDIAE MAGNIFICUM.—The general features of this hybrid may be grasped from the fact that the parents were C. callosum Sanderae × lawrenceanum hyeanum. The broadly ovate dorsal sepal is of a beautiful shade of green, passing into white at the apex. The petals have a similar arrangement of colours, making a handsome flower of the popular greenish type. (First-class Certificate.) Capt. G. W. Law-Schofield (gardener, Mr. Shill), New-Hall-Hey, Rawtenstall.

Floral Committee.

MONTBRETIA GERMANIA.—The flowers of this variet, are large, well expanded, and of a rich orange colour the back of the three outer segments being intensified to orange crimson. It is therefore one of the handsomest of the hybrid varieties in cultivation; and the only one we can compare it to is Imperialis; but we are assured it is a freer flowering plant and more easily grown than Imperialis. (Award of Merit.) J. T. Bennett Poe, Esq. (gardener, Mr. Downes), Holmewood, Cheshunt, and Messrs. Paul & Son, Cheshunt.

GYPSOPHILA PANICULATA FLORE PLENO.—For some years past the single form of this has enjoyed great

popularity as auxiliary to other flowers in floral decorations of many kinds. The individual flowers are small. Those of the variety under notice are perfectly double, so that the flowers represent little balls, whiter than the original and rather more bulky. It remains to be seen whether this will be much employed in decorative work; but for garden decoration, and for drying (if it will dry) to mix with everlastings in winter, it should enjoy a considerable run of popularity. (Award of Merit.) Messrs. D. S. Thomson & Sons, Wimbledon, Surrey.

POLYANTHA ROSE EUGENIE LAMESCHE.—The flowers of this new Polyantha Rose are small individually, but freely produced in bunches. While in the bud state they are heavily overlaid or tinted with crimson. The inner petals before expansion are of a deep apricot, and when fully expanded are of a pale, soft yellow. It will prove suitable to plant with other varieties for the sake of contrast it affords. (Award of Merit.) Messrs. Paul & Son.

SUTTON'S SPOTTED GLOXINIAS.—A very large collection of Gloxinias, raised from seed sown last February, was exhibited by Messrs. Sutton & Sons, Reading. Amongst them was a group of Sutton's Spotted Gloxinias of the crassifolia type, characterised by flowers of great size, with an endless variety of markings, large and small spots of various colours on a white ground, and in some cases with hieroglyphical markings like Chinese characters, or something similarly indescribable. Others, again, had a few large blotches upon them of a shape we have never previously noticed in this variable class of flowers.

CARNATION CHARLES MARTEL.—In this we have a yellow ground fancy Carnation of a very pronounced character. The lower half of the petal is creamy yellow, while the upper or apical half is richly variegated with branching yellow lines on a red ground. (Award of Merit.) Mr. C. Turner, Royal Nurseries, Slough.

YELLOW GROUND PICOTEE WASP.—The ground colour of this variety is lemon-yellow with a rose edge. The outer petals have an occasional rose streak running down them, otherwise the neatness of the edging has been carried to great perfection. (Award of Merit.) Mr. C. Turner.

YELLOW GROUND PICOTEE LADY BRISTOL.—The yellow ground of this pretty variety is edged and slightly streaked or flaked with rose, the bloom being of large size. (Award of Merit.) Mr. C. Turner.

FANCY CARNATION HEROINE.—The creamy-white ground of this variety is flaked in a variety of ways with purple and rose, and likewise edged with the same colours. (Award of Merit.) Mr. Charles Turner.

Fruit and Vegetable Committee.

GOOSEBERRY COBHAM.—The fruits of this variety are large, yellow, nearly smooth, and of pleasing flavour. (Award of Merit.) Mr. T. Cuckney, Cobham Hall Gardens, Gravesend.

AIRTIGHT BOTTLES FOR PRESERVING FRUITS.—An Award of Merit was accorded to Messrs. G. V. de Luca & Co., 6 and 7, Long Lane, Aldersgate Street, London, E.C. The special plan of construction is a stopper that when screwed down after the fruit is boiled in the jars will keep the contents air-tight and sound. To open the bottles a hole should first be made in the specially constructed lid or stopper.

Hardy Fruit Garden.

FRUIT gathering is the chief work in this department during the next two months. To gather fruit does not seem to require a large amount of knowledge, but it takes an expert fruit grower to know when is the proper time to gather the various crops, especially those which are to be stored in the fruit room. Each variety must be watched and gathered at precisely the right period, even to within a couple of days, for take many Apples, for instance, if they are gathered a few days too soon they become insipid, and if they are a few days too late they will not keep. It takes a keen eye to detect this exact period, and then when it is detected it wants a determined mind to see that they are gathered at once.

Gathering Apples.—It is a great mistake to gather Apples while they are hot from the effects of the sun, as they often turn sour in consequence of such treatment.

Gathering Peaches and Apricots.—These may be gathered at any time of the day, but they should be perfectly dry at the time. A cool room is necessary if Peaches are to be kept for any time, but they are never more luscious than when taken straight from the tree and put into the refrigerator for an hour and then eaten. Warm Peaches are too sickly for most tastes, but there are few who would not like a dish of cold ones to eat during the heat of the day. Apricots are better if allowed to lay for a few days before eaten. Like their companions the Peaches, they are greatly improved by being placed in a cold chamber for a few hours.

Earwigs.—Do not neglect to take precautions against these fruit destroyers, or they will soon spoil a whole wall of fruit. There seems no more effective a remedy than the old fashioned one of placing Bean stalks at frequent intervals along the walls and blowing through them every morning.

Watering.—Trees which are swelling their fruits must not lack moisture at their roots or they will either ripen them prematurely or shed them altogether. It is worse than none at all to only give them driblets; a thorough soaking will do for a week or two if the ground is mulched or kept stirred with a Dutch hoe.

Nailing.—Shoots which are required for furnishing should be kept well in, except those which are near the base of the tree and likely to be of a weak nature; these should be allowed more liberty and encouraged to make all the growth possible.

Pruning.—Those shoots which were shortened back early in the season will in many instances have made fresh growth; these should be again shortened to two leaves.

Morello Cherries are making a good show this season and should be protected from their arch-enemies, the birds, whenever possible.

Raspberries.—Thin out the suckers, and select those for next season's canes. As soon as the fruit has been gathered, the old canes should be carefully removed, so that the young ones can obtain the maximum amount of light and air.—*F. J.*

THE PLANT HOUSES.

ALTHOUGH many districts have been treated to a deluge of rain the atmosphere is still very dry and licks up the moisture in the houses much quicker than what the gardener is pleased to see it, and now, with his busiest season close at hand, he does not want to have the can in his hand for the greater part of the day. Damping down must be done, and frequently, too, if the plants are to be kept in good health.

Chrysanthemums.—These are not at present glass-house plants, but they are under the care of the men of that department, and doubtless these men wish they were not, for they are a lot of trouble at this time of the year, and many a young gardener has been brought to hate the sight of this beautiful autumn flower through the restrictions their attention has put on his recreation. It may look like versing socialistic views, but what a comparison may be drawn at the present time between the gardener and his noble master! and strange to say, the more noble, the worse the conditions seem to be. The young struggling gardener starts his day's toil at 6 a.m. and stops for tea at 6 p.m. Surely this ought to be sufficient for one day in weather like this, but no! he is expected to take an interest in his charge, and at 6.30 p.m. he may be found bast and knife in hand tying up his 'Mums. This and disbudding is a very important work just at present, and it must not be neglected if the blooms are to be of a good quality. The young journeyman does his fifteen hours per day, with often fourteen days to the week, for the average sum of 2s. 6d. per day, and a bothy or shed to live in, while his master indulges in making speeches in Parliament to suit various newspapers, and his mistress gives costly garden parties. The 'Mums must have attention, and if this attention must be given at night then it ought to be paid for, or, as matters stand at the present day, when young men can so easily find other employment the high class intelligent gardener will become a being of the past. Much need not be said about 'Mum culture, as every professional gardener takes such an interest in them that they know their requirements off by heart. There is one thing though that I might remind the man in charge of, and that is to keep a sharp look out for rust, and if a plant should be found with the least signs of it it should be isolated immediately. If it is not searched for at frequent intervals it often gets well hold of the plants before it is detected. Where the plants are in a crowded condition they are most liable to be attacked.

Mignonette.—This makes a very valuable plant for winter work, and a batch should now be sown in good soil in 48's and 6-in. pots. When the young plants get a fair size they should be thinned out to about five in a pot. The best place for them is either on a cool house shelf or in a frame, but wherever they are they must always be kept within a few inches of the glass, and if the air is very dry they will be better if they are syringed every day when the weather is bright.

Cinerarias.—The earliest batch of plants should now be ready for potting into their flowering pots. After this has been done they will be best placed in cool frames with protection from the sun. Take care to give the bottom of the frame a good dusting with soot and lime before they are put into it, or slugs, which are very partial to the young growths of Cinerarias, may cause trouble.

Cyclamen.—These should now be potted on into their flowering pots, at least the earliest of them. Keep them close for a few days after they have been potted and spray them at intervals. In many gardens a tiny insect like a white, half-grown thrip, is causing much trouble this season. Prevention is always better than cure, and it is a good plan for all those who have a batch of plants to dip them in an insecticide occasionally. It is not a difficult, neither is it an expensive operation, and it may save a large amount of sponging, which seems the only way of ridding the plants of it when once it attracts them, and when once Cyclamen have to be sponged they are bound to lose much of their beauty, as they are such brittle subjects to deal with. It is a great mistake to coddle Cyclamen, and they ought to have plenty of air left on through the night. When they are syringed in the afternoons the ventilation may be lessened for an hour or two, but it should always be put on again at night until the nights are too cold.

Pelargoniums.—Those plants which were cut down some time ago will now be breaking again. As they do so, they should be shaken out carefully and potted into the smallest pots possible. If the soil is moist, they will not require water for some time, but should be sprayed frequently and kept close until they start to grow again.

Roses.—Many growers consider this a good season to strike tender Roses. An ideal place for them is under bell glasses in the vinery.

Auriculas should be potted now and placed in a cool frame. They are best kept close for a few days after potting, but air must be given freely as soon as their roots get hold of the new soil.

Camellias.—These are now swelling up their buds nicely and must be carefully attended to with water and an occasional weak stimulant. Never let them get dry or the result will be that they will drop their buds later on in the year.

Cinerarias.—A batch should be sown this month for summer flowering.

The Plant Stove.—Growth is well advanced in this department now, and a more liberal supply of air should be given to ripen the growths so that they are able to stand the changes of the winter season better.

Spring-flowering Stove Plants.—Those which require repotting should have it without delay. If they are left until later, they do not have time to recover and fill their pots with roots before the winter sets in. Those which have made sufficient growth should be checked by withholding manure and lessening the water supply, but not so much as to cause them injury.

Succulents.—A sharp eye must be kept on the weather at this season, for we may now expect heavy showers, and as these are not conducive towards the best of health in this family, it is time they were put back under glass, or otherwise have some lights at hand that can be utilised to protect them when danger in the form of a deluge threatens them.

Pinks.—Cuttings of Pinks should now be struck in bottom heat and potted on for pot work. Of course, only the more choice varieties are worthy of this trouble, as the Carnation makes such a formidable rival.—*C.*

Hints for Amateurs.

August is a busy month with gardeners, as it is at this time that they are beginning to prepare for the next year's display and also to look after plants for the dull winter months.

Seed Saving.—Where there is a mixed variety of plants of the same species from which it is desired to save seed they should be gone over before they pass out of bloom and the best varieties marked; by doing this the multiplication of inferior ones is avoided. A few pods should now be allowed to remain on each of the plants from which seed is required; if they are left till later in the season they will not ripen so well. Tomato seed is easily saved from home grown fruit. As the fruits ripen a few of the best should be selected and a piece of tape or bast tied to the stalk as a mark to prevent them from being gathered by mistake. When the fruits are thoroughly ripe they should be squeezed into a piece of canvas or into a very fine seive and washed with milk-warm water until the whole of the pulp has gone and the seeds are left clean. Do not dry them artificially, but leave them for a few hours in the air. When they are quite dry they may be packed in bags and kept in a dry place until the time for sowing comes round again. Always bear in mind that, when seeds are put away in bags, unless they are perfectly dry and are kept dry until time to sow them they will very soon spoil. It is a good plan to expose the seeds to the sun and air on newspapers for several hours a day for a week when they are first gathered.

Cuttings.—I will not attempt to enumerate the legion of plants which should now be struck if young plants are required; it would fill a book, as August is a month of cuttings. Almost all herbaceous border plants may be struck with ease now with a little careful treatment. The majority of plants, especially the hardy herbaceous plants, strike best from sturdy half-ripened cuttings. For hardy plants a sheltered cool border will generally answer the purpose, but of course a cool shady frame is generally better.

Zonal Pelargoniums.—It is during this month that the myriads of these showy bedding plants are struck. They differ from most other plants in the method of striking. The majority of plants strike best in a close frame, or at least in a shady moist place. Either of these conditions would almost surely mean failure with Pelargoniums, as they would rot. The shoots which are chosen for cuttings should always be as hard as possible, as when free from an abundance of sap they are not so likely to damp off. The general method of striking them, in establishments where thousands are used annually, is to place them five in a small pot, close round the sides, and after giving them a good watering they are stood on a sunny walk. Given all the sun possible they very soon take root. If the autumn is a wet one they are protected from the excess of moisture by lights. Most people know how to make ordinary cuttings, but few outside the professional sphere and the most skilful of amateurs know how to put one in. The common mistake is what is known in the trade as hanging the cutting! A hole is made and the cutting put in, and the soil pressed round it, and the shoot is expected to grow. The mistake is made in not making sure that the base of the cutting rests on the bottom of the hole; too often it does not do so by a quarter of an inch or even more than that. When the base of the cutting is thus hanging in space it cannot be expected to put out roots from that portion, and in the great majority of plants it is from the base of the cutting that the first roots proceed. If amateurs will only take notice of this little hint when striking their cuttings this year they will be pleased that they did so, as they will find that a much larger majority will root.

Plants in Bloom.—Do not neglect to keep the old flowers picked off as soon as they fade, and in those flowers where one is likely to crowd the other it is advisable to resort to disbudding. Disbudding I know is distasteful to most amateurs, but surely one good bloom is far better than two inferior ones. Dahlias often require this treatment to get perfect blooms. When the plants are to be disbudded it should always be done as early as possible so as not to waste the energy of the plants on useless growth. —*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Galax aphylla.—*S. Spires:* Mr. Spires says that he has heard several recommend this plant for the rockery, and he has written to ask us what kind of a plant it is. The question might be answered in one word—excellent. It is a dwarf plant, but very showy at all times, as the leaves differ in colour at their various ages and are always beautifully veined, the colour being best developed in autumn. The young leaves are pale green, tinged with yellow; the older ones are nearly red and round. Their prettily serrated margins are scarlet, giving them a very ornamental appearance. The flowers are milk-white, and produced on clean stems about 18 in. high. It is a trifle fastidious as to its requirements, but they are very simple, being only a partly shaded situation and a moist, sweet soil composed of three parts vegetable matter. Good plants may be obtained from any first class nurseryman for about 1s. or 2s.

The Best Gentian.—*Rhus:* The best for all general purposes is Gentiana acaulis. It is one of the cheapest and also one of the most floriferous. Its flowers are of a large size and of the most intense blue. The tube of the flower is often 3 in. long and over 1 in. across the mouth. If given a light soil and a sunny, well drained position with plenty of summer moisture, it will grow like a weed, and is not the least trouble all the year round. It often blooms right into the winter, and, in fact, can hardly be said to have any definite blooming period in the south, owing to the uncertainty of rain, which often causes the plant to make late growth. Spring is the proper time for it to bloom.

Harpalium rigidum not Thriving.—*J. M.:* This is a plant which is a very gross feeder, and like all the other Sunflowers, it delights in a rich soil and an abundance of water while growing. Unless these conditions are supplied, especially the latter, the plants always present a starved appearance. Try giving them a dose of liquid manure, made either from cow or sheep dung, and give them plenty of water.

The Best Position for the Christmas Rose.—*H. H.:* It is best to grow this beautiful species of Helleborus in a moist, sheltered position, and if possible in a deep, rich soil. It will grow well under trees, and is invaluable for covering the ground in such spots. But when grown under trees or anywhere else, it must never be allowed to become dry. It generally begins to bloom in December, thus giving rise to its common name of Christmas Rose. As the flowers are produced at this wet, rainy season, they very soon get dirty if not protected. It will grow well in pots, or clumps may be lifted in the autumn and placed in boxes of leaf soil in light, open sheds or in cool greenhouses, and thus produce an abundant supply of flowers in the dullest part of the year. There is a variety known as Helleborus niger maximus, which has flowers over 4 in. across, and is quite as hardy, and will grow under exactly the same conditions as the common Helleborus niger.

Bee Balm (Monardia didyma).—*B. M.:* This handsome hardy border plant is one of the most easy of the herbaceous plants to cultivate. It is nearly allied to the common White Dead-nettle (Lamium album) and will grow under the same conditions as that familiar weed, which grows on ordinary fertile soil, with plenty of light and plenty of room. It is easily increased by division in the winter. It is a very welcome flower and makes a brilliant display of scarlet from midsummer until cut down by frost. It is a North American plant and perfectly hardy.

The proper time for planting the Grape Hyacinth.—*A.:* Any time in the autumn will suit the species of Muscari, and if given the same treatment as other spring flowering bulbs, such as Snowdrops, Crocuses, etc., they will grow and flower freely without any further attention.

How to produce large plumes on Celosias.—*V:* The only way is to give them generous treatment. They do not like coddling in a close house, but grand specimens may be grown in a cool greenhouse if they are given plenty of light and pot room, but not too much at a time, and a good soil, and when they have well filled their pots with roots and are showing their plumes they will be greatly benefited by occasional applications of liquid manure. If treated thus you will find that they are easy subjects to deal with, and that your plants will be as good as those seen in the markets.

Tecoma radicans outdoors.—*Escott:* This most magnificent of climbers, we are sorry to inform you, only proves hardy in very favourable situations, such as a south wall in warm and sheltered districts, as far north as London at least. For a cool greenhouse it is difficult to find anything more suitable for covering the roof. It requires a large amount of water during the summer season, but must be kept drier during the winter. The soil which suits it best is a rich and loamy one with plenty of drainage under it. It may either be increased by layers or by cuttings. Seeds, when obtainable, germinate quickly in a gentle heat in the spring. There are several good plants of it outdoors at Kew, so you might venture with a couple, planting one against a wall and the other in a greenhouse. But we should not advise you to waste too much money on it until you have made a few trials. We shall be very pleased to hear if you are successful.

To obtain a stock of Bedding Coleus.—*Capps* This is very easily done if you have a heated glass house at your disposal. It is not necessary to keep a large stock through the winter, as you can raise hundreds of plants from about half-a-dozen pots of cuttings taken this month. If they are placed in a good growing temperature in the spring cuttings will be produced in abundance and will strike easily if put into pots of light soil. Coleus are very sensitive to cold, so you must avoid frost and cold draughts or you will soon lose your stock.

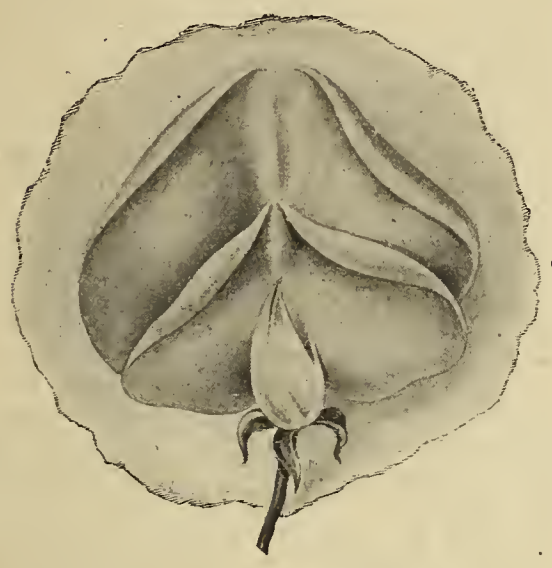
Ivies.—*A. Ross:* In answer to your question as to how many Ivies there are, you will be surprised to hear that there are only two species, the Australian one, Hedera australiana, and the British one, Hedera Helix. It is from this latter species that the number of varieties now met with have been derived, and you are quite right in saying you scarcely ever find two alike.

Fertility.—*G R.:* Chemical analysis may show that a soil contains a large amount of certain plant food, but this is not sufficient to point out whether the soil is fertile or not. Analysis may show that the soil is rich in such valuable plant foods as phosphorus and potash, but these are absolutely useless to a plant unless they are present in forms suitable for the plants to avail themselves of the same, and thus we get many mistakes in manuring through the farmer and gardener having his soil analysed by a good chemist, and finding it contains large quantities of certain valuable foods does not go to the expense of providing for these when he applies his fertilisers; hence the plants often starve from lack of a certain food when they are in the midst of plenty, but which must be acted on by some means before it can be utilised by them. Therefore when you are assured that your land contains plenty of a certain food you must find out whether the food is in an available form before you act on the advice of the analyst.

Geranium pratense.—*Border Perennial:* It is not often that our British wild flowers are found in their natural state on our flower borders. This handsome species does not require the florists' art of crossing and selecting to be applied to it to make it worthy of a place. Its handsome, large blue flowers and deeply cut foliage ought to be seen in even the most select herbaceous border, as it is well worth growing. There is a double variety which you might also get, as the flowers last longer

SWEET PEA NOVELTIES FOR 1901.

Those who were able to attend the exhibition of the National Sweet Pea Society, no doubt took copious notes of the varieties which most accorded with their taste whether new or old. Happily the varieties are all easy to grow, and though they differ in

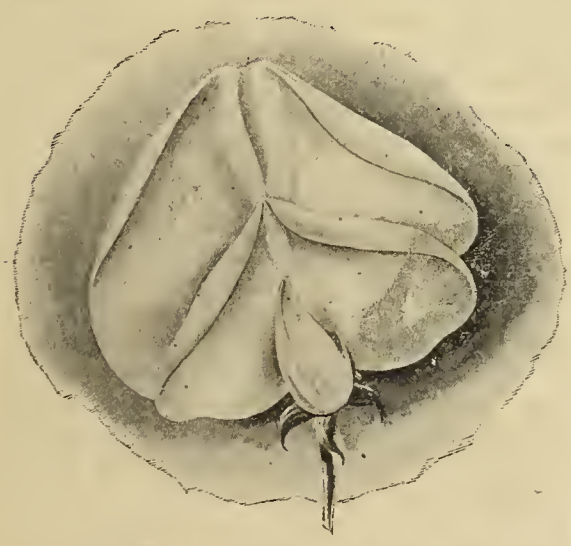


Sweet Pea Miss Willmott.

the details of the flower as to form and colour and the length of the flower stalk, most of these particulars can be noted at exhibitions, and the rest taken for granted. Some of them vary from the average in height, vigour of constitution and earliness, but that will not alter the possibility of growing and flowering them. We refer on this occasion to the taller growing types, excluding the Cupids.

By the courtesy of Mr. Henry Eckford, Wem, Shropshire, we are able to place illustrations of his half-dozen novelties for this year before our readers, so that those at a distance from London may have some conception of the latest doings of that celebrated raiser. Needless to say, all the varieties we are about to mention made their appearance at the recent exhibition of the Sweet Pea Society, in greater or less numbers, some of them in every large collection, so that their value could generally be estimated by their frequency in the stands, the exhibitors having confidence in their fitness for the purpose.

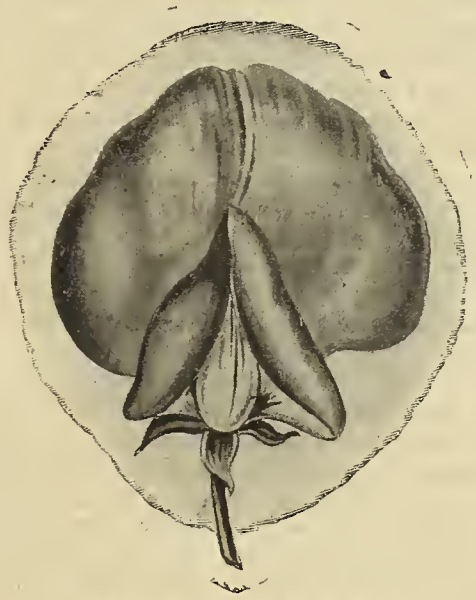
Of the six varieties under notice none of them was more frequently in evidence than Miss Willmott, which may be described as a glorified Gorgeous, the flower being much larger and handsomely expanded in all its parts, with a slight hood to the standard,



Sweet Pea Sadie Burpee.

which is of a lovely shade of orange. The wings, also well developed, are a shade paler and more decidedly rosy. The flower is nevertheless classed as a self, and we affirm that it is of the first magnitude and merit, and will long retain its pre-eminence as an exhibition variety or for any other purpose. Gorgeous, to which we compared it, has a smaller flower with a more intense orange standard.

Sadie Burpee is better known to most growers than the above, and its continued popularity shows that it has never belied its reputation. The large pearly-white flowers are freely produced over a long period when grown under favourable conditions, and the long stalks enable the flowers to be used in the cut state for exhibition, and various other decorative purposes for which white flowers are suitable. It is a beautifully refined flower, and though more hooded than Blanche Burpee it does not lose in favour on that account. When two white varieties were asked for at the recent exhibition Sadie Burpee and Blanche Burpee were most



Sweet Pea George Gordon.

frequently shown together as the best of this colour. Many First-class Certificates and Awards of Merit have already been granted it.

Taking the varieties in the order given on this page the next to be mentioned is George Gordon, with a reddish-crimson standard and rosy-purple wings. Of the half-dozen under notice George Gordon has the

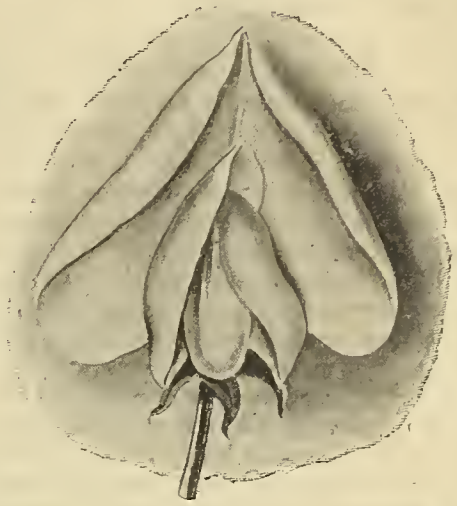
Sweet Pea Coccinea.

darkest flowers, which are quite distinct in colour as they are large and handsome.

The beauty of Coccinea lies in its brilliant cerise flowers, and handsome, broadly-rounded standard, as may be seen by referring to the illustration of it. The standard is also erect as in the previously named variety, and the flowers when cut and exhibited in their proper and best form have a very striking and telling appearance in a stand. Certificates have been granted it by more than one society.

As exhibited at the recent show, we think Lady M. Ormsby-Gore a lovely variety with buff-yellow flowers of the largest size and strikingly distinct in colour. The colour is somewhat intensified towards the apex of the flower, and, in its best form, this is overlaid with a delicate pink. A glance at the cut flowers gives one the impression that the variety is a vigorous grower to produce flowers of such handsome proportions.

It will be admitted by all Sweet Pea growers and lovers alike that improvements must still be looked



Sweet Pea Lady M. Ormsby-Gore.

for in more intense and decided shades of yellow Indeed, we may say that the Sweet Pea will be nearing the goal of perfection as the yellow, the blue, and the scarlet shades become intensified and purified to the highest representatives of those colours amongst flowers. The Hon. Mrs. E. Kenyon is primrose and, indeed, has been termed "The Giant Primrose." The flower is larger and the colour deeper or more decided than in the case of Mrs. Eckford; and that is what we ought to encourage in the production of new varieties, as being a step or link in the right direction. The standard is erect, beautifully rounded, and the wings as well as all parts of the flowers shapely. The plant is also of strong constitution, and the flower stalks long, so that for cutting purposes it will hold its own with any.

As to which is the best of the above, it is all a matter of taste. Some would say there is no best as all are good, only different from one another. Certain of them might do better in some districts than others; and all of the above are certainly worthy of a trial, while most of them will be considered worthy of retention for future sowings. A close scrutiny of the accompanying illustrations will give a better idea of the form of the flowers than mere descriptions could.

PINK FREESIAS.

Pink is quite a new colour for Freesias, but plants have produced flowers of that colour at Kew during the past spring. The plant and flowers are almost

Sweet Pea The Hon. Mrs. E. Kenyon.

exactly the same as F. refracta, only the colour of the flowers is rose-pink. It was introduced from Humansdorp, Cape Colony, about four years ago, by Mr. W. Armstrong, of Port Elizabeth. It comes perfectly true from seed and will no doubt soon be a very popular flower in conservatories.

CARNATIONS AND WATER LILIES AT EDENSIDE.

On p. 770 we gave an account of the border Carnations and yellow ground Picotees which we examined a little time ago in the famous collection of Mr. James Douglas, Edenside, Great Bookham, Surrey, who is well known as a specialist, and devotes the greater portion of his glass ranges to them. At the present time the yellow ground Picotee is being evolved or developed to a similar state of refinement with which we have been familiar for many years in the case of the white ground Picotee. This class, needles to say, is a great favourite with Mr. Douglas, and we mentioned only a limited number of the best. We must now allude to the other sections we noted at Edenside.

Malmaison Carnations.

New Varieties.—To Martin R. Smith, Esq., Hayes, Kent, the honour is due for having developed so many fine varieties belonging to this type. Mr. Douglas first commenced putting them into commerce in 1894. The flowers of Lord Rosebery are of fine form with smooth dark rose petals, and are very freely produced. The grass is splendid, and the same may be said of Monk, a handsome salmon-red variety. Lady Grimston enjoys great popularity, the pinkish-white flowers being closely striped with bright rose, and deliciously scented. A soft and beautiful colour is that named Lady Rose, the flowers being of a pleasing rosy-pink. Still paler is Calypso, the flowers being of a light rosy tint, ultimately becoming very pale. A favourite colour is the deep salmon of Albion, while the flowers are of beautiful form.

The dwarf habit and vigorous foliage of Churchwarden makes it quite unique in the section to which it belongs, and those who have not yet put it in their collection should secure it. The crimson-scarlet flowers are of large size and handsome form. The brilliant scarlet and sweet-scented flowers of Trumpeter have also form and quality to recommend them. Those of Mrs. Everard Hambro are of a rich crimson-rose and massive. Altogether distinct is the deep rosy-pink of Sir Charles Freemantle. The raiser of Prime Minister considers it the finest scarlet Malmaison, having amongst its qualifications size, colour, scent, and great vigour of habit. The flowers of Mrs. Martin Smith are of a lovely tint of rose, and the habit is somewhat different to other Malmaisons. The first pure white Malmaison ever raised was Nell Gwynne, and is still the foremost of its kind. The earlier flowers of this section were over before our visit; nevertheless the above were still in bloom.

Old Malmaisons.—These are so well known and so extensively cultivated that nothing more need be said here than that the old Blush, Pink, Princess of Wales, and the Crimson varieties are all grown at Edenside.

Show Carnations.

These are chiefly favoured by the specialist who grows the flowers for exhibition. Some of the old masters in this particular culture have passed away, but young fanciers have taken their places, so that the show stands continue to be filled. For those intending to take up their culture we may say that Mr. Douglas keeps a stock of the best named and standard varieties, including the bizarres in their various colours as well as the flakes. Not many additions of importance have been made to them for years past, so that their colours are well known to those who grow them.

White Ground Picotees.

The white ground Picotee has been brought to a great state of refinement. The flowers are moderate in size, and the petals relatively few in number, so that they can all be arranged to advantage on a flat surface, so as to show their beautifully rounded outline and charmingly refined colours. The entire flower is white, with the exception of a narrow margin of red, purple, rose, or scarlet, being classified according to these colours. They may further be subdivided according as the edging is broad or narrow. Varieties belonging to the former are said to be heavy edged, while those with narrow margins are said to be light or wire edged.

Amongst those in bloom very lovely was Charlotte Bronte with a heavy and well defined crimson margin. Acme is another very marked and telling variety belonging to the same colour section, with a heavy margin. As a contrast to these we may mention Lavinia, a lovely and neat bloom with a narrow purple edge. The collection of fine standard varieties is very extensive.

Tree Carnations.

At the present time these are making their growth and preparing for winter. The collection, however, contains a large number of the very best varieties, so that we need only mention a few of them here. The finest formed scarlet tree Carnation is Patrocles, the petals of which are beautifully rounded, and being only moderately numerous they do not burst the calyx. Regalia has rosy-pink flowers that are produced with great freedom. The first really purple tree Carnation ever secured is that named Sylvanus, raised by crossing Royal Purple and Duke of York. The pure white flowers of Comus are carried erect on stout stalks, and there are those who consider it the best white tree Carnation. Julian is crimson-scarlet, and received an Award of Merit from the Royal Horticultural Society in 1896. Other indispensable varieties for winter flowering are Winter Cheer, Uriah Pike, Reginald Godfrey, Primrose Day, Miss Joliffe Improved, Mrs. Moore, &c.

Auriculas.

These are old favourites with Mr. Douglas; indeed, we believe, if confined to any one single flower, his choice would be the Auricula in its many forms, or rather in all of the forms that would pass muster as a florist's flower. For instance, the show Auricula includes the green, the gray, and the white edged sections and the selfs. The other great section of this florists' flower includes all the alpine Auriculas. The fine named sorts by all the eminent raisers have found a home here, and though their season of flowering is confined to spring, they are well cared for at all times, and at present occupy cold frames on the cool northern side of the offices. At whatever season of the year they may be examined, they seem always comfortable and happy. Akin to these are the garden Primroses and Polyanthuses, of which fine batches are annually raised from seed at Edenside, that being almost the only way of perpetuating the race in such dry and hot summers as have prevailed in the south for several years past.

Hardy Water Lilies.

About two years ago, if we remember rightly, a tank was built in which to grow hardy Water Lilies. The plants grew so satisfactorily under this method of treatment that there was a considerable extension of the tank space, and more varieties were added to the collection. All have made wonderful growth, so that there should be no hesitation on the part of would-be cultivators in committing a collection of Water Lilies to their ponds, margins of lakes and other sheets of ornamental water. Those who have no such conveniences might well build cement tanks in conjunction with their rockeries and bog gardens.

The varieties of Nymphaea marliacea are numerous, and commemorate the Frenchman, M. Marliac, who first conceived the idea of hybridising various species and carried the experiment into effect. Very handsome is that named N. m. flammea, with crimson-red centre, rosy outer petals and spotted leaves. One of the most popular and largest of the varieties is N. m. albida, with huge white flowers and green foliage. The flowers of N. m. carnea are flesh-coloured, as expressed by the name, with a paler centre. Of the two yellow varieties, N. m. sulphurea is the most popular owing to the great breadth of its petals, which are rounded at the points. Those of N. m. chromatella are as long, but narrower, with pointed apex. The flowers are of large size, however, and resemble Cactus Dahlias lying just above the surface of the water.

Of the several others we noted in bloom we should give the first place to N. Gladstonei, on account of the huge size of the flower, and the great breadth of its pure white petals. When it becomes better known we fancy this will prove a rival to N. marliacea albida, above mentioned. A pretty Water Lily of another kind is N. odorata rosea, with deep rose centre, paler outer petals and spotted leaves. Very distinct in its way is N. aurora, with its salmon-red flowers, tinted with a yellow shade or something similar. The foliage is slightly marked with purple. One of the darker varieties is N. Robinsoni, with its red flowers. Another strain is indicated by N. Laydekeri rosea and N. L. purpurea, the latter having dark crimson inner petals and rich orange anthers. The foliage of the latter is also slightly spotted. N. odorata luciana and N. Seignouretti were also in bloom, the latter having a rosy-salmon centre and paler outer petals.

Quite of a different kind is Nelumbium japonicum roseum, which is thriving in a tub in one of the Carnation houses, but has not yet flowered. The glaucous leaves, like a Japanese parasol, are carried above the water on long stalks, which are covered with hard points, giving them a spiny appearance.

Orchids.

While still serving as a gardener, Mr. Douglas was a frequent exhibitor of Orchids, and still retains a few of his favourites. For instance, we noted a number of thriving plants of Laeliocattleya gottoiana, a bigeneric hybrid between Cattleya Warneri and Laelia grandis tenebrosa, and remarkable for the great length of its petals. The long-tailed Cypripedium dominianum, an artificial hybrid, was flowering finely. The sepals and long slender petals are straw-yellow, the latter being edged with rosy-brown. C. macropterum (C. Lowii × C. Veitchi) was notable for its long petals, spotted with crimson in the lower half and rosy-purple towards the apex Coelogyne speciosa seems to have no particular season, as it blooms at any or every period of the year.

SPRING GROVE, ISLEWORTH.

There is always an irresistible impulse to get away from the turmoil of city-life for the week end. Saturday is the day which is generally chosen, as the following day allows of taking rest after the excitement and fatigues of a day's holiday. There is always something fascinating about electricity, so to make the most of our day's outing we first made a trip as far as Shepherd's Bush on London's new toy, the twopenny tube.

On coming to the surface at this station we were again tempted to indulge in the delight of being whirled along by that mystic invisible force by seeing the continuous procession of electric trams. We mounted one and after a breezy ride of several miles we sighted a place well known to horticulturists, the seat of Andrew Pears, Esq., J.P., Spring Grove House, Isleworth. We alighted here and were cordially received by the head gardener, Mr. William Farr, who conducted us round the extensive gardens, the beauty of which is something astonishing. The admirable way in which they are kept, and the healthy and luxuriant appearance of all the contents are a perpetual testimonial to the skill and energy of this horticultural enthusiast.

The garden is situated in rather an unfortunate position as the soil is very shallow, and consequently, during the recent spell of hot weather, the garden staff had been hard worked to keep things from suffering, and this they have done too, for everything looked a picture of health and vigour.

There are some extensive ranges of glass all of which are built and ventilated on the most up-to-date style. On our way to the houses we had a look in at the fruit-room and Grape-room, where a good few Peaches are stored ready to be packed. It is an airy, well designed place and, we should judge, makes an ideal place for the preservation of fruit.

We were next taken through the orchard-houses where fruit in variety and in all stages of development was found. Figs were bearing a very heavy crop, Peaches also were very plentiful, especially on the pot trees. Up the rafters cordon Plums and Cherries were trained, and along the front Tomatos were growing, producing a tremendous crop. Where there was any floor room to spare it was occupied with Cauliflowers, in fact the whole range was like a growing market.

Several houses are employed to keep up the reserve for the big conservatory, all of which are packed with plants of a high quality. The roofs were utilised to grow flowering creepers on, Stephanotis and Alamandas being in very good condition. A large plant of Clerodendron Thompsonae has been making a fine display, but at the time of our visit it was past its best. In the houses we noticed several of those huge specimen plants which have been so often admired at the various flower shows.

In some deep pits were a number of heavily cropped Figs all looking the picture of health. We next made a tour of the Melon and Cucumber houses, where the plants for producing a late crop were just established and seemed very happy in their beautiful light houses. Leaving this department we entered another warm plant house which was filled with plants suitable for decorating purposes, amongst which some highly coloured plants of Dracaena

Lindeni figured conspicuously. There was also a good healthy and clean batch of Clerodendron fallax and many other useful decorative plants.

Adjoining this house was the Codiaeum house, which, after the past few weeks of bright weather, was a brilliant mass of colour, and plants from tiny table samples to show specimens were to be seen all with full leafage.

We next had the pleasure of going through the extensive ranges of vineries where good crops were found hanging. Madresfield Court and Muscat of Alexandria were carrying immense bunches, many of which would make a sensation on the show board. The Vines are the picture of health and show with what care and skill they are attended. In some well-made frames we were shown some very fine batches of those two well-known Begonias, Gloire de Lorraine and Gloire de Sceaux, which will doubtless make a good show during the dull winter months. In other store houses, &c., we noticed batches of Tuberoses, Gloxinias, Begonias, Kalosanthes, and several other useful plants.

On our way to the conservatory we passed through the orchard where the trees were laden with fruit, early Apples especially. On the borders of the walks are Carnations, which make a good source of cut bloom. The walks are spanned at intervals with arches, over which the graceful Clematis and the popular Crimson Rambler are clustering in wild profusion.

The conservatory is a most delightful place, being arranged on the rockwork principle, and being filled almost entirely with green foliaged plants it made a welcome retreat from the blaze of the sun. The arrangement was most artistic, and nowhere can the slightest trace of formality be found. By a skilful arrangement of mirrors in recesses and in the panels of the doors one is led to believe that they can go on into another part of the building. The effect obtained by this arrangement is very unique, and so well are they arranged that the most observant are almost bound to be deceived.

Leading out from this is another part of the conservatory which opens into the ballroom. This is more formal, being arranged with statuary and bright batches of flowering plants. Marble is the predominant substance used in its construction, and altogether it is a most magnificent place.

Bedding is carried out extensively and looked very bright and gay at the time of our visit. On our way back we passed regiments of Chrysanthemums, many of which are being grown on the bush system, which is much more artistic than the great mops which some call beautiful. Near by the Chrysanthemums was a large border devoted to Salvia splendens, Solanums, &c.; and to judge by the quantity grown, Mr. Farr finds them a very useful class of plants. After a pleasant ramble in this delightful spot we took leave of Mr. Farr and his staff, and again mounted the top of an electric car to meditate and reflect on the pleasant scenes of the afternoon.

DUTCH BULB CULTURE.

Like the pipe, the cultivation of bulbs seems to be inseparably connected with the Dutch race. At one time fabulous sums were realised for some of their productions, for there are records of single Tulip bulbs being sold for £1,300 in the 17th century. Another record gives an account of an English traveller having to pay £400 damages for injuring a bulb of a Tulip named Admiral von der Eyck. Although the prices are not so high now as they were when the Tulip mania was rife, the cultivation of bulbs is still one of the chief industries of Holland.

Holland is an ideal place for bulb growing; its soil is exceptionally light, but unlike many other light soils, it is very fertile and always moist, and the atmosphere is generally humid.

There are several spots in the British Isles where the same conditions may be obtained, and although we have allowed centuries to pass without growing our own bulbs on a large scale there are now several extensive bulb farms in our fen districts and in Ireland; and to all appearances the industry seems one which is likely to bring in big returns.

Holland was not naturally a country adapted to bulb culture, as at one time it was little more than a huge bog. By patience and skill the morass has been reclaimed and now the scientifically irrigated fields stand as a striking monument of what can be done in the way of draining land. The farms are all cut up into small sections by canals which are utilised for transport instead of roads, and as the water in the subsoil rises to the level of that in the canals it keeps the soil continually moist.

Although the cultural details are very simple they require a large amount of labour to carry them out properly, and the simple, homely Dutchman works on almost from dawn till dark.

There is one thing that we envy the Dutch bulb grower for at the present time, and that is that he is free from the smoke, heat, dust, and the taint of factories which make life in big towns almost unbearable; and a Dutch bulb catalogue only helps to emphasise these annoyances by picturing at numerous intervals figures of cool-looking breezy fields surrounded and intersected in every direction with cooling streaks of water. The bulb grower makes no secret of his craft, but is rather proud to point out the various little devices which when added up count success.

The most interesting process in the life history of the bulb is the method by which it is propagated. It is a long and tedious process and requires much care and patience, as the young bulbs seldom flower until they are five years old. To get a large quantity of young bulbs the fattest of the old ones have the centre part, where the roots are, cut away, and the bulbs left in the sun. From the cut surface about a score or more of tiny bulbs are formed at the expense of the old one. These are taken off, carefully tendered, and transplanted every year until fit for the market; so some idea of the amount of labour required may be gathered.—*R. G.*

A SIX-FLOWERED SWEET PEA.

As far as we are aware no more than four flowers on a stalk of a Sweet Pea were actually shown at the exhibition of the Sweet Pea Society at the Royal Aquarium on the 25th and 26th ult., but there was a considerable amount of conversation about a greater number. We had reliable information about a variety that produced nine flowers on a stalk. The normal number is two, but three and four are common on vigorously grown specimens of certain varieties. A photograph (here reproduced) showing six flowers on a stalk was handed us by Henry W. Squire, Esq., Hythecote, 62, Drakefell Road, Nunhead, S.E. A curious point about these prolific or multiple Sweet Peas is that the flower stalk is forked bearing an equal or unequal number of flowers on the two branches. The nine-flowered sample had five flowers on one branch and four on the other. Two of the flowers were removed, but the others were allowed to produce seed which is being saved for reproduction. Mr. Squire's specimen, as may be seen from the reproduction, carries three flowers on each branch. Some explain the phenomenon as a freak, and others as a case of fasciation of two flower stalks; but if so the union is wonderfully perfect. As may be expected, Sweet Pea lovers will be curious to know what will result from the seedlings, and whether it may be possible to fix the peculiarity. The experiment is certainly worth trying; and we hope that something important will result from it.

A SIX-FLOWERED SWEET PEA.

THE ROCK GARDEN.

PLANTS IN FLOWER.

Potentilla ambigua.

This rosaceous plant, with its bright yellow flowers resembling a Buttercup, make the tyro botanist wonder why it should not belong to that genus. The essential difference lies in the insertion of the stamens, and those concerned will remember the differences best by consulting their flora. The habit of the plant strongly recalls P. tridentata, but the flower is larger and richer in colour. The trailing or creeping stems form a dense mass, completely hidden by the dark green, three-toothed leaves, and these characters make the plant an apt subject for creeping down over the ledges of the rockery. The stems do not ramble, either very fast or far, so that there is no danger of the plant overrunning its neighbours. The tufts or patches may be increased in spring by the removal of rooted pieces, or cuttings may be taken now and dibbled into sandy soil in pots and placed in a frame to be shaded during the heat of the day.

Campanula carpatica pelviformis.

Only one other variety of C. carpatica, probably, has so expanded a flower as the subject of this note. The flowers are pale lilac, very delicate in tint, to be sure, but for that reason and on account of the shape of the flower, the variety is most deserving of cultivation on account of the contrast it furnishes with others. The blooms are held boldly above the plant and are spread out like a saucer. Planted out in rich, friable and fairly moist soil the variety forms dense cushions of roots and stems, which, when carefully divided in spring just as growth is commencing, will supply the cultivator with all the plants he can possibly desire for a private establishment.

Linum flavum.

This perennial species of Flax was introduced

from Continental Europe to this country in 1793, that is, over a century ago, yet it is by no means so common as its beauty would warrant. The terminal corymb of bright yellow flowers is strikingly distinct from so many other perennial species whose prevailing colour is some shade of blue. L. arboreum is also a yellow flowered type, but that under notice is taller, being about 12 in. high under ordinary conditions of cultivation. The spathulate leaves are broader, and altogether different from the blue-flowered types, which neutralises the idea of the casual observer that one is merely cultivating the ordinary Flax of field culture. Take cuttings of the flowerless shoots getting firm at the base and insert them in very sandy soil in pots placed in a frame or under a hand-light.

Helenium autumnale pumilum.

Though not to be regarded either as a scarce or choice plant, this is nevertheless so conspicuous and telling when a large clump of it is grown upon the rockery, that (unless space is limited) it should have a prominent position on the rockery. About 9 in. is its usual height when not grown in too rich or too moist soil, or under shade. Indeed, the dwarf habit of the plant is one of its chief recommendations for the rockery, the large golden yellow flower-heads being most effective when grown in exposure on dwarf stems. Propagation is easily effected by division in spring or by cuttings, when they can be had, at the present time.

Saxifraga aizoides.

Those who have a rill or stream running through their rock garden, or even a dripping well, should plant this mountain Saxifrage within the influence of the moisture in a rather peaty soil. It loves the moisture, being a native of the banks of mountain streams or moist places where there is just sufficient moisture to be always trickling through the native vegetation, or over the rocks or gravel of the bed of the mountain rills. Those who plant it on the sunny slopes of their rockery are only courting failure as the foliage gets burnt up in summer on account of the drought and heat. When supplied with moisture as indicated the barren stems keep on growing or take a second growth and flower a second time, or, indeed, keep up a succession of bloom till the end of September. Failing these conveniences the cultivator should plant it in a cool peat bed at the base of the rockery, and kept continually moist by some means or other all through the heat of summer. Treated thus it will flower well, and the yellow, spotted flowers with their orange coloured anthers and the dwarf habit of the plant combine to make this one of the most interesting, as it is one of the least common of the cultivated species. It is a native of the mountains and rocks of the northern half of Britain.

Scutellaria hirta.

The leaves of this species of skull-cap are small, roundly heart-shaped and gray. In conformity with the habit of the plant in living upon rocks the stems are dwarf, not exceeding 3 in. or 4 in., and in this respect resembles our native bog species the Lesser Skull-cap (S. minor). It is a native of Greece and the Islands of Crete and Cyprus, and is rare in cultivation, the fact being unaccountable when its beauty and neatness are considered. S. rupestris seems to be the more common name for it in cultivation. The flowers are white, except the upper lip which is purple. They are freely produced on a neat plant of tufted habit.

Anagallis tenella.

The Bog Pimpernel is one of the dwarfest subjects grown when cultivated in a sunny and fully exposed position, as it may not exceed an inch in height. If somewhat shaded by other plants the slender stems may get slightly drawn and run to 2 in. or 3 in. at most. The flowers of the more common form of the plant are pink with rosy veins, but darker varieties in cultivation have rosy purple flowers that are simply charming when seen in good form The slender, barren stems creep closely over the ground into which they root, but the short, flowering branches are erect. The cultivator who would succeed, if not actually making a bog bed for it, should plant it in a peaty soil in as cool and moist a position as he can command in his rock garden. Shade should not be permitted, where a sufficiency of moisture can be insured during the warmer summer months, Every little bit of stem with a root or two will grow, and rootless pieces may easily be rooted in pots or pans in a cold frame.

Campanula caespitosa.

A decade ago and longer certain Campanulas were grown under the name of Campanula pumila, C. p. alba, C. pusilla, and C. p. alba. Then it was divulged that these two so called specific forms were only one, and that the proper name was C. pusilla. The *Index Kewensis* refers both names to C. caespitosa, the tufted Bellflower. In a general way the forms known in gardens as C. pumila and C. pusilla may represent only one species, but they are readily recognisable as distinct forms when cultivated. C. pumila and C. p. alba are stronger growers with more leafy stems and larger flowers of better substance than those of C. pusilla. As growing upon the rockery these differences are more readily and easily discernible than when imperfect pieces are cut and shown together, though a keen eye could still separate them. Both are easily propagated by division of the roots in spring.—*Alchemilla.*

WASPS.

Probably no man is more wrapped up in prejudices than the gardener is, and if we say a good word for the wasp we are sure to be showered with a storm of abuse. Bees he will speak of with approbation but wasps in his eyes are lazy, ill-tempered and the most vindictive of insects. It is very easy to see why he dislikes them, because they destroy his crops of fruit. We will own that they are destructive, but somehow this one fault does not satisfy some men, and they go on pouring all the anathemas they can think of on the object of their ire.

We will leave out their elegant appearance as that is not through their own handiwork. A more industrious and sagacious insect is difficult to find. They are very clever potters, manufacturing vessels of various patterns in which to keep their young. The pottery ware they glaze with their own saliva, and no matter under what conditions the nest is situated it is always not only waterproof but damp proof. They discovered the art of paper-making long before the Chinese, and used wood in its construction ages before our manufacturers thought of it. The class of paper which they produce varies from the finest tissue to the heaviest cardboard.

Long before we human beings became acquainted with the use of paper as a conserver of heat by using it as part of our clothing, these sagacious insects had found out its good qualities and lined their homes with it to keep up a regular temperature. They are skilful anatomists, as may be seen by the deadly accuracy with which they pierce the nerve centres of their prey.

Dr. Sharpe, who has been a careful observer of their habits, states that they will often cram their cells with caterpillars on which to feed their young, and he advocates their encouragement to eradicate these pests in the same way that cats are kept to keep down mice. This would, perhaps, suit the vegetable grower, but the fruit grower would be far from contented under such conditions.

They are most devoted parents and feed their young in a very discriminate manner, first giving them liquid food and then as they get stronger using them to meat diet. They do not kill off their males in the same way that the bees do, but let them live and make them keep the nest clean. If a piece of meat is too heavy for them they quickly cut it into sections and take it home piecemeal. They are very cautious in their movements and when emerging from a hole in an Apple they do not come out head foremost as most other insects do, but come out tail first, showing their formidable sting as a means of protection against any enemy outside. It seems a cruel process to kill off their young towards the end of the year, but this is done to keep them from the far worse death by starvation.

Gardening Miscellany.

A FINE WEEPING BEECH.

By the side of the main Guildford Road at the north-east end of Farnham, Surrey is a fine specimen of the weeping Beech (Fagus sylvatica pendula). It has evidently been grafted at a height on a level with the garden fence behind which it is growing. The tree is about 30 ft. high and has a clean trunk of considerable height, and about a foot in diameter. Good soil, but particularly age, must be held accountable for such a massive trunk on a tree one seldom sees of any great size when passing through the country. The tree is in perfect health and has two or three great arching limbs all directed to one side in the fashion peculiar to the weeping Beech wherever it is met with.—*P.C.*

ORNAMENTAL PEACH BLISTER.

Gardeners look upon Peach Blister with great disfavour in their own gardens; but may see the matter in another light upon their neighbours' trees, especially if the said blisters assume the bright crimson-red colour they have done on some tall Almond trees at Caterham. When passing them I was attracted by the sight of what appeared to be some strange tree bearing brightly-coloured fruits, and found an old enemy in a new guise. On Peach trees the blisters usually have a pale and mouldy appearance, so that the question arises whether the taller and more exposed trees may not account for the bright colour assumed by the diseased leaves. —*P.C.*

CLIANTHUS DAMPIERI.

The Glory Peas were once very popular greenhouse plants, but owing to their somewhat difficult management they have now become almost plants of the past. Grown in pots they were always causing anxiety by ill health, &c., and required frequent attention as to training and tying. With the present day busy gardener they were soon left out of the race as too much trouble. The way they are now grown at Kew ought to again give a stimulus to their cultivation, as with very little trouble they have been in bloom there for months. They are grown in baskets, and this seems to be the ideal method, for they grow freely in them, and as their racemes of crimson and black flowers hang over the sides in graceful trails they make a most effective basket plant. There is one now hanging in the front of the doorway in the Himalayan House in full bloom. It was the admiration of the numerous visitors during the Temple Show week and still continues to focus the attention of every visitor who visits this house. It is an Australian plant and was first introduced to British gardens in 1852. Soon after its introduction it became quite a craze to possess the Glory Pea, and when it is generally known how easy it can be managed in baskets hung in a dry, airy house, we are sure it will once more regain its place in the public's favour.

HOYA IMPERIALIS.

Hoyas are not so much grown as they deserve to be as they are very little trouble to manage and one of the most beautiful plants grown in the stove when in flower. The one under notice has just been flowering freely in the stove at Kew where its waxy umbels have been admired by all who had the good fortune to see it in bloom. The flowers which are of a reddish brown colour are nearly 3 in. in diameter and produced in umbels measuring 8 in. to 9 in. across. Like many other handsome species in this genus it hails from Borneo, from which country it was introduced to British gardens in 1847. It grows best in a warm stove and delights in abundance of atmospheric moisture. Hoya flowers should not be cut off as the next year's blooms are often produced on their stalks as well as on the young wood.

KLEINIA GALPINI.

This rare plant is making a show of bloom in the Cape House at Kew. It is a plant which is very little known but well worthy of a place in every greenhouse, where its profusion of large orange coloured heads of bloom would make it a very welcome addition to the best collections. When out of flower the glaucous foliage makes it a very effective plant. It grows about 1 ft. to 1½ ft. high, and should always be grown in a sandy soil. Cuttings are freely produced after flowering and strike easily. It is very impatient of excessive moisture either at the root or in the atmosphere, and in the winter both of these must be kept down to the minimum or the succulent leaves will soon rot. It was introduced from South Africa and has been figured several times.

A WONDERFUL HEDGE.

There are many arboreal wonders to be seen in the British Isles. One of the greatest is the Beech

hedge at Meikleour, a pretty little Perthshire village. The trees composing the hedge, which is 580 yds. long, have an average height of 80 ft., and throughout the whole length it is compact and perfect. It is believed to have been planted about 1746. Looking close into the trees they appear to have been pruned during the first forty or fifty years, and then neglected for about twenty, but for the last fifty years the hedge has been regularly cut on the side next to the road, but the side next to the wood has been allowed to grow free. The operation of pruning the hedge is carried out every five or six years, and owing to its great height and the space to be gone over it is not a very small contract to enter on. A patent ladder arrangement, the same as used for cutting the tall Limes at Versailles, is used to cut out the large branches; the twigs are cut by an averuncator to a height of 45 ft, above this height the work has to be done by a skilful climber.

SEQUOIA GIGANTEA.

MURTLY Estate is famous for its many pieces of fine timber, and amongst all the fine specimens a Sequoia gigantea is the one which is most admired, and it deserves it, for although only forty years old it is considerably over 60 ft. high, and makes a conspicuous feature in this Scottish arboreal paradise.

THE DOUGLAS FIR.

MANY who admire this handsome species of Fir do not know the fate which overtook the gentleman with whose name the species is inseparably associated. It was named after David Douglas, the son of a labouring man, and who was born in 1798. He served his apprenticeship as a gardener in Scone Gardens, took a lively interest in plants, and through the kindness of the head gardener to Sir Robert Preston, he obtained access to that gentleman's library. He afterwards went as a gardener in the Glasgow Botanic Garden, where his botanical knowledge gained for him the favourable notice of Sir William Hooker, whom he accompanied on many excursions and helped to collect materials for Sir William's *Flora Scotica*. On the recommendation of Sir William, he was sent by the Horticultural Society of London to give an account of the vegetation in the neighbourhood of the Columbia River. He came home after having successfully fulfilled the mission and was sent out again, this time to travel between the Columbia River and California. It was while on a visit to the Sandwich Islands that he met his death under shocking circumstances. He fell into a pit dug by the natives to trap animals, and was immediately gored to death by a bull which had fallen in before him. He was a Fellow of the Linnaean, Geographical and Zoological Societies, before which he read many valuable papers.

HYLOBIUS ABIETIS.

THIS is one of the worst enemies the Scots Fir has, and to see what an extraordinary voracious appetite it has, one has only to put a few in a box and feed them on the young stems of this tree. There is a good story relating to their tenacity of life. A gentleman placed some in whisky for twelve hours, and then starved them for six days. At the expiration of that time he found them dead but not lifeless, for they were only dead drunk, and were soon as lively as ever. It thus appears that they not only prefer Scotch wood, but also have a Scotchman's partiality for the national beverage.

A GIANT SILVER FIR.

IN the woods of Lynedoch, Perthshire, is to be found the finest specimen, possibly, of Silver Fir in these islands. Twenty years ago it had attained the height of 110 ft., and at 3 ft. from the ground the girth was 13 ft. 3 in., and it was estimated that it contained 425 cubic feet of timber.

PSEUDOTSUGA DOUGLASSII.

IN addition to the ancient monarchs to be seen in the remains of the great Birnam Wood, Perthshire. immortalised by Shakespeare, there are some magnificent specimens of the Douglas Pine. They are not scattered as solitary specimens, but are arranged in an avenue. The position is an exposed one standing 300 ft. above the sea-level. The soil is of average quality, being a light sandy loam. In spite of their position and dry soil there are none to beat them in the British Isles for health and vigour and darkness of foliage, which from a short distance looks like Yew.

A VETERAN BEECH.

IN the wood of Methven, Scotland, is a venerable monarch of the forest, being estimated at over 600 years old. It would be an interesting history that this tree has witnessed, for the district is associated with the daring deeds of Wallace, and many bloody battles have been fought in its vicinity. One, the Battle of Methven Wood, figures conspicuously in Scottish history.

ALLIUM PEDEMONTANUM.

FROM amongst a tuft of linear, dark green leaves this species throws up flower stalks to the height of 12 in., bearing a drooping umbel of rich rose-purple flowers, which make this species one of the finest in cultivation. It makes a good border or rockery plant in fairly rich and moist situations, the blooms remaining in fine condition for a considerable length of time. A large plant of it was lifted from the open ground, placed in a pot, and shown at a recent meeting of the Royal Horticultural Society by Mr. W. Bain, gardener to Sir Trevor Lawrence, Bart., Burford, Dorking, and was awarded a Cultural Commendation. It ought to find its way into all collections of hardy herbaceous plants.

OXALIS CERNUA.

IN the course of a lecture on "The Propagation of Plants without Seeds," given by the Rev. Professor Henslow, in the big vinery at Chiswick, some interesting examples were brought forward of the hereditary influence on plants propagating themselves by vegetative methods instead of by seeds. When plants are accustomed to this manner of propagation they loose the power of seed bearing, and, as the Rev. Professor pointed out, nowhere can this be seen better than in the above named Oxalis. It does not produce seeds but increases by means of thread-like rhizomes and tiny bulbils, and aided by the tenacity with which it holds on to life under circumstances where other plants would perish, it has a remarkable power of spreading. It was introduced into Malta from S. Africa by Father Hyacintho, in 1806, and by 1820 it had spread all along the shores of the Mediterranean, and even into Egypt. By 1830 it had made a firm footing on Gibraltar. When once it puts in an appearance in a district it is difficult to eradicate, as even when pulled up and left to dry in the sun it swells up its tiny bulbils, which will grow into a plant again as soon as they are carried into a favourable position. It is a pretty little plant, and its umbels of bright yellow flowers give the walls, &c., in the districts where it has taken hold a beautiful golden colour.

LINARIA DALMATICA

OF all the large family of Linarias, there are none to beat this one for a vigorous and graceful habit combined. The branches are densely clothed with leaves, and the flowers, which are borne on erect spikes, are arranged loosely and make admirable stock for cutting purposes, and are of a soft yellow hue. They will succeed well in any sandy border if they are provided with plenty of light, and will make very striking plants throughout the season. They are usually raised from seed, but they can be easily propagated by cuttings and by division.

SOCIETIES.

NEWPORT HORTICULTURAL.—*July 25th.*

THIS flower-show is usually one of the principal events of the season at Newport. There was a good attendance this year, but owing to the threatening state of the weather it was not so large as that of previous years There was a marked increase in the entries, which numbered over 700. All were well represented, with the exception of the groups, which were not so numerous as in previous years. The show was opened by Mr. Joseph Lawrence, M.P., who was accompanied by Mrs. Lawrence and many friends. In the course of the short speech which he made, he mentioned that he himself could boast of being a bit of a horticuturist, as he was a F.R.H.S and a member of the Guild of Gardeners. Mrs. Lawrence was presented with a handsome bouquet, as was also Mrs. E. R. Thomas, wife of the vice-chairman. Grapes were well shown, especially Black Hamburghs.

Mr. J. Cypher, Cheltenham, carried off many awards, and had a large quantity of stuff there of various kinds. The following are the results of some of the best classes—

Eight stove and greenhouse plants in bloom won the first prize for Mr. Cypher, Cheltenham, in that class. Mr. W. J. Buckley, Llanelly (gardener, W. Carpenter), was close to him for second place. Both exhibits were very good.

Mr. Cypher was also at the head of the list for six ornamental foliage plants; Mr. C. H. Baily, Newport (gardener, Mr. G. Sharrat), showed a very good half dozen, and was placed second. Some handsome specimens were exhibited in the class for six exotic Ferns. Col. Wallis's collection was selected as the best, and those of Mr. W. N. Lawes, Trowbridge, as second. The group of miscellaneous plants put up by Mr. J. Cypher was very effective and deserving of the honours which were bestowed on it. It was placed first in that class, and was also awarded the Society's Illuminated Certificate of Merit. Mr. J. Buckley was awarded the second prize.

The groups of tuberous Begonias were also good, especially the first prize, one shown by Mr. W. F. Dawson, Llantarnam Hall (gardener, R. Long). Mr. R. P. Williams, Newport (gardener, W. Jones), also put up a very nice group, for which he received the second prize.

The cut flower section was well represented, and for the time of the year Roses were quite a conspicuous feature. Mr. S. Treseder, Cardiff, showed twenty-four distinct varieties in the class for twenty-four, and his blooms were in remarkably fine form. King's Acre Nurseries, Ltd., Hereford, also exhibited very choice blooms, and were placed second. Mr. R. Crossling, Penarth, was third. The same order was maintained in the class for twelve distinct Teas.

Mr. C. Wall was first for the best twelve Carnations, and Mr. W. Treseder, second. In the class for twelve Picotees, the prizes were awarded in the same order.

For twelve bunches of stove and greenhouse cut bloom, distinct, Col. Wallis was first, Messrs. W. J. Stokes & Son, Trowbridge, second, and Mr. E. Parsons, Cardiff, third.

Mr. W. Treseder was again a winner in the class for twelve bunches of herbaceous cut bloom, distinct. Mr. W. N. Lawes, Trowbridge, was very close for second place; and Messrs. Stokes & Son, not far off in point of quality as third.

For the best arrangement of Sweet Peas in a space not exceeding 9 ft. × 3 ft., for a shower bouquet, and for the best button-hole, Mr. W. Treseder carried off the highest awards.

The prizes in the class for fruit and vegetables were keenly competed for, and the quality of the stuff was on the whole very high.

Mr. W. E. Williams, Maindee (gardener, T. Green), was the most successful exhibitor in the class for a collection of six varieties of fruit. Mr. W. J. Buckley was a very close second with a good collection.

Mr. S. Dean exhibited the best three bunches of White Grapes; and Mr. F. L. Davies (gardener, Mr. J. Fraser), the best bunch of Black.

Mr. W. E. Williams was awarded the place of honour for a dish of five Peaches; and Mr. W. F. Dawson the second.

Mr. W. F. Dawson occupied the first position for the dish of Nectarines.

The Rev. — Willett showed the best two Melons; and Dr. R. W. Jones, Penrhiwceiber (gardener, G. H. Walters), the second.

For the collection of six vegetables grown from seed supplied by Messrs. Sutton & Sons, Reading, who also supplied the prizes, Mr. F. L. Davies was first; Mrs. Williams second; and Mr. T. Richards third.

Messrs. Wheeler & Sons, Ltd., Gloucester, offered prizes for the best collection of vegetables grown from their seeds. The first was won by Mr. G. D. Phillips; the second by Dr. R. W. Jones; and the third by Col. Wallis.

Messrs. J. Garaway & Co., Clifton, also gave prizes for the best collection of vegetables grown from their seeds. Col. Wallis was the most successful in this class.

There were several valuable prizes offered for decorative work. The first prize for the best table

decoration was a silver rose bowl on an ebony stand. Miss Blanche Jenkins, of Cardiff, won this with a very artistic arrangement of Shirley Poppies. Mrs. A. J. Woodcock, of Pontnewydd, won the two silver vases which were offered as second prize. The heavy arrangement at the base entirely spoilt the effect.

There were many handsome miscellaneous non-competitive exhibits, and the following recognition was conferred on the best of them:—Silver Gilt Medals: Messrs. S. Treseder & Son, Cardiff, and Mr. J. Basham, Bassalleg. Silver Medals: Mr. W. Treseder, Cardiff; Messrs. Tuplin & Son, Newton Abbot; Messrs. Jarman & Co., Chard; and King's Acre Nurseries Co., Hereford. The attendance was slightly affected by the weather, but at times the marquees were uncomfortably crowded.

DEVON AND EXETER.—*August 2nd.*

BRILLIANT weather favoured the society's show on Friday, last week, but evidently there was a falling off of exhibitors, especially in the fruit classes. Probably the date may have been too early for some. Vegetables were well shown, also the table decorations. The two competitors in the latter put up effective tables, marvels of lightness The first prize table consisted principally of Orchids, while the dessert was of the finest. There were several honorary exhibits which greatly added to the display. These included Messrs. R. Veitch & Son, Exeter; Jarman & Co., Chard; Smale, Torquay; and Curtis, Sandford & Co., of the same place.

W. Brock, Esq., took first for twelve stove and greenhouse plants, one half to be in bloom. The same order was maintained for six as well as for six distinct Ferns. J. H. Ley was placed second, and F. R. Hearn, third. Lady Duckworth took first honours for a miscellaneous group arranged in an oval 11 ft. by 15 ft. W. Brock was obliged to be content with second place. J. H. Ley was first for similar group, 11 ft. by 8 ft., he being the only exhibitor. Coleus, Begonias (Rex), Cockscombs, Dracaenas, &c., were all well shown.

Fuchsias were good from Mr. Brock's, whose gardener (Mr. Roland) handles all specimen plants with great skill.

Fruit.

Muscats were exceptionally fine in bunch but rather small in berry. S. Eddy, K.C., Weybridge, took the lead as well as for Foster Seedling and the collection of eight dishes. Sir John F. Davie was first for Hamburghs. Lady Duckworth was first for five dishes of fruit; Rev. Hamilton-Geld, second, he was also first for Nectarines and green-flesh Melon.

S. Eddy, K.C., was ahead for Peaches; and P. Hoare first for Pineapple, staging a good Queen. General Sir R. Buller was second with Smooth Cayenne, not quite ripe.

Vegetables (Collection of twelve kinds).

Here the renowned exhibitor, Sir J. Shelley (gardener, Mr. Mairs), was in his old place, followed by Sir J. Duckworth-King; Lady Theodora Guest being third; and W. C. Cleave, fourth. Lady Duckworth won for a collection of six kinds. Cucumbers, Cauliflowers, Onions, and Celery were well staged by Sir J. Shelley, as well as a collection of Potatos.

British Wild Flowers,

Dried and mounted on stiff paper, properly named, occupied a large amount of staging and attracted a lot of attention, which showed what a large variety is indigenous to Devonshire.

Amateurs not employing a gardener showed well in Geraniums, Asters, Roses, bouquets, Onions, Potatos, Peas, Beans, &c.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends *the most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The Editor would be much obliged if competitors would forward their articles earlier in the week as the work is heavy on Wednesday morning, delaying the paper in going to press.

The prize last week was awarded to "Mr. C. F. B." for his article on "Eryngiums (Sea Hollies)," p. 782.

PHOTOGRAPHS OF PLANTS. — The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in THE GARDENING WORLD. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

*** *All correspondence relating to editorial matters should be addressed to* "THE EDITOR," 4, DORSET BUILDINGS, SALISBURY SQUARE, FLEET STREET, E.C. *Timely notes or notices about interesting matters or current topics relating to gardens, gardeners, or gardening, are always cordially welcomed. When newspapers are sent would our friends please mark the paragraphs or articles they wish us to see?*

Cinerarias Dying Off.—*T. M.*: It seems to us a case of cultural treatment rather than disease. Young plants, that is, seedlings, are very liable to go off suddenly, the symptoms being that the leaves suddenly droop or flag as if dry. This might indeed have been the case a time or two thus inducing you to water them heavily. In such a case the tender roots may have been caused to rot, so that when the sun shone on the leaves the latter dropped down flabbily. It might have been that the soft and tender roots got killed by the sun shining fiercely upon the pots and drying up the roots. In any case it would be advisable to stand your plants in a cold frame with a northern aspect, and shade them during the heat of the day. At the same time as you are trying to keep them as cool as possible you should also ventilate freely so as to give substance to the leaves. Keep the plants in this condition till the weather becomes cooler and the nights considerably longer. Then you can give them a warmer southern aspect, with plenty of light and ventilation, but do not by any means allow the temperature to run up high owing to the presence of clear sunshine.

Annuals for Sowing in August.—*D. M.*: Your object should be to get hardy ones, such as will stand the winter and flower next spring and early summer, either in the lines where you sow them or after they have been transplanted. As a rule, those with a long tap root and few fibres do not like the process of transplanting, so that you should contrive to sow them where they are to bloom. If you have not already sown Wallflowers, you should do so at once. The seedlings will not be very large after this date, but unless the weather is very cold they will continue to increase in size till the flowering period approaches in spring. If of small size they may be planted all the more closely together. Silene pendula compacta, Myosotis sylvatica, M. s alba, M. Victoria, and others will transplant easily when the weather becomes cool and moist in the autumn. Others that may be sown about the end of the month are Papaver umbrosum, P. nudicaule, Shirley Poppies, Oenothera amoena, Clarkia elegans, Clarkia pulchella, and some others of a similarly hardy nature. Antirrhinums should be sown in boxes, to stand the winter, in cold frames. East Lothian or Intermediate Stocks, if sown now, would make shapely little plants to put into beds in spring, or to flower in pots for conservatory and greenhouse decoration, for cut flowers, or any other use to which these sweet-scented subjects may be put.

Difference between Geranium and Pelargonium. *G. T.*: We are aware that it is customary to speak of Pelargoniums as Geraniums merely by way of giving them a popular name; but we think the practice ought to be discontinued, because erroneous and entirely misleading. The differences between the two genera are few and easily remembered. Geraniums are almost entirely perfectly hardy, and grown as border or rockery plants. They have regular flowers, ten perfect stamens, and no nectary. Pelargoniums, on the contrary, are greenhouse plants, have irregular flowers (two of the petals being of a different shape or size from the rest), fewer than ten perfect stamens, and each flower possesses a nectary. In Tropaeolum this nectary, or spur, is free from the flower stalk and easily discernible with the naked eye. In Pelargonium the nectary forms a slender tube, which runs down one side of the flower stalk just beneath the flower, and may easily be seen as an elevated ridge on the flower stalk by the naked eye. Get flowers of both genera and look for these characters one by one, and you will then remember the differences easily.

Vallota purpurea bursting its Pots.—*A. J. B.*: Your best plan, if you cannot wire them to make them hold the water, would be to slip the plants into other pots of the same size for the time being, without disturbing the balls of soil till the flowering period is over at least. If there is any space between the balls of soil and the pots sift a small quantity of soil with a fine sieve and shake this into the space. Watering it a time or two with a rosed watering-pot will make it settle down into position so as to retain the water. Give weak liquid manure twice or three times a week till the buds commence to expand. It will strengthen them wonderfully. Early in spring you can give the bulbs a larger shift or break them up, putting the large flowering bulbs together and the small ones into smaller pots, and grow them on to flowering size.

Green and Scarlet-flesh Melons.—*Exhibitor*: Unless specially excluded by the wording of the schedule, green and white-flesh Melons would be admissible as distinct varieties; but we believe you would lose points by placing both in the same collection of fruit. Carefully read your schedule and see whether or not it is forbidden to show two Melons, because, if forbidden, you would be disqualified.

Peaches Diseased.—*Veracity*: Your Peaches are suffering from a disease which is unfortunately too prevalent, as it is difficult to deal with and impossible of cure, because it lives inside the fruit. The fungus (Glaeosporium laeticolor) attacks various other fruits, such as Nectarines and Grapes, but is a more insidious enemy to the Peach because it finds a sufficient nidus on the surface of the fruit, protected by the downy covering on the surface of the same. It first makes its appearance in the form of a cluster of small bluish specks on the skin of the fruit. This attacked area soon spreads till it covers, it may be, the whole of one side of the fruit, this portion presenting a sunken or flattened appearance because the skin and flesh immediately beneath it cannot swell at the same rate as the rest. Your best plan would be to keep a sharp eye upon the fruits for the first evidence of attack, and when pretty certain it is the disease you dread, you should remove and burn the fruit to prevent the fungus from spreading. Being so small at first, you might consider it an easy operation to cut out the diseased part; but although the fruit might continue to grow, the cut surface might afford an easy inlet to other spores which may be about the house. It is necessary to sacrifice the diseased fruits, as they soon become quite useless for table. By arresting the disease in its early stages, you may save many of the fruits that later on get attacked. In any case they should be removed and burnt long before they have reached the stage sent us. Attend to ventilation, watering, and good cultivation generally.

Names of Plants.—*S. T.*: Cestrum Newelli (also known in gardens as Habrothamnus Newelli); 2, Trachelium caeruleum; 3, appears to be Erigeron grandiflorus, but a piece of stem and leaves should also have been sent.—*R. M.*; 1, Lastrea spinulosa; 2, Lastrea dilatata; 3, Cystopteris fragilis; 4, Asplenium Trichomanes; 5, Asplenium Adiantum nigrum.—*R. L.*: 1, Spiraea lindleyana; 2, Spiraea ariaefolia; 3, Spiraea Aruncus; 4, Verbena venosa; 5, Centaurea dealbata; 6, Veronica longifolia rosea. —*D. M.*: 1, Ligustrum japonicum; 2, Aralia chinensis (also known as Dimorphanthus mandschuricus); 3, Epilobium angustifolium; 4, Lathyrus platyphyllos.—*E. W.*: 1, Cattleya Warscewiczii, generally known in gardens as C. gigas; 2, Cypripedium venustum; 3, Oncidium flexuosum.—*A. Hemsley*: The Sunflower is Helianthus debilis, generally known in gardens as H. cucumerifolius. The specimen was rather better than the wild plant.—*E. C. H D.*: 1, Juncus articulatus var. supinus (wild); 2, Carlina vulgaris; 3, Spiraea lindleyana (please note that your letter said "No. 3, wild," which is altogether a mistake); 4, Sedum glaucum.

Communications Received.—J. Botley (next week).—R. S.—A. M. T.—E. Wehb & Sons.—Kelway & Son.—J. R.—M. B.—A. C.—E. F.—W. T.—A. K.—H. J.—T. B.

TRADE CATALOGUES RECEIVED.

DAVID W. THOMSON, 24, Frederick Street, Edinburgh.—Bulbs and Roots for 1901.

JOHN PEED & SON, Roupell Park Nurseries, West Norwood, London, S.E.—Bulb Catalogue.

HARLAN P. KELSEY, Tremont Building, Boston, Mass., U.S.A.—Hardy American Bulbs and Plants; also Stuartia pentagyna.

JOHN DOWNIE, 144, Princes Street, Edinburgh.—Bulb Catalogue.

DICKSON, BROWN & TAIT, 43 and 45, Corporation Street, Manchester.—Autumn Catalogue of Flowering Bulbs, &c.

FIXTURES FOR 1901.

(Secretaries of shows will oblige us by sending early notice of their fixtures.)

AUGUST.

13.—R.H.S. Committees.
14.—Clevedon Exhibition; Sevenoaks Exhibition.
15.—St. Andrews Horticultural Association.
16.—National Co-operative Festival at the Crystal Palace (2 days).
17.—Bankfoot (Perth) Horticultural Society.
20.—Grandpont Horticultural Society.

The Issue for August 31st will contain complete Index for Volume XVII. . . .

Our BIRTHDAY NUMBER . SPECIALLY DEVOTED . TO . . "BULBS." . .

September 7th.

"GARDENING WORLD," 4, Dorset Buildings, Fleet St., London.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, AUGUST 17th, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.,** where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, August 20th.—Grandpont Horticultural Society.
WEDNESDAY, August 21st.—Banffshire Exhibition; Eastbourne Exhibition; Hastings Flower Show.
THURSDAY, August 22nd.—Horsham Flower Show.

THE SWEET PEA BICENTENARY CELEBRATION.*

THIS small book, as its secondary title indicates, is the report of the committee under whose auspices the bicentenary celebration of the introduction of the Sweet Pea to Great Britain was carried to a successful issue last year. It gives a full account of the inception of the celebration, the exhibition, the papers read at the conference, and other matters transacted in connection with the same.

The papers read at the conference will furnish useful data about the Sweet Pea, its history and improvement, so far as it has been recorded, for all time coming. The early history is meagre in details, as all histories are, and reminds us of the early beginnings of Rome, in so far as certain things one would like to know are lost in obscurity. Modern historians, unlike the ancient ones, strive to arrive at the truth, and, though occasionally given to conjecture, they do not substitute fable to fill in the details where information falls short. The *Historia Plantarum* of John Ray, London, 1686-1704, is quoted as saying that the sweet-scented Sicilian flower had a red standard, while the wing-like petals surrounding the keel were pale blue. Cupani, a devout Italian monk and enthusiastic botanist, catalogued the Sweet Pea, but said nothing about the colour of the plant. In 1699 he sent seeds to Dr. Uvedale, of Enfield, England, and during the following year, we presume, many eminent botanists visited the plants, yet it does not seem that they made any record of the plant, at least in the way of description, so that their botany must have given rise to the legend that the science consists chiefly of "Latin names."

In 1737 John Burmann published a book of plants native to Ceylon, including the Sweet Pea, which he describes as *Lathyrus zeylanicus, odorato flore amoeno ex albo et rubro vario.* From this description it is presumed that the variety is what we now know as Painted Lady. Burmann also mentioned a red variety as coming from Ceylon on the authority of the Prodromus of Breynius, published in 1680. If this is correct, the Ceylon varieties were known as early as that from Sicily, and "thereby hangs a tale." In those olden times the eminent botanists were not very particular in distinguishing between cultivated and purely wild plants, so that their modern representatives decline to believe many of their records.

According to Mr. S. B. Dicks, who wrote "The Early History of Sweet Peas" for the Sweet Pea Conference, a widely prevalent belief is that the Painted Lady is the parent of the modern race, and that it was really known to botanists before the Sicilian purple variety. Modern authorities, as well as those who wrote more than half a century ago, ascribe the origin of the Sweet Pea to Sicily; while the *Index Kewensis* merely refers the Lathyrus odoratus-zeylanicus, of Burmann, to L. odoratus, Italy being given as the native country.

The chapter devoted to "The Evolution of the Sweet Pea," by Mr. C. H. Curtis and Mr. J. S. Eckford, quotes a portion of the early history of the plant, and then proceeds to deal with the recorded improvements of the plant in this country, commencing with a catalogue published in Fleet Street in 1793, nearly a hundred years after its introduction. Little information is obtainable until we come to the work of Messrs. J. Carter, Noble, Cooper & Bolton, Sutton & Sons, Thos. Laxton, H. Eckford, and others who are still mostly with us, or whose representatives are. Mr. Eckford, whose name is so prominent in this connection, commenced to improve the Sweet Pea in 1870.

"A System of Classifying Sweet Peas" is dealt with by Mr. Walter P. Wright, who argues that the time has come for reducing the prevailing chaos amongst the multitudinous varieties of this popular flower to something like order; and for the formal adoption of it as a florists' flower. Sweet Peas in this chapter are first classified according to form, such as "erect flowered varieties," "hooded varieties," "partially hooded or intermediate varieties," and "recurved varieties," samples of each type being given. Then follows a "classification of Sweet Peas by colours," the selfs alone supplying eleven groups or lists. There are five groups of flakes, listed according to colour; two groups of bicolors; white ground fancies; and Picotee edged varieties.

"The Sweet Pea in America" is ably dealt with by the Rev. W. T. Hutchins, of Indian Orchard, Mass., U.S.A. Such a subject as this admits a wide range of treatment, and as might be expected from an enthusiastic amateur who has three times made a 6,000 mile journey in the interests of the Sweet Pea, we get a very varied and interesting history of this popular flower in the United States.

Mr. H. Dunkin deals with "New Points in the Culture and Decorative Uses of Sweet Peas." Here again the subject is of wide scope, and the many points at issue have been compressed into small space to reduce them to the limits of a paper.

Mr. William Cuthbertson follows with an article on "Sweet Peas Under Glass," and another on "Sweet Peas with Perfume." In the summer and autumn of 1895 he gave considerable attention to the question of perfume, owing to a controversy on the subject then taking place. He finds that a large proportion of recently introduced varieties have only a very faint odour, and classifies the varieties he names under "strongly perfumed," "medium perfumed," and "faintly perfumed." He has carefully examined the flowers both under glass and in the open air, but does not state whether or not the different methods of culture have any appreciable effect in altering or modifying the perfume of the varieties mentioned. He concluded that "Princess Beatrice excelled all others in perfume," yet the variety is included in the classified lists as being only moderately scented. A "Scheme of Classification" was also worked out by the Classification Committee, and here recorded with the best varieties in each group. Some illustrations are distributed through the pages, so that altogether a great amount of information concerning Sweet Peas is included in the book, which all concerned would do well to procure.

*The Sweet Pea Bicentenary Celebration. Report of the Celebration of the Bicentenary of the Introduction of the Sweet Pea into Great Britain. Published for the Bicentenary Committee, by Mr. Richard Dean, V.M.H., Ranelagh Road, Ealing. In stiff covers, Price 1s. Post free 1s. 2d.

Flower Baskets.—There is a great demand in Paris at the present time for baskets filled with growing plants and flowers. High handled baskets are much in evidence for the purpose, as they offer better facilities for introducing climbers. The baskets are constructed in most fantastic shapes and are fitted with zinc receptacles for the plants.

The Cripples' Mission.—A more praiseworthy effort is not to be found than that carried on by this mission, and it is well deserving of help from every quarter. One of the chief objects is to make the life of unfortunate cripple children more pleasant. They cannot indulge in the romping games of their companions, and are therefore often additionally afflicted with ill-health. The mission has eight homes and in these as many as 7,000 children are cared for annually. Only those who have occasion to be shut up in the oven of London's streets, or the close quarters of any other great town, can fully appreciate what it means to have a week in the ozone laden air of the breezy seaside. All these homes are on the coast, and as they are all supported by voluntary subscriptions, they are always glad of assistance. The gardener has not as a rule a great surplus of money, but he often has a great surplus of fruit which does not pay to gather. If some of this was sent to the homes for cripple children, imagine the joy that would be created in hundreds of grateful young hearts, and we are sure that the gardener would feel happy, too, if he could only see the effect. All particulars of the work done may be obtained from the secretary of the Ragged School Union, 32, John Street, Theobald's Road, London, W.C.

The Old "Early to Bed" proverb, among many other old acqnaintances, has been changed. It should now read "Early to bed and early to rise, would do no good if you don't advertise."

Dictamnus Fraxinella received its common name of Burning Bush not from the colour of its flowers, but from the inflammable gas which they give off. It flares np when a match is applied to the blooms on a calm evening.

Cow Birds.—The cow birds which have just been placed in the Zoo, resemble the cuckoo in the manner of their breedlng habits, only the cow bird goes one better or rather worse, by first clearing out and destroying all the eggs of the unfortunate host and hostess instead of merely placing a single egg in their nest.

United Horticultural Benefit and Provident Society.—The usual monthly meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last. Eight new members were elected and one nominated. The amount paid to sick members since the last meeting was £39 1s. The treasurer reported having £499 9s. 4d. in hand, and was instructed to invest £400 in the best avallable corporation stock. The secretary was asked to make the usual preliminary arrangements for the annual dinner, which will take place early in October.

Trees for the Strand.—London's roads or road menders are always creating a nuisance somewhere, and at present these miniature earthquakes are at frequent intervals, especially in the busiest of the streets. If they do as it is proposed in the front of the Law Courts, where the road has for some time had the appearance of a military earthwork, viz., plant a row of trees, London people wlll forgive these disturbers of comfort and roads this time, and perhaps every other time when they add a piece of foliage to the monotonons walls of brick and stone. No doubt, in time, we shall see our London up to date, if the other cities will wait for her, with rows of trees down the streets, more tree-planted squares, and subterranean passages to convey the numerous pipes and wires along instead of turning up the road in all directions for repairing gas, water, sewer mains, or some of the endless number of wires.

West Australian Poisonous Plants.—In the early part of July, 1895, the Bureau of Agriculture of West Australia suggested to the Premier that a full inquiry should be made into the polsonous plants of the colony. At the end of July, 1898, a circular was sent out by the Agricultural Department requesting farmers and others to forward a supply of the poisonous plants growing on their lands in order that samples might be sent to Professor Stockman, of the University of Glasgow, through the mediatory offices of Professor Bayley Balfour, of Edinburgh Botanic Gardens. Whether or not the plants were grown from seeds in the botanic gardens at Edinburgh and the plants afterwards sent to Glasgow, the journal does not say. Professor Stockman, however, fully investigated their toxic action on frogs and rabbits, the effects of which he details in the journal of the West Australian Agricultural Department for December.

The Deadly Hemlock.—We have many plants in our native flora which are very poisonous, and it would be a fulfilment of a national duty if every child that attends school was made to recognise those which are dangerous. If this was done there would not be the long list of deaths from misadventure caused through eating various parts of plants. The Educational Department is morally responsible for all these deaths which take place, but probably, now that they are advocating the more extensive teaching of botany, children may learn more about the properties of plants which they find in their rambles. There was a painful instance of death from Hemlock poisoning last week. The Slatefield Industrial School, whose boys were encamped at a place called Lowmont, has lost one of its brightest boys through the mistake, and over twenty others had narrow escapes. The boys, during a halt in the march out, mistook the Hemlock for an edible plant and ate some of it. The nnmber of deaths would doubtless have been far greater if an emetic had not been promptly administered by the superintendent.

Carpet Bedding in Germany.—*Moeller's Deutsche Gartner-Zeitung* recently contained some plans and paragraphs of well executed designs of carpet bedding as practised by German gardeners in Homburg and other towns. Some of the plans are really pretty designs, but we think they would take a deal of time, care, and expense to execute them properly.

London's Trees.—There is nothing like rivalry for stimnlating a thing, and it is a pity that London's citizens do not more fully realise what their French rivals are doing in the way of tree planting in Paris. In that city half a million of trees have been planted within the last decade, and £20,000 is spent annually to keep them in order and to plant new cnes. Every street of a certain width is entitled to a row of trees on either side, while every street of a certain greater width gets a double row. Why cannot London follow suit; is she asleep, or are we broke? Surely some of her widest streets would look better if embellished with a few trees; Whitehall, for instance.

America Again.—Shall we ever learn to wake up in thls country and come to the fore again as producers of new things, or at least writing about new things, or are we to still tell the truth in our newspapers and be considered behind the times? Americans are always to the front, and certainly their motto must be the familiar one of "Push." This time the hero is a scientific horticulturist hailing from Chicago. He has succeeded in crossing the Scotch Thistle with the Carnation (?) He has a score of the progeny now in bloom in his garden, and has named the novelty Centura. We should like a specimen, or at least a photo of a plant, and we are sure Kew would be grateful for a specimen. The plant partakes of the characteristics of both parents, so it is claimed. Mr. Morton, the raiser, says he would not change places with President McKinley. The *Morning Leader* wishes to know who would, with the exception of Mr. Bryan.

The Casual Gardener. — The *Morning Leader* recently had an amusing article, a column in length, on observations on the casual gardener. We should like to give them all, but space will only allow of a few. "He spends a good deal of time looking for work, and when he has found it he spends a good deal more time looking at it. . . . There is time for everything, and let everything bide its time is hls maxim. . . . Go slowly and surely is his motto. . . . Like a certain well-advertised article he recommends himself. . . . When he has walked around your demense several times and taken his bearing generally he settles down to work. While you are about he continues at it steadily. When you retire he does likewise. . . . He is so proud of every perceivable advance, and not a few that are unperceivable, that he pauses periodically to gaze lovingly upon what he has accomplished. The more he does the longer he pauses, for the slmple reason that there is more to survey." The article is cleverly written and speaks highly of the professional.

Table Decorations.—Under the heading of *Obiter Dicta* in our contemporary the *Midlands Counties Herald*, we always expect to find something good. This witty wrlter recently had the following paragraph in that column:—"And now for a gentle tilt at many kind frlends and good hostesses. I for one strongly object to a superfluity of dinner-table floral decorations. I like a little of this sort of thing, but I rarely see a little. Conseqnently I can hardly move my knife and fork without running the rlsk of upsetting some glass top-heavy wlth flowers. This arrangement might be endured to a limited extent, but I do most vehemently protest against the striking of big plants and even trees on a dinner table, and in snch a manner that I cannot possibly see my opposite neighbour. . . I must further add that when I go out to dine I do not go to see a table flower show. I know such a flower show is often very pretty, and often furnishes opportunities for the display of a nice taste in schemes of colour and arrangement." In the next paragraph he betrays his carnal weakness for creature comforts, and suggests that some of the money wasted in excess of flowers should be utllised to procure a better brand of wine. This, of course, in more senses than one, is merely a matter of taste.

The New Horticultural Hall at Massachusetts.—The photograph which the *American Florists' Review* reproduces in a recent issue is not likely to give a good impression of the interior arrangements of the hall. It looks like a crypt, and both the position and the light are badly chosen.

Encroachments.—It is well known to all those who study geology or geographical botany that at one time, in ages long past, our island was joined to the mainland. This separation did not take place in a few years, but has been a slow process and may be seen at work at the present time, especially on the east coast. All along the Yorkshire coast, and, in fact, with the exception of a few miles in the neighbourhood of Lowestoft, the sea is making vast encroachments all along the coast, and buildings, which within the remembrance of living people were some distance inland, are now washed by the waves, and in many instances destroyed altogether.

Terrific Hailstorm at Hawick and District.—The south of Scotland was vislted by the most disastrous thunderstorm within living memory. Untold damage has been done to property, gardens, crops, &c. The storm was accompanied by hail or rather lumps of ice, many of the pieces being over 2 in., which lasted for about ten minutes. The nurseries of Mr. John Forbes at Hawick appear to have got the full force of the storm; over 4,000 panes of glass were broken, while in the grounds plants and flowers have suffered to an alarmlng extent, so that Mr. Forbes' well known exhibits will be absent from many of the leading shows this autumn. Luckily the newest range of houses which fortunately contained the new Begonia Caledonia escaped with but slight damage. The storm lasted over five hours, during which time the rain fell in torrents and the thunder and lightning hardly ever ceased.

The Scotch Arboricultural Society.—This well known society is again on its annual tour, and this year makln a survey of the land of Burns. Leaving Edinburgh they journeyed to Ayr *via* Glasgow where their number was greatly augmented, and by additions at various intermediate stations the party numbered quite a hundred by the time they reached their headquarters, which was about 8 p.m. Later in the evening the party dined together at the "Ayr Arms," Mr. D. P. Laird, Pinkhill Nurseries, Murrayfield, presiding. In spite of the unpromising appearance of the weather the party turned out in full force in the morning. Amongst those present were Lord Mansfield, the president of the society; Mr. Munro Ferguson, of Novar, the hon. sec.; Dr. Farquharson, M.P., of Finzean; Mr. Edward Tennant, The Glen, Innerleithen, and many other well known gentlemen interested in the good work of the society. Mr. D. P. Laird filled his usual post of director-general, and, as before, he proved the right man in the right place. The first place of interest visited was "Allowa's auld hauntit kirk." While in this district they visited the cottage in whlch Burns was born and the museum of relics of Scotland's great poet. The party were deeply interested in all they saw, as indeed is every man who visits this place if he is a lover of the works of Burns. The party next visited the estate of Miss Cathcart, Auchendrane, and were rewarded with the pleasure of seeing many fine specimens of timber. One of the most unlque features to be seen in this neighbourhood was the Union Avenue, which was planted in 1707 to commemorate the union of Scotland with England. It is composed of Silver Firs and many fine specimens are to be seen. The girth of one which was measured by members of the party was 15 ft. 9 in. After a pleasant tour of this estate the party drove to Culzean Castle the seat of the Marquis of Ailsa. Here they were cordially received and entertained to luncheon. The party finished out their first day here and were conducted round the place and shown the principal items of interest by Mr. Smith, the factor, Mr. Paget, forester, Mr. Dalziel, forester, and Mr. David Murray, the head gardener. They arrived back at Ayr in time to hold the annual dinner of the society. Lord Mansfield presided and arrangements were afterwards made for the coming year. Norway is to be visited next year, and a committee was formed to make the necessary arrangements. We have not yet any accounts to hand of the other days' excursions.

American growers recommend arsenic and granulated sugar as a sure eradicator of woodlice.

A Bothy.—Now that there is such an outcry against the hardships of bothy life, an extract from hat renowned work, Nicholson's Dictionary of Gardening, may not be out of place. He describes it as a residence for under-gardeners, usually built behind the hothouses or some high wall, in what is called a back shed. The place is too often a cramped ill ventilated hovel. A bothy proper should be an independent structure, and fitted with modern conveniences; for, of all people, gardeners are the most susceptible to colds, &c. A library of standard horticultural and botanical works, as well as a few on other scientific subjects, and a moderate number of high class books of fiction, one or more weekly gardening and other papers, should be supplied by the employer. It is evident by this that Mr. Nicholson studied all sides of the question, both gardening and gardeners. It is a pity that some of the wealthy peeresses when in a glittering wealth of diamonds and with sprays of costly Orchids about them cannot be put to shame by some means for the way in which they are allowing the men to live who grow their choice flowers. What would the public think when viewing a noble pile of buildings in which some of these haughty personages live if they could only see into the workings of the household. We wonder if that cheer which greets many men when they leave certain places round Westminster would be given if they only knew the kind of heart which is concealed by that quiet smiling face. Who would think that many such men would give orders for 6d. to be stopped out of the gardeners' money for every pane of glass he breaks?

SWEET PEA COUNTESS SPENCER.

Sweet Peas of a meritorious character, and quite distinct from those already in cultivation, are now difficult to procure; though, if any one is sufficiently fortunate to obtain a salient variety or type, he can soon procure a great many more of that strain differing from the original one chiefly in colour. That would practically be a new strain or race. The variety under notice possesses sufficient distinctness for the development of such a strain, provided its form can be perpetuated from seed and possibly accentuated in character.

The special features of the flower are that the standard and wings are greatly expanded or widened, and of slightly unequal growth in parts so that the free borders become beautifully wavy or undulated. It belongs to the great group of selfs, the whole flower being of a beautiful shade of rosy-pink, somewhat paler towards the base of the standard. Another feature of the variety is that in the early stages of flowering the great majority of the flower stalks carry four blooms. Since the plants have commenced to bear seed pods, the number of flowers has become reduced to three. Nevertheless that in itself shows considerable signs of advancement. We hope, however, that the four-flowered character will become fixed in the progeny, or their near descendants.

A First-class Certificate was awarded to it by the committee of the National Sweet Pea Society, at their exhibition in the Royal Aquarium, Westminster, on July 25th last, when a bunch of flowers was exhibited by Mr. Silas Cole, gardener to the Right Hon. Earl Spencer, Althorp Park, Northampton, to whom we are indebted for the flowers from which the accompanying illustration was prepared. The great thunderstorm which raged in London on the first day of the show spoiled the blooms there, as well as those at Althorp Park, otherwise we should have been able to prepare an illustration of a four-flowered raceme of blooms.

GEONOMA GRACILIS.

This beautiful Geonoma is a very dangerous rival to Cocos weddeliana (which it very much resembles) for table decoration. It is a native of Costa Rica. There are a good many species of Geonoma, but G. gracilis is a great favourite. Its stem is very slender, as are also the petioles. The leaves are beautifully arched, 2 ft. or 3 ft. long, and the leaflets are narrow and pendent, and of a deep green colour. The name is derived from geonomos, which means "skill in agriculture," probably arising from the supposed difficulty of propagating these plants; but as they seed, and also throw up suckers, there is not great difficulty in raising them. It thrives in a mixture of good peat and loam, with a little silver sand added to keep it porous. The pots must be drained well, as it enjoys a copious supply of water both at the roots and also overhead, and if allowed to get dry the tips of the young leaflets die. Avoid over potting it, as it is much more useful for decorative purposes when kept in a small pot. These should have a slight top dressing (instead of repotting) with some good cow manure when occasion requires, and be plentifully supplied with water, and they will be found to thrive exceedingly well under this treatment. They love the shade, being found in dense forests; and enjoy abundance of heat and moisture.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

CINERARIA STELLATA.

Cineraria stellata is a very useful decorative plant, being very light and pretty, which is a great contrast to the old formal Cineraria. It is also very useful for cut flower and is singularly accommodating. As it requires but very little fire heat, cool, moist pits or frames suit it admirably. The seed may be sown during May, June, and July, according to when it is required. The seed when sown in a moist temperature of 60° germinates readily, and when large enough may be pricked off in pans, or potted singly into thumbs. The frames should be kept closed for a few days after potting, always shading from bright sunshine and syringing toward evening after hot days.

Pot on as required into 48's and 32's, using a good compost, loam ⅓, cow manure ⅓, leaf mould ⅓; add a little soot, silver sand and wood ashes. When established in larger pots gradually expose after sunset till the plants will bear exposure without flagging, and then during September and the first weeks in October on fine nights leave the lights off altogether, as the heavy dew is very beneficial to the plants. Should the weather look threatening put four pots, 32's, under the lights, one at each corner. This will allow free circulation and your plants are safe from thunder, rains, or frost. The colours of the flowers are not yet all that can be desired, but our leading seed growers will soon improve them.—*C. P. C.*

CLERODENDRON FALLAX.

This is the best of the many species of shrubby Clerodendrons. It is a native of Java; has handsome heart-shaped leaves and large panicles of bright scarlet flowers. It is a plant which is well worth careful cultivation, and a batch of healthy young plants in flower is unapproached in brilliance by any other flowering stove plants. The best plan to adopt is to grow them from seed sown in the spring, although many cut down the plants after flowering and grow them on for the second year, this plan is not so satisfactory. The seedlings should be pricked off into thumb pots, placed in the stove or pit, where they have plenty of light, and when the roots are well through the soil, they should have a shift into 4-in. pots, using a good, rich compost, and keeping the plants well syringed, which will help to keep off insects, for if once scale or bug gets on the plants it will seriously detract from the beauty of the batch. About the middle of June they ought to be ready to pot into 6-in. or 7-in. pots, using a compost of equal parts loam and leaf mould, some silver sand and well decomposed manure. They ought to be potted fairly firmly, given plenty of room between the plants, and kept near the glass. Treated in this manner, the plants ought to flower in August and produce panicles over 1 ft. in breadth.—*F. W. M.*

Sweet Pea Countess Spencer.

OUT OF DOOR STRAWBERRIES.

The early fruiting varieties have been layered and planted out by this time. Those who wish to obtain a succession of fruit ought to have started the job of layering the late kinds about a week ago, but failing this a start should be made at once. Clear the plants of all the superfluous runners and tie all the good ones together so that there need be no trouble in selecting them when layering. Every layer should have a good crown. Use 60's which must be thoroughly wiped out before being filled with the soil, which can be loam and spent mushroom dung. Place a crock and some of this dung at the bottom of the pots for drainage. Fill the pots to within half-an-inch of the rim and press the soil down moderately hard, for slackness will cause them to dry up quickly. The best way is to place the pots round the prepared layers on the border and peg the crowns into the soil by means of a wire or wooden peg, taking care not to damage the

crowns. The plants must be kept moist, and if the day is very hot and sunny perhaps a watering three times a day will be required. When the plants are thoroughly rooted plant them out in a warm and not too sunny position, keeping them about 2 ft. apart. The last year's plants can be cleaned and kept for another year's fruiting.—*G. W. D.*

CALANTHE VEITCHII

Is one of the most handsome genera of stove Orchids that are now throwing up their long erect spikes, 2 to 3 ft. in height, bearing many flowers, lasting a considerable time. Many of the varieties are at their best, such as Calanthe furcata, C. Masuca, C. vestita, and C. Veitchii, coming in a little later, making a grand display in the conservatory. Pot up the pseudo-bulbs early in March with a mixture of loam, leaf mould and peat, broken up rough, to which may be added some silver sand and dried cow manure, with a little charcoal. Divide the pseudo-bulbs up, placing the strongest singly in 5 and 6 in. pots, and three smaller ones in a 7-in. pot, keeping them well above the rim of the pots and making them quite firm. See that the new growth is kept apart and do not overcrowd your plants, affording room sufficient for applying the syringe between them to keep down red spider. Do not damp too heavily overhead or decay will set in. Care should be taken in the watering until the roots are well established in the soil. When the flower spike is pushing its way through give them a weak solution of manure water; shade against bright sunshine, with a temperature from 60 to 70 degrees. Keep them near the glass as much as possible. When in flower take them to a cooler house and gradually dry off.—*W. E. Havill, Marpool Cottage, Exmouth, Devon.*

PRIMULA CAPITATA.

The round headed Mealy Primrose is perhaps one of the finest of our hardy Primulas. It was first introduced to cultivation by Sir J. D. Hooker, who found it growing on gravelly banks at Lachen at an elevation of 10,000 ft. above the sea level. It has also been found in the Hariab district in boggy meadow ground that is watered by springs at elevations of 8,000 ft. Although a true perennial in its native habits it can hardly be regarded as such in our gardens (at least, that is the case in some districts, perhaps), but I have seen it flowering well for a few years in succession. It ripens seeds fairly well in good seasons. It should be sown in pans in February and afterwards potted singly into small pots and hardened off in frames, after which they can be planted out. A north exposure suits them well. Use a good mixture of turf, peat, and sand. In dry weather they should get a good watering; in fact they should never be allowed to get at all dry. Primula capitata grows nearly a foot high, with a large globular head of flowers not unlike a Sea Pink, of a deep purple hue. Although P. capitata does well enough outside it can be grown to a far higher state of perfection when always grown in a greenhouse with plenty of ventilation.—*T. S. Dick, Castlemilk, Lockerbie.*

BULBS FOR EARLY FORCING.

The first batch of Roman Hyacinths and paper white Narcissus should now be potted. The best soil for them is a mixture of about three parts sandy loam, one part leaf soil, one part decayed manure, and a sprinkling of sand and wood ashes. If required for cut bloom only they can be grown in boxes about 4 in. deep. For pot plants 5-in. or 6-in. pots are most useful. Well drain the pots or boxes, and put a layer of rough soil over the crocks. About three parts fill with soil and sprinkle a little silver sand on it resting the bulbs thereon. About four bulbs for a 5-in., or six for a 6-in. pot will suffice, while in the boxes they can be placed about 2 in. apart. Work the soil well down between the bulbs and leave moderately firm, the crowns of the bulbs being visible above the soil. Place them pot to pot in a frame or on an ash bottom. Give a gentle watering with a fine rosed can. Leave them until next day, and then cover to the depth of 6 in. with damp ashes or cocoanut fibre refuse. In about six weeks they will be started and ready for taking out of the plunge. Take them into a cool house for a week or two, and they will then be ready for forcing gradually in heat.—*E. Brown, The Gardens, Nostell Priory, Wakefield, Yorks.*

A WELCOME HOME.

I daresay there are few county families who have not had near relations out at the war. When those who have been fortunate enough to escape the bullets or fever return home to their dear ones, then is the time to express our feelings in some form or other. It is only natural that those brave warriors should enjoy a hearty *welcome* home. In decorating for the dinner table use the British colours (red, white and blue) in the glasses or vases. In addition a novel idea is to have one of the British flags made with flowers. The following is how we did the "Union Jack" lately: We procured two table napkins about 18 in. square; made the cross lines of the flag *red* with two rows of double Geranium pips; then put a row of the double white along each side, filling in the angle corners with pips of blue Delphinium. We used the white Everlasting for to show part of the handle, and placed the flag down on each side of the centre piece. If these instructions are carried out successfully a lovelier style of decoration could not well be conceived, and does not escape the eye of the hero of the evening. No doubt it will add to his happiness—a happiness that no one can feel except those that have been on the battlefield and are safe amongst their friends once more.—*John C. Dick, The Gardens, Champfleurie, Linlithgow.*

SUTTON'S BULBS FOR 1901.

Sutton's Bulb List for the current year cannot fail to arrest attention for the singular beauty of its cover. On one side a dense mass of Narcissi, Hyacinths, and Tulips, backed by a half-timbered house on the edge of a stream, makes a very charming picture, in which the warm tones find an effective contrast in the leafless trees. On the other side a characteristic Dutch landscape shows great sheets of bulbous flowers in full splendour. Had these illustrations been issued as separate plates there would have been a large demand for them.

During the early months of the year we are almost entirely dependent on bulbous flowers for the adornment of homes and gardens. And it must be admitted that these flowers include a wide range of splendid colours which are unmatched for purity during the summer bedding season. The contrasts and harmonies to be seen every spring in public parks and private gardens demonstrate the reliability of bulbs for producing magnificent effects. This, no doubt, accounts in some measure for their increasing popularity. But the most striking advantage claimed for them is that they can be successfully cultivated where the great majority of flowers are simply impossible. The smoky atmosphere of great towns scarcely mars their beauty, and really handsome specimens are frequently seen in cottagers' windows. Yet they are worthy of the grandest conservatories, and on stately terrace gardens their brightness is indispensable.

Sutton's Bulb Catalogue contains carefully compiled lists of all the finest and most popular varieties, and the brief but accurate descriptions facilitate the task of selection. Those who experience the least difficulty, or who desire to limit expense, are offered a series of collections which meet the requirements of conservatories, greenhouses, and even windows. For the open ground there are assortments to suit quite small gardens, and in sufficient numbers to fill a series of large beds or borders with the glow of inimitable colours.

Begonias, Cyclamens, and Gloxinias, and other subjects which can only be brought to perfection under glass, have, during a long course of years, been developed by the Suttons into strains of surpassing beauty. Their exhibits at leading horticultural shows never fail to attract admiring crowds of visitors. We observe that for recent displays of these flowers, Gold Medals have been awarded at Cardiff, Manchester, and York.

Nearly every page of Sutton's Bulb Annual is illustrated with reproductions from photographs, many of them suggesting modes of treatment that will be valuable to lovers of horticulture. Those of our readers who secure a copy of the work will find it full of interesting information, conveyed in language free from the technicalities which often perplex the amateur.

Many photographs of single plants of Hyacinths give ocular demonstration of what should be aimed at in the culture of Hyacinths, that is, in merely developing the full grown bulbs to the full flowering stage. The long, massive, and dense spikes of bloom, in association with remarkably short leaves, are marvels of cultivation. In many cases the leaves are altogether overgrown or drawn by the time the bulbs come into bloom. The camera here shows the whole plant in perfection. Many other plants are here excellently illustrated.

PEAR GANSEL'S BERGAMOT.

Most cultivators know only too well how soil and locality affect Pears, and some kinds especially. The kind here named in many gardens is worthless. I found it to be so from a dessert point of view in one garden I had charge of; while in a soil of a totally different nature (light sandy soil) in north Hants it was very good. When in west Norfolk (in a garden last autumn) I got fruit from a tree growing in the open garden on a bush formed tree. Although not attractive in appearance the flavour was of the very best. These fruits were not large but very russety in colour, a sign of high flavour. This kind is in use during October and November, and not a long keeper; but where the soil is of a nature to favour it, I should not hesitate planting it. In this Norfolk garden the soil is of a nature similar to that in north Hants—sandy loam. This gets warm and somewhat dry, which appears to suit this kind. When this is present the flavour is of the very best. It has the reputation of being a strong grower, but this is easily corrected by root lifting in early autumn. When the tree crops well it corrects this tendency, or when the trees are aged.—*J. C., F., Chard.*

APPRENTICE GARDENERS.

I do not believe any head gardener can put any inducement to young men to serve an apprenticeship at gardening.

For if I had to answer the question, which would be the best profession for a young man to take up I should certainly not say gardening, that is, if he wants to earn a living without being a slave.

At the present time gardeners are so cut down as regards wages and labour that it is often a case to make ends meet at all, and yet they are expected to keep everything in good order just the same as when fully manned.

Take for instance the majority of gardeners' hours and their wages, against that of a first-class mechanic, and bear in mind a mechanic only serves six or seven years to be a first-rate workman, fit for anywhere, and taking top wages, whereas a gardener has got to serve fourteen to sixteen years before he can think of taking a head gardener's situation. Then he has got to begin at the bottom again, for very few gentry care to take a foreman as gardener, except they know the place he has been living at.

Again, when a tradesman has finished work he has done for that day, and has nothing else to trouble about; not so with the gardener; there is always something to do and think about. We may say a gardener has never finished, Sunday or week day.

Of course some men are lucky, and drop into a good place straight away, but they are few and far between, and often-times we find the best men in the worst places through no fault of their own.

As a writer says on page 765, "journeymen cannot be had." Well, is there any wonder? For as a rule young men that go into the garden are well educated so can anyone blame young gardeners leaving gardening and taking up something else with better wages and less hours? I could give instances of first-rate journeymen leaving the bothy with 16s. weekly and getting 30s. instead with less anxiety.

But returning to the apprentice again. A young lad with well-to-do parents is put in the garden as an apprentice because they are friends with the head gardener from the castle, and they think they would like their son to be one some day in a similar position. Well, perhaps the lad has no more thought of gardening than it has for him, but nevertheless he has his time to serve, and the majority of them are only too pleased when it is up. Who has got to have all the trouble with these lads? Not the head gardener, but the foreman; this I know too well, and the sooner such things are altered the better. The lad that starts as garden boy with his heart bent on

one day becoming a gardener is the one we want more of.—*J. Botley.*

WORK IN THE FLOWER GARDEN.

By this all summer bedding plants should have filled their allotted space, and it will be necessary to trim in, more or less, many of the varieties used for a summer display, notably Pelargoniums, especially the Ivy leaf section, Mesembryanthemum cordifolium variegatum, Marguerites, Alyssum variegatum, &c.

The prunings can be utilised for propagation, cutting clean up to a leaf and inserted in shallow boxes, pans, or boxes of light sandy soil made firm, and watered the day previous. Place the Pelargoniums in the full sun, and sprinkle with a rose can twice daily unless showery weather prevails. The others named had better be placed under a frame, kept close and shaded from the sun where they will soon form roots, if kept fairly moist, keeping an eye that they do not damp off or decay at the base with too much moisture.

The larger dot or specimen plants such as Calceolaria amplexicaulis, Plumbago capensis, bush or standard Heliotropes, Marguerites, Fuchsias, Nicotiana Sylvestris, Salvia splendens, S. Pitcherii, and S. Bethelii must be securely staked and tied, as from now onwards storms and blustering winds often occur, and do irreparable damage through this little inattention. Dahlias, too, have got top-heavy, so should be well supported, removing all spent flower heads.

And now is the time to summer prune such plants as Spiraea ariaefolia, S. bella, S. Bumalda, S. confusa, S. arguta, and a few others, if not already done; of course, the proper time is as soon as flowering is over in each case, but they are liable to get overlooked in the presence of other work. But the plants otherwise soon get a mass of wood if neglected only one year.

Climbers against walls or fences claim attention in the same way; and where Deutzia scabra is grown thus, the old flowering shoots should be cut out, bringing in the strongest young growths of this season from the base. These will flower their full length next June. Spur back Cydonias, Clematis montana, and Chimonanthus fragans, not too severely with the last named, as it is mostly on the spurs the tiny sweet scented flowers appear.

Roses merely require the old blooms cut off and nailing in any young growths from the base, as with the Deutzia. If most of the flowers emanate from about the centre of the plant, and no shoots are forthcoming from the bottom, it should be cut hard back early next March. Plants treated thus often break away nicely, and throw up strong shoots which soon cover the wall again, and carry numerous flowers the following year. The shoot may require to be shortened 1 ft. or so to where the wood is ripe early in spring.—*J. Mayne.*

THE FLOWER GARDEN.

Things are still looking bright in this department, especially where the hose has been at work. Since the recent rains other things which are by no means desirable in the borders are growing with amazing rapidity, and much time is spent in hoeing and weeding. Hoeing may be an apparent waste of time, but it serves a double purpose, for, as I have said before, it is an efficient means of conserving the moisture in the soil, and therefore should be practised whether weeds are plentiful or not.

Cuttings.—There is plenty to do now with the numerous plants that are to be propagated, and no time should be lost in getting in cuttings of those which it is intended to increase. Most herbaceous plants will strike now in cold frames if the pots are placed under bell glasses.

Seed Saving.—Many plants are now past their flowering season and an economic person will be on the look out for seeds. Sowing one's own seeds will be found to be a very good way of keeping down expenses in places where much is needed for little money, and it is far preferable to lowering the wages. If a seedsman can save his own seed why should not a gardener do the same? Surely it is as easy for one as for the other. There are several little things which may have big results that should be attended to. Not by any means the least is that of marking the most desirable varieties so that an inferior sort be not increased. If seeds are to be saved it is as well to weed out any which show undesirable tendencies as soon as they show their first flower, or they may be the means of crossing with a better variety and thus in many instances entirely spoiling the progeny. There are many genera of plants which are prone to this cross fertilisation. Take the Columbines, for instance. If they are grown with the various varieties anywhere in the vicinity of each other it is impossible to keep them true, and with a few thoroughly good varieties nothing can be better for making a collection if care is taken to eliminate the varieties which show poorness of colour or constitution. Some plants are not so apt to get crossed as others, but it is always advisable to follow the method practised by seedsmen, and not allow inferior blood to contaminate the strain. Great care should always be taken to make sure, 1st, that the seeds are properly ripe, and, 2nd, that they are perfectly dry before being put in their bags or packets. On still days it is a very good plan to expose them to the sun and air on newspapers. Another precaution which must not be overlooked is that of protecting the seeds from mites, etc., when stored. For this purpose there is nothing better than camphor or carbolic tablets. There is yet another important item to be borne in mind and that is that there are many plants whose seeds require sowing as soon as they are ripe. No rule can be laid down as to which plants require this, but common sense and careful observation must be the guide.

Removing faded Flowers. — Anyone who wishes his display of bloom to extend over as long a period as possible must not neglect this important work, as it not only adds to the neatness of the garden but also to the vigour of the plants. It is because this practice is not carefully carried out that annuals prove so evanescent. Left to themselves they produce a crop of bloom, perfect their seeds and then die. They cannot be blamed for this, as it is only Nature. Sentimental people say that "Nature's hand can not be turned," but in practice they will find it can be coaxed and guided a long way from its normal course. So long as the weather will permit and the constitution of the plant will stand it it will endeavour to attain its object of producing seed for the reproduction of its kind by producing more flowers as the others are removed. This is where the gardener scores, he lets the plant waste its whole energy in flower production if he does not require its seed, and even if it proves somewhat tedious to follow out this treatment where small flowered plants are concerned it will amply repay the trouble.

Bulbs.—If the gardener has not already made a selection of what bulbs he intends to plant, it is now time for him to stir himself and consider how far he can make his allowance go. The large bulb firms are now issuing their catalogues, and a look through these is really most entertaining and makes one long for endless wealth, so that some of all the varieties illustrated could be grown. Many of the catalogues are filled with plates taken from photographs of actual living specimens, so that there is no deception as to the good qualities of the bulbs as there used to be in the days when wood cuts were much in vogue, as with this class of picture the quantity of bloom can be increased and the shape altered according to the will of the artist. Dutch bulbs seem to still be greatly in demand, but our English nurserymen are now fully awake to the fact that they can grow bulbs equally as good as their Dutch *confreres*, and we now see immense bulb farms in various parts of our islands. In Ireland the industry is gaining ground, and yearly the land for their cultivation is extended and new farms opened. This rivalry and competition of an international character cannot fail to be of good service to the gardener, as it will enable him to obtain the highest quality of bulbs for the lowest possible price. It is always best to have your orders placed early, and it is for this reason that I make this early reminder. Yet it is not too early for Narcissi, as they ought to be planted early in September, and not, as is often the case, late in October.

The Lawn.—A better time than the present cannot be chosen for making new lawns and renovating old ones. If seeds are sown now where a new lawn is required they will get well hold before winter comes on if they are kept well watered with a fine shower hose and rolled occasionally. Where old lawns have become thin it is as well to mix the seed with a little fine soil and then strew in about the bare places and see that it is kept well supplied with moisture. The loose soil laying on the grass may look untidy for a few days, but it will soon wash down and both improve the old turf and make a first hold for the young plants. Where the turf is weedy it will be as well to give it a severe cleaning now, and then thicken the turf with an application of good lawn seed.—*P. R.*

Kitchen Garden Calendar.

With the exceptionally hot and dry weather many of the crops are looking in a somewhat dejected state, and are not up to the standard one would like to see them.

Onions.—Where these have not been properly watered during the drought, they have ripened prematurely. It is time now that all were getting fit for pulling, and they must be given every encouragement to ripen. If the tops refuse to die down they should be bent over and forced to do so. Many growers find that autumn-sown Onions do the best, and where they will succeed it is best to sow them now, as they are not so liable to be troubled with the various pests which often injure the spring-sown crop. If they are to be sown now no time should be lost, as the sooner they are in the better. Take care to choose a variety well adapted for autumn sowing, as many are not suited for this.

Spring Cabbage.—Sowings should be made this month for spring supplies. They should be sown in two batches, the first one now and the second at the end of the month. See that only those varieties which are known to heart well are chosen.

Red Cabbage.—There is not usually a very big call for these, but a few for pickling are always handy. The present is a good time to make a sowing.

Coleworts.—Sow for summer use in a sheltered bed.

Cauliflowers.—In a well prepared bed on a warm border a good sowing should be made without delay for planting out early in the spring.

Prickly Spinach.—After the ground has been well manured and given a copious dressing of soot, a sowing of this should be made for winter use. Another sowing may be made later for use in the spring.

Turnips.—If a good sowing for winter use has not already been made, it should be done now. The variety known as All the Year Round will be hard to equal, and in my opinion impossible to beat.

Celery.—It is time now the very latest trench was filled. The earliest may be in want of earthing up, but do not earth up earlier than what is absolutely necessary as if covered too early rotting often takes place. See that it is well watered before it is earthed up, but do not attempt to put the soil round it until the stems are perfectly dry.—*K.*

About a Dozen Species of Anemone are known to gardeners, of which A. coronaria is the most popular.

Royal Scottish Arboricultural Society.—At the last meeting of this society sixteen new members were elected and arrangements made for an excursion to Ayrshire and the Glasgow Exhibition. The chairman, in his report, stated that a larger number of exhibits had been offered for the show at Inverness than what had been expected, but as they had been promised additional space they would be able to accommodate them. He also mentioned that steps were being taken to ensure that forestry should occupy a prominent place in the curriculum of the new College of Rural Economy about to be established in Edinburgh. The following are the names of the new members:—John Richie Findlay, Spencer Campbell Thompson, Edward Badenach Nicholson, John Cunningham, Harly Marshall, Frederick Shaw Kennedy, David Meldrum, Alexander Pollocks, Thomas Ryan, Alexander Cameron, John C. Gifford, Donald M'Laren, William Fraser, John Irvine, George Innes, and Thomas Lill Clayton.

Hints for Amateurs.

Now that glasshouses are so cheap the cultivation of bulbs during the winter ought to be greatly stimulated as they require very little heat, very little trouble, and are very little expense; in fact, all connected with them is small except their good qualities. The term bulb is often misused, but so long as it is commonly classed as a bulbous plant, I shall not exclude it from my list. Bulb culture ought to appeal more especially to those who live in large cities, where anything worthy of the name of a garden is entirely out of account, as they will produce a fine display in the window with very little care.

The time for making a selection of bulbs for winter flowering is now fast approaching, and a few hints on the cultivation of the various kinds which are the popular favourites with most people will perhaps be acceptable.

Hyacinths.—From November until late in the spring these may be found in the markets and adorning the rooms of all classes of people from the lady's boudoir to the artisan's kitchen. Roman Hyacinths are the kind that is generally found in bloom during the early part of the winter, as they adapt themselves to forcing so easily. October is the month in which Hyacinths are generally placed in the beds for outdoor blooming. When grown in beds they should be planted quite 6 in. deep.

Pot cultivation is very simple if set about in the following manner:—First obtain good sound bulbs of a standard variety and pot them either singly into 48-size pots, or three into a large 32 or 6-in. pot. The soil should be of a light nature and not pressed too firmly into the pot. The bulb should be just covered, and if placed on a little sand it will lessen the chances of rotting. Making the soil too firm is a very common mistake, and the bad result is inevitable, as when the roots begin to grow they push the bulb up in the air instead of fixing it down tightly into the pot. After they have been watered in, they should be buried several inches deep in moist ashes Let them remain in these until the pots fill with roots, and the shoot on the top is about an inch high. When this stage is reached they should be placed in a frame and brought along in heat as they are required, or they may be stood in the window if a glass house is not available. This will be found to be by far the best method of growing them.

They are also very commonly grown in water. When this is done, only the base of the bulb should touch the water or it will rot. Rain water only should be used, and this should be frequently changed and have a few pieces of charcoal put in with it. For some time after the bulbs have been put on the glasses they may be kept in the dark, but must be brought out into the light immediately the top commences to grow and placed in a position where they will obtain the maximum amount of light possible. It is only the single varieties which prove of much use for water culture. The reason the bulbs are able to produce such fine flowers on water alone is because they have previously stored the necessary nutriment in the scales of their bulbs. Bulbs which have been grown thus are no more good, but those which are flowered in pots will produce a good show of blooms the following spring if they are planted out into the borders or into the turf during the autumn. When growing in pots they are greatly assisted by giving them a weak stimulant during the time they are throwing up their flower spikes.

Narcissi.—Just at present there is a craze for these flowers, and the bulbs of some of the recently raised varieties are commanding fabulous sums. But for a few shillings a collection of handsome varieties may be obtained. They may be grown in pots and should be treated in exactly the same way as recommended for Hyacinths. When grown out of doors they should be put in as early in September as possible. It is a mistake which is often paid for with failure to leave the planting until late in the autumn.

Chinese Sacred Lily.—This is a species of Narcissus, and the only one which is generally subjected to water culture. They are not usually grown in vases like the Hyacinth, but in Japanese bowls filled with gravel and water. The bulbs should be three parts buried in the gravel and then water added until it just covers their bases. They, also, may be kept in the dark until they start to push their leaves. Broken charcoal mixed with the gravel will keep the water sweet for a much longer time.—*Hortus.*

(*To be continued.*)

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

A Good Rose for the Greenhouse.—*A.*: There are such a large number of varieties to be chosen from that it is difficult to say which is best, but to judge from the frequency with which they are seen, the two old favourites, Marechal Niel and Gloire de Dijon, will take some beating. At any rate, they will not disgrace the roof of the most "classy" house. You must prepare a good bed of new soil for them to root in. A good meadow loam, with the addition of sufficient ballast to keep it open, will be found to suit them admirably, and as it gets exhausted it can be enriched with liquid manure. The bed should be ready for them by the first week in October, so that they may be able to get over the effects of shifting before the winter sets in. You must select a position where they will not be crowded by other climbers, and where they can have a free circulation of air without receiving direct draughts. Two other good Roses for a conservatory roof are Niphetos and The Bride. They are not such free bloomers as the other two, but they have a very graceful appearance when seen from below, as their blooms are of a drooping nature.

Roses Growing too Vigorously.—*Moss*: Your plants have evidently been put into a too rich soil. We know of nothing which will prevent the rapid growth unless you take out the soil and replace it by new. Check all growths which are growing away irregularly by cutting them well back. Even when the soil is not too rich they often have a tendency to devote all their energy to a few sappy growths. This must be watched for and the shoots regulated. You do not say whether you have been giving your trees that little luxury known as a "good dose of manure." If there is the slightest tendency to produce rank growth is a sure sign that the roots are not in want of any stimulating food. If the variety is naturally a strong growing one, you will have to let it exhaust itself by allowing the strong growing shoots to run to the top of the house. Side shoots will then be produced carrying fine flowers.

The Proper Time to sow Columbines.—*A. T.*: You will do well to sow a batch of these handsome old favourites at the present time, as they will then make good plants for next year. They are best sown in boxes in a frame, using a light soil, with leaf mould, and do not sow too thickly. They can then be transplanted to the open border in spring. If you had sown the seeds in spring they could have been planted out in June in their permanent position.

The Best Snowdrops and When to Plant Them. *Q*: Undoubtedly in the common collection of Snowdrops the species, Galanthus Elwesii, is by far the best as regards size and form. It has a most charming effect when naturalised in the grass or when growing in nooks on the rockery. It will grow in almost any class of soil, but is best suited with a sandy loam. It should be planted in the early autumn in the open. It makes a very pretty pot plant, but will not stand the least forcing. A cold frame or a window in a house suits it very well.

Greenhouse Boiler Furred up.—*N.*: We cannot recommend anything to remedy this state of affairs, but there are many preparations, good, bad, and indifferent, on the market to prevent it. Caustic soda is largely used in some establishments. A post card to any first class boiler maker will obtain for you all that is known on this disagreeable question.

A Cheap Asphalte for a Small Patch.—*L. P.*: If one part mineral pitch, one part resin, and seven parts chalk are boiled together and applied hot, you will find it will meet your purpose and prove a very serviceable substance.

Ants in the Fruit Room.—*Thos. Hill*: There are numerous remedies for eradicating these troublesome pests; one of the best is to paint every crevice and board with a strong solution of alum. If this does not prove successful, try sprinkling carbolic acid in their haunts, that will very soon drive them away, but the smell is somewhat offensive to many people.

To Cure Hollyhock Disease.—*Rust*: We know of no cure for this disease, and the best way to deal with it is to burn all the infected plants and disinfect the others with flowers of sulphur. It is not confined to the Hollyhock, but effects the whole of the malvaceous plants. This being so, it would be a good plan to remove all such plants away from the Hollyhocks as they may prove nurse plants to it. It is believed to have come originally from Chili. It belongs to the same family as the Corn Rust, Chrysanthemum Rust, &c., and is known amongst mycologists as Puccinia malvacearum.

Geraniums.—*I. O.*: Yes; you can take your cuttings now at any time. Take care that you select the hardest shoots.

Schizanthus.—*S. S.*: You should sow your seed of this elegant plant now without delay and winter them in a house which will exclude the frost. If you do not keep them close to the glass they will spoil by being drawn. The best dwarf variety is, we think, the one now so largely advertised bearing the name of S. wisetonensis; it is a most profuse bloomer and has a compact, dwarf, pyramidal habit.

To increase Forget-me-nots.—*V.*: You have made your inquiry at just the right time as this is the best season for sowing the seed. The old fallacy that these could only be grown in a boggy place has been almost entirely dispelled, and the plant whose simplicity and lively blue appeals to everyone, has a bright future before it. When the seedlings are fit to handle they should be pricked off into boxes and kept in cold frames through the winter, and planted out into their blooming quarters in May. During the time they are in the frames air must be freely given whenever the weather will permit if sturdy growth is to be obtained. They may also be sown in nursery beds under the shelter of a wall.

Grevillea robusta.—*Godetia*: There is nothing uncommon in the fact that your seeds have been in the soil many weeks and have not showed signs of life. You must have patience, and a great deal of it too if you intend to raise your own plants, as they are most capricious in germinating, and will often lay in the soil for months as dormant as if they were dead. When seeds are so long in germinating there is often great difficulty in keeping down moss. This may be overcome by placing a pane of glass over the pot or pan and darkening it with something. Do not attempt to coax them by heat or you will spoil them. If one or two come up, prick them off into small pots, but do not throw the seed soil away as they often spring up during the second year.

Foxgloves.—*B.*: It is time that the young plants were ready for planting out now, but if you sow your seed in pans and winter them in frames you can plant them out in the spring, but they will not be so good as those sown in June. Young plants of good varieties may be obtained from any good nursery at a very trifling cost.

Asters not Thriving.—*A. P.*: Judging from the description you give of your plants we presume that you refer to the class of plants known as China Asters, but in reality they are not Asters, but a species of plant known as Callistephus hortensis. The true Asters are the Michaelmas Daisies. To grow the Callistephus well the soil should be rich and light and should be always kept moist. They are always injured by cutting winds, so a sheltered position is necessary. Perhaps your plants have been allowed to suffer from want of water.

ROCK CISTUS IN NORTHERNHAY PARK, EXETER.

In very few of onr public parks is any attempt made to grow the species of Cistus. This is no donbt owing to their belng somewhat tender, or at least some of them, even in the London district. Several of them can be grown with tolerable success, however, even mnch further north than that, especially in the vicinity of the sea, where the rigours of our winter are tempered by proximity to deep water.

Such being the case on the east coast of this country, it is more particularly so on the west coast where the climate is tempered by the Gulf Stream.

The tenderness of the plants is largely due to the evergreen character of the foliage, as the plants are natlves mostly of the sonthern coasts of continental Europe, and the Levant. Several of them, such as Cistns albidus, C. ladaniferns, C. laurifolius, &c., are tolerably hardy in the northern parts of Britain; and their beauty is such that they merit more extended cultivation. Most of them have white flowers; and some are spotted or have blotched varletles. The flowers are prodnced in such enormous nnmbers that, although the individuals are ephemeral, a great sucession is kept np during the best months of summer. The individuals are practically flowers of a day, so that the bushes may be white till the day is far advanced, and then the ground may be covered with the fallen petals. Next day the process is repeated, and so on for weeks.

The accompanying illustratlon shows a fine plantatlon of bushes at home in the more elevated portion of Northernhay Park, Exeter. A few years ago this park was a very rough place until it was put in order, and some rockwork constructed by Messrs. R. Veitch & Son, Exeter, and taken in charge by Mr. W. Andrews, the park superintendent, who appears in the foreground of that portion planted with the Rock Cistus.

Abont five and a half years ago we had the pleasure of inspecting Northernhay Park, when the park was being laid out in its present fashion, and the rockwork was being constrncted. Planting was then being executed, and we must admit that the species of Rock Cistus have made wonderful progress, and are now ln a vigorous and thriving conditlon as the illustration will show.

The elevated position suits them, and that, together with the relatlvely mild climate of Devon, has contributed to the present excellent results. One great secret of success with these Rock Cistus is full exposure to sun and air to ripen the wood, and a relatively dry position for their roots in winter.

The species of Cistus are the nearest relatives of the Rock Roses (Helianthemum) we have, and similar conditions contribute to the welfare of both. Both are equally prolific in flowering; but the flowers of the species of Cistus in most cases are the larger. The example we give is one that might well be followed by other bodies havlng public parks under their charge.

Rock Cistus in Northernhay Park, Exeter.

THE PROPERTIES OF THE SWEET PEA.

The committee of the National Sweet Pea Society have had under consideration the necessity for drawing up some regulations ln regard to grantlng by the society of Certificates of Merit to any new varieties which may be deemed worthy of such an hononr, and they have adopted as a basis for future action a schednle of properties as constituting quality in the Sweet Pea as under:—

1. Form.—The standard mnst be erect, waved, or only slightly hooded. The standard, wings and *keel* to be in such proportion to each other as will constitute a harmonious and well halanced whole.

2. Number of Blooms on a Stem.—No variety shall be recognised that has not at least *three* blooms on a stem gracefully disposed.

3. Colour.—Distinct and clear self colours are most to be desired, and therefore striped, watered, and edged flowers will not be awarded Certificates of Merit, unless they present quite *new* or *remarkable combinations*.

4. Exceptions.—Perfectly distinct new colours such as approaching the blue of Salvia patens, the yellow of Coreopsis grandiflora, or the scarlet of the zonal Pelargonium shall be recognised even if the variety should fall short of the foregoing propertles.
—*R. Dean, Exhibition Secretary.*

NERIUMS.

Perhaps these old-fashioned greenhouse evergreens are better known to gardeners as Oleanders. They are at this time making a grand display in those gardens which are fortunate enough or sufficiently behind the times to possess them. We say behind the times, for the fact cannot he hidden, that, like hundreds of other plants which decorated our greenhouses a generation back, they have been turned out of their old places and replaced by more recent introductions. With some plants this may he excusable, but in onr opinion there are no plants to be obtained yet which are worthy of replacing the Neriums.

No descriptions of thelr merits and beauty are necessary as they are too well known to all gardeners, but a few cultural details may be of some servlce to those whose career ls yet young, and possibly to those who have been long at the work, as some establishments where they profess to grow them can only boast of very indifferent plants. When cultivating Neriums the grower must decide which he requires most, the foliage or the flowers, as to a great extent he can control this by the treatment given to them.

Much depends upon the soil in which they are grown. They differ from most other plants in being capable of adapting themselves to almost any kind of soil. Loamy soil should be favoured by those who wish to flower them well and keep the plants within bounds, as the growth is more compact when grown in a heavy compost. Peaty soil indnces them to grow quickly and the leaves are much larger and deeper in colour, but the flowers are generally smaller, and, as a rule, very few in number compared with those produced on plants grown ln loam.

They are natives of the "Sunny South," and are very plentiful along the shores of the Mediterranean. As they are natives of sunny countries it can be easily understood that much shade when grown under cultivation is not conducive to obtaining the best results, and we think that this, more than any other, is the cause of the wretched look of many plants in various establishments.

The time at which they are hrought into bloom varies much with the different methods of treatment. When we mentioned this as being the period at which there are many in bloom we referred chiefly to those which are planted out in permanent positions; hut many people cannot accommodate them in this way and consequently grow them in pots.

The general method of pot culture ls to encourage growth during the early part of the year, and then turn them out, in the same way that Azaleas and other plants are, into the full sun to ripen their wood and set their buds. By the middle of September they will have hrought np their buds, and it is time then that they were sheltered in a light airy house. When treated thns they will

flower in the spring or summer according to the temperature maintained.

After they have finished flowering is the best time to prune them if this is found necessary. Large plants are not always convenient for decorative purposes, but with one good large plant a stock of small ones is easily kept up. The old plant should be grown along in the ordinary manner, and when the shoots are fairly ripened those which are going to flower may be taken off and struck in small pots, placed in bottom heat, but with a cool moist atmosphere. They will soon root and can then be brought along as required during the spring and early summer. Always syringe daily when the weather will permit as black thrips evince a special liking for their leaves and green fly often infests the flower buds if neglected.

TRIALS AT MESSRS. WEBB & SONS' SEED FARM.

On Thursday, the 8th inst., a party of London and other men betook themselves to Stourbridge in readiness to inspect the trials at the great seed farm of Messrs Ed. Webb & Sons, Wordsley, Stourbridge, on the following day. The offices and glass ranges of the firm are at Wordsley; but the party was conveyed in machines direct to the seed farm at Kinver, some four or five miles from Stourbridge.

At Kinver the land is undulated and hilly. Mr Edward Webb met the party at the old farm house, situated at a considerable elevation above the river Stour, and just round one of the shoulders of Kinver Edge, a steep escarpment overhanging the Stour. Kinver Church with its square tower is situated almost within stonethrow of the farm house. At this elevation the prospect was fine and the eye ranged for miles over the undulated landscape to the hills that made the horizon in the distance.

The day was excessively warm, but the elevation insured a gentle breeze which tempered the heat and enabled the party to make a good journey on foot, without fatigue, over the extensive seed farms which consist, as might be expected, of land sloping to all of the cardinal and other points. The exposure provides an excellent field for experimenting, there being very few trees and nothing else to break the sweep of the wind when there is any at all.

The soil everywhere overlies the red sandstone formation, and while well drained is fertile judging from the excellent crops of various garden and farm seeds which are taken off it. By far the larger area is devoted to farm seeds, which were most interesting to those concerned or to those connected in any way with agriculture. Flowers and vegetables for garden use or otherwise occupy a sunny sloping position on a fertile piece of land.

Messrs. Webb & Sons' seed farms are the largest in the Kingdom, and, respecting the trial grounds at Kinver, an idea may be formed of their extent and the exhaustive nature of the experiments from the following facts and figures of what is to be seen at Kinver this season. It must be understood that these trials vary every year according to requirements, and what was a comprehensive test last year gives place to another subject this season.

Flowers.

Before descending to particulars, we may give a few general statistics. Of Sweet Peas there are eighty-seven varieties. The first sowings had finished flowering, but others were coming on, the blooms of which will no doubt be seen later on at the great Shrewsbury and other shows.

Of Asters there are fifty-two trials, including Webbs' Snowflake, Peerless, and Ostrich Plume.

Clarkias number twenty-five trials; Candytuft, fifteen trials, including Webbs' Pink Pearl, &c.; Eschscholtzia, seventeen trials, which made a very showy effect; Godetia, fifteen trials, not yet at their best; Nasturtium, sixteen trials; Chrysanthemum, eighteen trials; and Poppy, twenty-one trials, presenting a brilliant display; besides a vast number of plots of other kinds of hardy flowers, such as Stocks, Phlox, Hollyhocks, Calliopsis, Mignonette, Carnations, &c., &c.

Great attention is given to annuals, and all those sent out by the Wordsley firm and many others are here put to the test side by side, every year, so that anything possessed of merit may show itself by contrast and under equal conditions. The seeds annually distributed amongst their customers, are here tested by the firm; and before they attach their name to anything new they first test its merits thoroughly, so that when sent out everything may recommend themselves.

On entering the grounds the first thing that caught our eye was a fine strain of Chrysanthemum inodorum plenissimum, which some of our readers may recognise better under the name of Matricaria inodora flore pleno. The plants are now in full bloom, and most of the flowers are perfectly double, and often finely formed. The plant varies from 1 ft. to 1½ ft. in height, and the flowers, with their finely cut foliage, are useful for cutting.

Other annual Chrysanthemums in fine form here are C. coronarium and C. carinatum, with their beautiful single and double varieties, all the best of which are grown under name. The zoned or tricolor varieties of the latter are exceedingly handsome, and might more often be used for planting beds in the flower garden than they are. They are of the easiest culture, and flower profusely over a long period. C. carinatum atrococcineum is a good self crimson; and the crimson and white C. burridgeanum is also particularly handsome.

No sowing of annuals is flowering more freely than Bartonia aurea, the great golden flowers of which remind one of Hypericum calycinum, with its long stamens filling up the centre. Evidently this is a grand subject for a warm and dry season. Coreopsis Drummondi is also a good yellow subject of the easiest management.

The Clarkias are a perfect picture at present, being now in full bloom after having made excellent growth, in spite of the dry season experienced in the Midlands. In this section the firm has two novelties, named New Double White and New Double Salmon respectively, the names indicating the colour and the character of the flowers. The salmon is a lovely shade, and makes a beautiful contrast with the white one. Even the older varieties named Purple King and Salmon Queen have reached a great state of perfection, the percentage of perfectly double flowers being full, the plants regularly even in growth, and only 18 in. high this year. For beds and borders we can thoroughly recommend these two.

Many gardeners prefer Clarkia pulchella on account of its dwarfer habit (1 ft.) combined with its large and beautifully lobed flowers. Those of the type and C. p. flore pleno are rose coloured; while C. p. alba is pure white; and C. p. marginata, rose with the outer half of each lobe white. The latter has also a double variety.

Poppies of many kinds have been flowering splendidly for some time past, including the Shirley Poppies, the delicate and bright shades of which are of indescribable beauty. Several varieties of the Opium Poppy (Papaver somniferum) are well worthy of singling out by reason of their decided and beautiful colours, which have been fixed by seed sowing and selection as in the case of all the other specialities grown here. A novelty for this year is Webb's New Magnet, with double flowers, beautifully fringed, perfectly double, and variegated with crimson and white. Webb's White Swan is a pure white, fringed and double flower of great merit. In the Mikado, the fringing is carried to great excess, the petals being narrow, but forming a close mass of a beautiful rosy-salmon colour. Webb's Rosette is a choice rosy-salmon variety of quite another type of flower and very handsome. Various others belonging to different species are also grown.

The dry weather has retarded Phlox Drummondi, which is just now commencing to bloom. Several varieties are grown under name, including Webb's New Fringed, a novelty for this year having fringed flowers in various colours. Another novelty is Webb's New Golden Bouquet Sunflower, a pyramidal plant of dwarf habit, producing flowers in profusion over a long period.

Choice border annuals of recognised merit are Collinsia bicolor, C. b. alba, Asperula setosa caerulea (the blue Woodruff), Linum grandiflorum (crimson red), Helichrysum bracteatum, useful for drying as everlastings; Helipterum annuum, blue and white; Zinnias, in great variety and now making a fine show, as are various others. It was curious to note the effects of the dry season upon Salpiglossis and Tom Thumb Nasturtiums (Tropaeolum minus). Some of the seeds germinated at the proper time, and the plants are now flowering; others waited till they got some rain, and others till the recent rains, so that the plants are of two or three ages, some of them only coming through the soil.

Stocks are plentiful and good, the Ten Weeks Stocks now passing into seed. Four colour varieties of the Brompton Stock are now at their best, as are the Intermediate Stocks, but the side shoots will keep up a long succession. The China Asters are plentifully represented, but as they have only just commenced to open their first flowers, one cannot say much respecting them till the season is more advanced.

The annual Candytufts, varieties chiefly of Iberis umbellata and I. amara, have all done well, and are now in perfection. They are chiefly named according to colour, such as purple, crimson, rose, white rocket, carmine, &c. That named "fragrant" has scented white flowers. Webbs' Pink Pearl is a lovely and delicately coloured variety, not very old; while Webbs' New Coronet, with showy rose-coloured flowers, is a novelty for this year. Webbs' New Midget is also a novelty, very dwarf in habit (4 in. to 6 in.), and forming a sheet of white flowers, making it suitable for small beds on the lawn.

The varieties of Eschscholtzia californica and E. crocea are numerous and flowering grandly. We were much taken with Webb's Royal Rose, the petals of which are rose outside and creamy-white internally. Webb's New Buttercup has lovely golden yellow flowers and is a novelty for this year. A considerable area of ground is devoted to these Californian annuals, now revelling in the sunshine.

Many varieties of Mignonette are grown, including several of special excellence, Webbs' New Golden Gem, of dwarf habit, with yellow flowers attracting our attention at a considerable distance away. Webb's New Forcing is also of dwarf, compact habit, and has been proved highly suitable for pot culture. Both are fragrant and also equally well adapted for open-air sowings, as the cultures here amply demonstrate.

Webb's New Imperial Centaurea is a fine strain of Sweet Sultan, admirably adapted for cut flower purposes. The same may be said of Webb's New Little Beauty Cosmea, a lovely pure white variety of C. bipinnata, growing about 1 ft. high. The foliage alone is very handsome, so that no other setting is needed for the flowers when cut and placed in vases.

Gaillardias in great variety have been flowering profusely for a long time past, the light land here suiting them well. The early Sweet Peas have all gone to seed, but they made good growth and flowered profusely. Some eighty-seven varieties of all the leading types are grown, including Mrs. Dugdale, Blanche Burpee, Blanche Ferry, Stanley, Venus, Hon. F. Bouverie, &c.

Border Carnations are extensively grown from seed, the best varieties being selected, layered, and planted out in spring, to give flowers for cutting and for seed. They have made excellent growth, the clumps, carrying many flowering stems, being 2 ft. to 2½ ft. high, and still carrying many flowers of a high order of merit. The grass is wonderfully fine.

Double Hollyhocks are also propagated from seed, the tall plants carrying handsome double flowers of fine size and form, and in a great variety of colours. They were the first thing that caught the eye of the visitors as they approached the ground set apart for flowers and vegetables, on account of their height and telling colours.

Vegetables.

Time did not permit of a great deal of attention being given to these, as some of the many farm trials had to be inspected. Peas are very important at Kinver, and run to 158 trials, among them being several new varieties which Webb & Sons' experts have raised by crossing. About a quarter of an acre of ground is devoted to a new Marrowfat Pea, of which we shall hear more anon when it is put into commerce, possibly next year. The haulm throughout the sowing is of the uniform height of 3 ft. Its wonderful productiveness is very apparent, as also is the length of pod, which contains an average of ten very large peas.

Of Beans there are forty-eight trials; Onions, fifty-six trials; Cauliflower, twenty-four trials; Broccoli, forty-seven trials; Cabbage and Savoy, forty-two trials; Carrot, thirty-nine trials; Beet, fourteen trials; and Lettuce, twenty-five trials. Additional trials include Brussels Sprouts, Borecole, Parsnip, Parsley, and other vegetables.

We also noted a new Potato under trial, and not yet named. It is evidently of strong constitution, for the stems are 2½ ft. high, which is something wonderful for field culture.

Amongst Cabbages none enjoys greater popularity than Webb's Imperial, which is proof of its general utility and reliability. At the present time every post brings orders for it for autumn sowing. The heart is conical, of fair size, and remarkably firm. Even when out of season the heads do not split like some of the good old varieties, but the outer leaves in many cases simply dry up, leaving the heart as firm as ever. Earliness and excellent flavour are other points in its favour. Quite a little field of it is being grown for the purpose of seed, the hearts having to be cut to enable the flower stems to develop. The very best forms are also being selected and grown by themselves so as to keep up the strain to its present very high standard.

A trial of Lettuces included some of variable character, and several that were running to seed. Others of the same age and under the same conditions were of large size and in capital order for table use. The finest of the Cabbage Lettuces we noticed was Webb's Summerhill, which was of large size, with compactly arranged much crisped leaves of a tender and toothsome kind. Similar in many respects was Webb's Criterion, but the leaves were smooth, light green, and compactly arranged in a solid head. Neither of the two showed any signs of running to seed. Judging from appearances the finest Cos Lettuce was Webb's Exhibition, of large size and quite close, although no tying up had been attempted. Besides its utility for table purposes it would make a grand exhibition variety.

(To be continued.)

THE BRITISH PTERIDOLOGICAL SOCIETY.

The annual meeting of this society was held at Bowness-on-Windermere on Bank Holiday, August 5th last. The meeting was a great success, members turning up from Belfast, Manchester, Preston, Blackpool, Lancaster, Carnforth, London, and other places.

The president, C. T. Druery, Esq., F.L.S., V.M.H., &c, occupied the chair, and after the formal business incident to all such gatherings, he gave an interesting address, in which he congratulated the society on its progress financially, numerically, and pteridologically.

He also, as editor, announced the publication shortly of a new book on "British Ferns," which he hoped would meet with general approval, as it would contain articles on all phases of Ferns and Fern-culture, be beautifully illustrated, and, in fact, replete with matter which, he hoped, would appeal to the amateur as well as the expert.

A copious list of descriptive varieties would be added with the dates and raisers' names, &c., appertaining to each variety. This list, however, was not intended to be exhaustive but eclectic, *i.e.*, only the best forms in each class would find a place. As the varieties of British Ferns are now so numerous, it required all the skill of an expert committee to make such a selection—to weed out inferior forms, and to include those only which exhibited some distinct advance on lines of symmetry and beauty.

The president then read, on behalf of Dr. Stansfield, of Reading (who was unavoidably absent), a paper on "The Cultivation of some Difficult British Ferns," which was listened to with evident interest, as the learned doctor is rightly regarded as one of the greatest authorities on the subject of British Ferns.

As in all classes of plants, so it is with Ferns, there are some species and some varieties with which cultivators generally experience a good deal of trouble. It is, in fact, difficult, if not impossible, to imitate those conditions under which such plants are found in nature. On the other hand, it sometimes happens that one cultivator succeeds where another fails—hence the philosophy of comparing notes, and hence the value of such an exposition by one learned in the cult.

After a short interval, during which lunch was partaken of and a photographic group recorded, business recommenced. The president then called in complimentary terms on Mr. C. B. Green, of Acton, to give a paper on "Scolopendrium vulgare; Its Varieties and Culture."

The paper dealt exclusively with the Hartstongue in its numerous and beautiful forms, over 120 of which are recognised as worthy of a place in the new book above referred to. The paper also alluded to the early history of this Fern, its nomenclature, its variability, its propagation, its culture, and many other matters of interest to the cult.

Fronds and photos were exhibited to illustrate the subject still further; and, after a good discussion, votes of thanks to Dr. Stansfield and Mr. Green were heartily accorded.

Some remarkable plants and fronds of various varieties were then inspected, named, and duly registered—the fimbriated, frilled, and crested Hartstongues being particularly fine.

Among wild finds the president submitted a splendid bipinnate, or omnilacerum, form of Polypodium vulgare, found recently in Cornwall by a member.

Mr. Troughton, of Preston, also had a new variety of Lastrea propinqua, almost tripinnate in character, which he had picked up the previous day in Kentmere.

Some very good polydactylous seedlings of Polystichum angulare were exhibited by Mr. Garnett, of Bowness; capitate Athyriums by Mr. Askew, of Bowness; and frilled and fimbriated Scolopendriums by Messrs. Bolton, of Carnforth, and Troughton, of Preston. A vote of thanks to the president terminated a very successful meeting.

We may add that the secretary of this society is Mr. George Whitwell, Serpentine Cottage, Kendal, who deserves all credit for the work he has done in connection with the same.

MESSRS. VEITCH & SONS' BULB CATALOGUE.

Like everything else which Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, turn out, their catalogue of bulbs is well up to date and beautifully illustrated. Every page is embellished with plates of the most recent introductions in the bulb line, forcing and bedding bulbs being specially brought to the fore; and several photographs are reproduced illustrating the various purposes for which they may be utilised, both for house, conservatory, and lawn decoration, not forgetting the handsome effect produced by naturalising the various kinds, especially Narcissi, in the grass. We have been comparing the prices with those which were asked a few years ago and we find that in many cases they are altered, to the advantage of the buyer, by over 50 per cent.

There are several leaflets also included in the book, dealing with specialities of the season. In these their grand strain of Eremuri figures conspicuously, also the new varieties of Strawberries. Many press opinions are reproduced relating to the various plants, thus giving, not self-praise, but the praise of a wide range of *critics*.

Rhododendron King Edward VII. is figured, and considering the magnificence of the variety, is offered at a very low price. It is unquestionably the best variety which this firm of Rhododendron specialists have succeeded in bringing out. It belongs to the beautiful Javanese section and is the result of crossing R. javanicum with R. Teysmanni, R. javanicum being the male parent. The flowers are borne in bold trusses and individually measure quite 2½ in. in diameter. The colour is one of the most attractive shades of yellow and cannot fail to obtain the admiration of all who see it. The leaves, too, are of the best of substance, which unfortunately cannot be said of many of this handsome section.

Another very pretty plant offered as a speciality is Sonerila laeta. It will be a welcome addition to the foliage plants of the warm conservatory, as hitherto the Sonerilas offered have been only suited to the warm atmosphere of the stove. Kalanchoe flammea, the sensation of the period, is also dealt with separately, and those who have not yet been fortunate enough to see a good batch of it, or better still, possess one, may judge what it is like from the collection of comments on it, culled from all classes of papers. It is quite a new introduction and flowered for the first time under cultivation at Kew in 1897.

Everyone should possess a batch of these for the decoration of their cool houses, and there is nothing to prevent them from doing so, as the price at which they are offered is amazingly low for such a high class introduction, and it is now, in four years from its introduction, within the means of even the cottager. Those who have table decoration and other floral work to do will find it invaluable, as the beautiful flame-coloured flowers will last for over a fortnight in water.

CONFERENCE ON SMALL FRUITS.

A conference on small fruits was held in Dundee on the 6th inst., under the combined auspices of the Dundee, Broughty Ferry, and Newport Horticultural Associations. There were many samples of the well-known and some of the not so well-known varieties of Gooseberries, Black and Red Currants forward. Raspberries were represented by about twenty dishes. Strawberries were poorly represented owing to the hot dry weather having rushed them past. The Cape Gooseberry was represented by one dish, also the Loganberry (midway between the Raspberry and Bramble), and the American Black Cap or Thimbleberry, a fruit like a small Brambleberry, but with a different flavour.

Short papers were read by Mr. Slater, Broughty Ferry, on the "Strawberry"; Mr. J. Barker, Broughty Ferry, on the "Raspberry"; Mr. Jas. Bethel, Newport, on the "Gooseberry"; Mr. Geo. McDonald, Newport, on the "Black Currant"; Mr. D. Storrie, Glencarse Nurseries, on "Red and White Currants.'

The subject of each paper was discussed, the fruit examined and tasted, and the best varieties decided upon. It was an interesting commentary on the judgments given at flower shows, that the small hairy Gooseberry Langley Green should be selected from amongst many varieties of large, smooth skinned fruits as the best dessert Gooseberry; also that Garibaldi, although a smaller Strawberry than Royal Sovereign, President, and others, was the best Strawberry for all purposes. Keepsake was considered the best Gooseberry for pulling green, and Warrington the best for making jam.

Amongst Red Currants, Fay's Prolific was a showy berry, but Mallow-leaved was considered the best cropper. Amongst Black Currants, Victoria was best for size; Lee's Prolific for flavour; and Carter's Champion for cropping. Amongst White Currants, Versailles and Transparent were considered the best varieties for flavour and cropping respectively. Amongst Raspberries, Superlative was considered the best for all purposes.

The unsatisfactory state of the nomenclature of small fruits was commented upon by some of the speakers, the same variety being known by different names in nurseries and gardens throughout the country. Before a conference on small fruits can be of much benefit to cultivators in general, this question of nomenclature must be put right.—*W. K.*

MUSAS.

There are not many places where glass structures of sufficient dimensions are available for growing these stately plants as ornaments, but there are one or two which might be found room for as fruiting plants. The best one for this purpose is Musa Cavendishli, which is a small plant, but a good fruiter. It does not grow to more than 4 ft. or 5 ft. high, and can generally be accommodated in the bed of the plant stove, where it will associate beauty with utility. It is a remarkably quick grower, and may be raised from a sucker, and had in fruit within eighteen months.

The plants require a very rich loamy soil, and plenty of pot room; and wherever possible they should be planted out in beds so that their thick fleshy roots can run about without restriction. They will stand a tremendous amount of heat so long as the atmosphere contains plenty of moisture. If grown in pots they must be frequently supplied with manure water.

As they die down after fruiting, and, in nature, a sucker takes their place, there should always be a few suckers coming along in places where fruit is to be obtained every year. Pines are always interesting plants in a fruit collection, but what would a well grown bunch of Bananas count? The gardener who can yearly send up a few huge bunches of Bananas into the house will surely make a name for himself, and certainly this can be done with very little trouble, because so long as they are kept in a brisk heat and well supplied with water and manure, they are very little trouble.

Gleanings from the World of Science.

THE following subjects were discussed at a meeting of the Scientific Committee of the Royal Horticultural Society on the 30th ult. :—

Helianthus Supposed Hybrid.—Mr. Buffham sent a flower, of which he writes :—"I think it is a real hybrid ; the seed-bearing parent was the annual variety fertilised with Harpalium, and possibly with H. multiflorus as well." Not having blossoms of the parents for comparison it was thought hazardous to express an opinion as to the true nature of the hybrid.

Pear Mite.—Leaves of Pears attacked by this common parasite were received through Mr. Gaut, of the Yorkshire College, Leeds, from Mr. G. Brotchie, of The Gardens, Grimble Park, Saltburn. This insect is practically non-injurious to the trees unless in excessive quantity. M. Michell observed that such was also the experience of fruit growers in Geneva.

Eggs in Apple Stems.—Captain Short, F.R.H.S., sent specimens, observing that "a pound of Apples were bought in Worthing about April. They were of Tasmanian origin, and on the stalk of each, as well as on the hollow portion of the Apple adjoining the stalk, were some reddish eggs." Mr. Saunders reports as follows upon them :—"I have examined the eggs on the stalk of the Tasmanian Apple, and as far as I can tell they are the eggs of one of the mites. I am keeping them to see if they will hatch, but considering the time that they must have been laid I am afraid they are addled. The fruit, however, probably came over in a cool chamber, so that may have retarded their hatching; or they may have been eggs which would not naturally hatch until the spring—I mean the antipodean spring."

Apricots Splitting.—Mr. Worsdell observed that he had noticed that many Apricots had the flesh split open this season, but not the stones. Mr. Bowles remarked that he had experienced a similar occurrence in previous years, and attributed it to the extreme drought.

Cucumber, proliferous.—Dr. Masters exhibited flowers of both male and female Cucumbers in which the axes had thrown out other blossoms. He undertook to report upon the monstrosity. It was, however, a remarkable fact that the three specimens came from Ireland, Dorsetshire, and Middlesex respectively within a few weeks of each other. No such occurrence has ever been known previously.

Wood Leopard Moth.—Young Ash trees were received from Mr. Ll. Lloyd, F.R.H S , of Blandford Lodge, Chiswick, who observes that "the whole tree, the stem being a foot thick, and branches were all bored. The tree is about 30 ft. high. Similar borings occur in both Lilac and Laburnum."

Gardening Miscellany.

THE CODLIN MOTH.

A MORE insidious enemy to the Apple crop cannot be found than the Codlin Moth. It is the larvae of this little pest which cause the Apples to fall in such large quantities. The moth is a small night flying species, and generally appears about the same time as the trees are in bloom. They lay several dozen eggs each, and every one is deposited singly in the young Apples. In about a week they hatch and make their way towards the centre. Here they live on the substance of the fruit until time to change into the pupa state. With a marvellous instinct they then attack the pips with the result that the Apple falls to the ground. The larvae then gnaw their way out and crawl to the trunk up which they climb, and sheltering under the bark they spin a cocoon and turn into a pupa. By placing bands of cotton wool or straw round the trunks they may be induced to seek shelter in this, and may then be easily destroyed. The Blackcapped Titmouse and the Two lined Soldier Beetle prove to be very great enemies to the Codlin Moth and should be encouraged as much as possible.

BOUGAINVILLEAS IN HYDE PARK.

BOUGAINVILLEA GLABRA is not an orthodox bedding plant, and when we say that it is figuring somewhat conspicuously in the subtropical bedding in Hyde Park it may come as a surprise to many, as there is a very general fallacy amongst gardeners that it can only be grown with any degree of success in a warm house. The venture of the superintendent of Hyde Park has dispelled this delusion, and anyone who sees them at the present time will see that not only are they thriving under these conditions but that the flower bracts are of a much brighter colour and better substance than what they are when grown under glass. At one time Plumbago capensis was coddled until someone made a similar venture, and now it proves a most valuable plant for this class of bedding, and we venture to prophesy that the Bougainvillea will have a similar run of popularity until swept into the back row by the hand of fashion.

SOCIETIES.

WEST DERBY SHOW.—*August 5th.*

THIS eleventh annual Bank Holiday fixture was held in the Rectory grounds by the kind permission of the Rev. Percy Stewart. The entries were well up to the average, and the quality was well sustained.

Mr. C. A. Young, in addition to his valuable aid as chairman, contributed a tastefully arranged collection of Carnations, a Certificate of Merit being awarded for Miss Molly Cleaver. Mrs. Bright (gardener, Mr. J. Skitt) arranged a bank of border cut flowers and two bunches of Black Hamburgh Grapes, notable for size of berry and colour. Mr. W. Rowlands had a pleasing bank of Cactus Dahlias arranged on Maidenhair Fern. Mrs. Hutchinson staged well flowered Campanulas. For each of these exhibits an Award of Merit was given.

In the competitive classes Mr. G. Osborne, gardener to Dr. Duffus, gained the leading awards for twelve distinct varieties of vegetables, staging well grown specimens; four stove and greenhouse plants with a good Palm, Croton, Allamanda and Fuchsia; six table plants; and a group arranged for effect in which highly coloured Crotons proved most effective.

Mrs. Wright (gardener, Mr. W. Cross) was successful for six dishes of fruit, her Grapes being well finished; six varieties of vegetables and other classes.

P. Walker, Esq (gardener, Mr. T. Gaunt) won for two bunches of White Grapes, with well finished Muscat of Alexandria. W. Leeming, Esq. (gardener, Mr. W. Ashcroft), secured the leading award for Black Grapes with good bunches of Hamburgh. Mr. J. Sumner was to the fore with a well arranged model garden, and Mr. Ogden had the best Roses. The remaining classes were well filled and generally with creditable exhibits.

Special prizes were given by Messrs. W. Rowlands, C. A. Young, H. Middlehurst, and A. Friend. Mr. A. Rose was successful as secretary, ably supported by his assistant, Mr. John Young.

HARPFORD AND YEN OTTERY.—*August 6th.*

THIS annual exhibition is principally for cottagers, with a view to encourage the better culture of vegetables in particular. This year the quantity staged, as well as the quality, far exceeded that of last year, and the greatest credit is due to the vicar of the joint parishes, Mr. Molineux, the promoter as well as the secretary, who is a great gardener, especially so in floriculture. In a lean-to greenhouse were some well flowered Pelargoniums with immense trusses, Begonias in grand style and free from rust, and one nice pot of Lilium auratum, which filled the greenhouse and passage leading to the dwelling house with its perfume.

There were twenty-six classes in all. Potatos, Carrots, Onions, Parsnips, Broad and Runner Beans, Peas, Cabbages, &c., were well in evidence. Prizes were also given for six varieties of cut flowers, arrangement of wild flowers, and for children under twelve for the arrangement of the latter.

Sports are also indulged in, dancing, &c , all tending to make the afternoon a pleasant recreation for the parishioners. who, I learnt, look forward to the yearly event with no little interest. Long may it continue as a source of pleasure to the worthy vicar and his flock.

Mr. Bransom, Southerton (gardener, Mr. Lester), staged two large Melons, Golden Perfection, one about 6 lbs , a brace of Covent Garden Cucumbers of fine shape, Asters and Zinnias of good depth and size, all adding to the display.—*J. M., Bicton.*

LEICESTER FLORAL FETE.—*August 6th and 7th.*

THE Abbey Park was the scene of another great success on the occasion of the sixteenth annual flower show. Exhibits were more numerous than ever, and the competitive groups were well worth the journey from London to see.

In opening the show, the Mayor of Leicester suitably acknowledged the services rendered by the Parks' Committee, under the chairmanship of Councillor Hawkes, as also the ability and experience placed at their disposal by Mr. Jno Burn, the Parks' Superintendent. He suggested that in future the whole of the corporation should be invited to the shows, and assist as far as possible in the inauguration of such splendid exhibitions.

Messrs. B. R. Davis & Sons, Yeovil Nurseries, Yeovil, exhibited a unique collection of about 300 Begonia flowers, including Saturn, Rt. Hon. J. Chamberlain, Capt. Henderson, Catullus, Regina Victoria, Hecla, and The Czar, amongst the bright reds; Clio, Mrs. Stothert, Miss Falconer, yellows; Lady Dorrington, Devonian, Mrs. Nichols, Miss Hebeler, Victory, Jupiter, Sanspareil, Pandora, Ida, Doreen, and Spotted Beauty, pinks; Dorothy Drew, Hon. Mary Lawless, Masterpiece, Florence Nightingale, and Enchantress, whites. (Gold Medal.)

Messrs. James Veitch & Sons, Ltd , made a fine display at the end of No. 1 tent, occupying a space of 400 ft. The plants, which were, of course, grown in the style so well known to this famous London firm, were most effectively and tastefully staged by Mr. Tivey. The principal exhibits were Crotons—Prince of Wales, Warrenii, Reidii, and Aigburth Gem; Dracaenas—goldieana, godseffiana, sanderiana, and several red varieties; Alocasias—argyrea, thibautiana, and spectabilis; Pitcher plants in variety, Javanese Rhododendrons, Aralias, Leea-amabilis, &c. (Special Gold Medal.)

Mr. H. Driver, Priory Nurseries, Higher Broughton, Manchester, made a most meritorious exhibit of growing Begonias.

Mr. H. Deverill, Banbury, secured a Silver Medal for group of cut flowers.

Mr. J. H. White, Worcester, also took a Silver Medal for a collection of cut flowers. His group was enlivened by a box of fine Cactus Dahlias, of which Standard Bearer, Beatrice and Charles Woodbridge were good examples. This stand also contained some fine fruits of the Strawberry-Raspberry, Loganberry, and Japanese Wineberry, with some specimen fruits of the Beauty of Bath Apple.

Messrs. Alex. Dickson & Sons, Ltd., Royal Irish Nurseries, Newtownards, Co. Down, were winners of the first prizes for twelve Roses, with Alfred Colomb; and for thirty-six Roses, which set included Bessie Brown, John Stuart Mill, Muriel Grahame, Lady Arthur Hill, Duchess of Portland, Comte Raimbaud, Mrs. John Laing, Mdme. Hausman, Mrs. Edward Mawley, Florence Pemberton (a new pink), Lady Ashtown, Tom Wood, Haileybury, Lady Sheffield, Mamie, T. B. Haywood, Marchioness of Londonderry, Liberty, Killarney, Mdme. Caden Rainey, &c.

Messrs. D. & W. Croll, Dundee, had the best Rose in the show, Alfred Colomb. They were second for thirty-six Roses, and first for the twenty-four class, Marchioness of Londonderry, Caroline Testout, Dr. Andry, White Lady, Suzanne Marie Rodocanachi, and Her Majesty being well grown and choice.

Messrs. Harkness & Sons, Bedale, Yorks, sent a grand collection of herbaceous flowers, some beautiful specimens of Phloxes, Lilies, Gladiolus, Shirley Poppies, Gaillardias, Lychnis and Platycodons, helping to show what the Bedale nurseries can produce, and secured First Prize (£5) and Gold Medal.

The prize of £20 for the most tastefully arranged group of plants, to occupy 160 ft. super, was taken by Mr. J. Cypher, Exotic Nurseries, Cheltenham. Caladiums, Crotons, and Orchids were well arranged with Bambcos, Ferns and Mosses. Mr. J. Thompson, gardener to G. H. Turner, Esq , Littleover, Derby, was second in this competition, having a

grand collection of Lilies, Crotons, Caladiums, &c., with two exceedingly fine specimen Acalphya macafeeana. Mr. Hy. Rogers, Gipsy Lane Nursery, Belgrave, Leicester, was third. Mr. W. Finch, Coventry, took fourth.

Exhibits in this class were also sent by Mr. Vause, of Coventry, and Messrs. Wm. Artindale & Son, Market Hall, Sheffield. Both these collections were very fine, and cost the judges a good deal of anxiety through not being able to award them prizes.

Mr. John Russell, Richmond Nurseries, Surrey, staged a splendid group of pot plants, including Caladiums, Crotons, Palms, Acalypha sanderiana, Pandanus Veitchii, and Alocasias in variety, and two exceptionally fine Dracaenas. (Special Gold Medal.)

Messrs. John Peed & Son, West Norwood, London, had a pleasingly arranged collection of Gloxinias, Streptocarpus, Crotons, Palms and Ferns, taking a Gold Medal.

Mr. Walter Bentley, Belgrave Nursery, Leicester, was awarded a Gold Medal for collection of Leicester Roses, of which The Bride, Maman Cochet, Anna Olivier, Papa Gontier, La France and Mrs. W. J. Grant were most conspicuons.

Messrs. Hinton Bros., Warwick Nurseries, Birmingham Road, Warwick, sent a good collection of Sweet Peas, staged in their patent vases, including Lady Nina Balfour, Queen Victoria, Othello, Lady Grisel Hamilton, Prince Edward of York, Triumph, Lady Mary Currie, Mrs. Dugdale, and Duke of Westminster, Marie Hinton, Prima Donna, Waverley, and Royal Rose, which were good samples and helped to secure a Gold Medal. The same firm exhibited seventy-nine varieties of Carnations, a new seedling, Mrs. F. Hinton, being an acquisition to the non-bursting tribe.

Mr. Robert Pringle, 40, Belvoir Street, Leicester, sent a collection of choice flowers grown from his seeds, and was awarded a Silver Medal.

Messrs. W. Clibran & Son, Altrincham, also furnished a nice arrangement of herbaceous flowers, Astilbe Silver Sheaf lending a pleasing appearance to the Phloxes, Harpalium rigidum, Gaillardia, and Helianthus. A Silver Medal was awarded.

Messrs. W. & J. Brown, seed merchants, of Stamford, Peterborough, and Grantham, sent a new Heliotrope, named after Lord Roberts, the fine big trusses of flowers emitting much perfume

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., deservedly won a Gold Medal for a collection of pot plants, comprising Crotons, Aralias, Lilies, and Palms, set off by a batch of the bright Verbena Ellen Willmott. A new Chrysanthemum (Leucanthemum) maximum named Earl Roberts was exhibited by Mr. Arthur Goodman, Braunstone Gate, Leicester. It is a very large white. Mr. Goodman also sent a collection of herbaceous flowers, for which he was highly commended.

Mr. William Barsty, Regent Road Nurseries, Leicester, staged sixteen varieties of Carnations, including Mrs. MacRaye and Isinglass as reds, Little Phil and Winsome as pinks, Badminton and Ladas as yellows. (Commended.)

Messrs. B. S. Williams & Son also sent a batch of cut herbaceous flowers, of which the lovely white Phlox Snowdrift was one of the best.

Mr. W. L. Pattison, Cherry Orchard, Shrewsbury, exhibited an excellent variety of Violas, Devonshire Cream, Princess Beatrice, A. J. Rowberry, and Stephen being the best yellows; Mrs. Crane, Mrs. H. Bellamy, and King of Blues representing the opposition colour. (Silver Medal.)

Messrs. Jones & Sons, nurserymen, &c., Shrewsbury, sustained their reputation for Sweet Peas, with Emily Eckford, Countess of Aberdeen, Triumph, Salopian, Navy Blue, Shazada, Sadie Burpee, Stella Morse, and others. They also sent a board of Dahlias, of which Mrs. Stancome, Mayor Tuppenny, and Hon. F. Bouverie were typical specimens. (Silver Medal.)

A local nurseryman, Mr. W. E. Boyes, 15, Belvoir Street, Leicester, was awarded a Gold Medal for collection of Pelargoniums, Fuchsias. and Lilies, with a number of wreaths made in all shapes and sizes.

Mr. Charles Holden, Royal Nursery, Butt Lane, Hinckley, was awarded a Silver Medal for Carnation decoration. The flowers were arranged in the Edwardian ware, which is now so frequently seen at shows.

A collection of seven dozen choice Dahlia blooms sent by the renowned grower at Rowledge Nurseries, Farnham, Surrey, brought many visitors to see Mr. S. Mortimer. We do not remember seeing better blooms of Gold Medal, Gaiety, John Walker or Hercules, whilst Progenitor, Vesta, Lyric, Countess of Lonsdale, and Uncle Tom were simply grand. Evidently in honour of the capable superintendent of the Abbey Park, Mr. Mortimer's newest Dahlia has been named Jno. Burn; it is a beautiful dark crimson, with very long narrow petals and strong centre. (Silver Medal.)

A fresh feature at this show was the lovely collection of hardy Water Lilies sent by Mr. Amos Perry, Winchmore Hill, which were backed with some cut flowers from the herbaceous border, all well grown and nicely assorted. (Gold Medal.)

Messrs. Harrison & Sons, Royal Midland Seed Warehouse, Leicester, occupied a long space for collection of Gloxinias, Begonias, and Sweet Peas. They were charmingly arranged in sections, and for growth were—well, just what one would expect from so renowned a house. (Silver Medal.)

Mr. Vause, Leamington, took first for six stove and greenhouse plants; G. H. Munty, Esq., (gardener, Mr. W. Blakeway), was second, but first for six specimen Ferns.

For Carnations and Picotees, Mr. R. C. Cartwright, King's Norton, took three first prizes, the best self being Benbow, the best flake Gordon Lewis, and J. S. Hedderley the best bizarre. Messrs. Artindale & Co., and Mr. A. R. Brown were other winners.

Messrs. Artindale & Co. exhibited the best hand bouquet.

Mr. Goodacre, Elvaston Castle Gardens, Derby, took firsts for collection of eight dishes of fruit, for four varieties of Grapes (two bunches of each), for two bunches of Black Hamburgh, for two bunches of Muscat of Alexandria, and for two bunches of Gros Maroc. Mr. A. McCulloch, of Nottingham, Mr. J. Read (Bretby Park Gardens), Mr. Nisbet (Byrkby Gardens), and Mr. S. Cole (Althorp Park Gardens), were other successful exhibitors of fruit.

The special prizes offered by Messrs. Sutton & Sons, Messrs. Harrison & Sons, Mr. Robert Pringle, Messrs. Yarde & Co., Mr. Robert Sydenham, Ichthemic Guano Co., Mr. James Wright and various private persons were well competed for.

We are much indebted to Mr. Jno. Burn and his assistant, Mr. MacKinlay, for facilities in getting about the crowded grounds and tents.

GATEACRE SHOW.—*August 7th.*

THIS successful society held its 30th exhibition in the grounds of the president, Col. W. H. Walker, M.P., The Grange, situate some five miles on the S.E. of Liverpool.

The society works more especially for the good of the cottagers, whose exhibits were of a superior character, showing what can be done even in bad seasons.

In addition to the competitive classes many groups were staged not for competition, which enhanced the success of the exhibition. Awards of Merit were granted to the following:—Group of flowering and foliage plants, Mr. C. E. Moorman, gardener to Lieut.-Col. Gaskill, J.P.; table of foliage plants and Orchids, including many good varieties of Odontoglossums, Messrs. J. Cowan & Co.; flowering plants, Mr. T. Carling, gardener to Mrs. Cope; stove and greenhouse plants tastefully arranged by Mr. P. J. Barham, gardener to Col. W. H. Walker, M.P.; group of flowering Begonias and Bamboos, Mr. F. Buttery, gardener to Dr. Caton; collection of ornamental and flowering plants, Mr. R. Briginshaw, gardener to H. Bateson, Esq.; Grapes, Peaches, &c., Mr. T. Hayes, gardener to Mrs. Jannion; basket of fruit and collection of well-grown vegetables, Mr. J. Rothwell, gardener to S S. Bacon, Esq., J.P.

In addition to the show the spacious grounds and glasshouses were thrown open to visitors. The arrangements were under the able supervision of Mr. J. Glover, who has held the onerous post of hon. secretary since the formation of the society.

ROYAL HORTICULTURAL.—*August 13th.*

THE meeting in the Drill Hall on Tuesday last was not very strongly attended till late in the afternoon, many people being away for the holidays. The exhibits were sufficiently numerous, and in many cases of an interesting character. Water Lilies and Gladioli were the two leading features of the meeting. Others were Crotons, Sweet Peas, Dahlias, hardy herbaceous plants in general, &c. Fruit was fairly plentiful for the season, Apples both gathered and upon trees being the most conspicuous and important in this section

Orchid Committee.

Messrs. James Veitch & Sons, Ltd., Chelsea, were the chief exhibitors of Orchids. By means of their numerous hybrids they have been able to bridge over the entire year, so that Orchids are never entirely out of season. They had well-flowered plants of Cattleya Atalanta, C. Niobe, Laelia splendens, Laeliocattleya callistoglossa ignescens, Lc. Nysa, and Lc. Parysatis The latter is a plant of dwarf habit with a shapely and interesting flower intermediate between Cattleya bowringiana and Laelia pumila, this latter being the seed parent.

Cattleya Eldorado var. was exhibited by Col. M. A. Swinfen Brown (gardener, Mr. H. Collyer), Swinfen Hall, Lichfield.

J. S. Moss, Esq., Wintershill, Bishops Waltham, exhibited Laelia Iona (tenebrosa × dayana).

Sir J. Miller, Bart. (gardener, Mr. J. Hamilton), Manderston, Duns, N.B., exhibited Laeliocattleya tene-schofieldiana, the parentage of which was Laelia tenebrosa × Cattleya schofieldiana aurea.

Floral Committee.

What a blaze of colour was the one remark drawn from everyone who entered the hall and saw the grand exhibit of Gladioli made by Messrs. Kelway & Son, Langport, Somerset. They filled a whole table down the centre of the building, and made the most extensive collection of Gladiolus gandavensis which we have seen exhibited. They were arranged in single spikes, and were set up in a very effective way with the wide range of colours harmonising as perfectly as the shades in a high class picture. To give a description of the best would mean several pages of matter, as they were all worthy of notice, and included all the best varieties of the day. Prince Henry of York was a general favourite, and well deserved its distinction, as a better made flower and one possessing a brighter colour could not be obtained. It was one of those brilliant red art shades which cannot be described with words, but must be seen to be fully appreciated. Hall Caine also came in for much admiration. It was a sulphur yellow toning down to primrose with bright carmine markings in the throat. Another very attractive variety was that bearing the name of Regalia. The flowers are of various shades according to their age, but the prevailing colour was rose with here and there a deeper tone of a soft carmine shade. The exhibit was awarded a Silver Gilt Flora Medal, and was well deserving of the distinction.

Messrs. John Laing & Sons, Forest Hill, London, brought a grand exhibit of this season's novelties in the way of Begonias. As they were not named, it was impossible to describe the various kinds, but some beautiful shades of colour and perfectly-formed flowers were to be seen. The strain showed that pretty feature so welcome in the somewhat formal flowers of the Begonia class of a tendency to produce a well fimbriated margin. A new dwarf bedding variety was also shown, and we can safely prophesy a good future for such a sterling novelty. It was only about 4 in. to 5 in. high, and appeared to be of a most floriferous nature. The colour was a very deep rose. There were also one or two vases of very good Streptocarpi novelties.

R. C. Foster, Esq., Sutton, Surrey (gardener, Mr. W. Simpson), exhibited a collection of very fine Sweet Peas, which included most of the favourites of the day. The collection was a very fine one for this late period of the year. (Bronze Flora Medal.)

Leopold de Rothschild, Esq, Gunnersbury House, Acton (gardener, Mr. Hudson, V.M.H.), brought an interesting and well grown collection of Nymphaeas. There were forty-two varieties shown, which included the best varieties of the present day. The star-like flowers of Nymphaea stellata figured conspicuously as they were set up with their characteristic long stalks. A most handsome species was N. gigantea, which had been raised from seed sown in January of this year. It was a massive bloom of the same shade as N. stellata. N. marliacea albida was shown in fine form; also N. odorato sulphurea grandiflora, with its large, sulphur-coloured stellate flowers and golden stamens. The varieties of that

fascinating little species, N. pygmea, were also well represented. (Gold Medal.)

A. Worsley, Esq. (gardener, Mr. J. W. Miles), Isleworth, sent some new varieties of Coleus; also a pretty little Hippeastrum, unnamed, and probably a new species.

Messrs. Thos. S. Ware, Ltd., Hale Farm Nurseries, Feltham, staged a varied collection of hardy flowers, Dahlias, &c. There were many handsome Cactus Dahlias, in this exhibit; W. B. Childs, a very deep velvety maroon, was well worthy of special notice, also a very deep colour variety named Night.

Mr. A. W. Wade, Riverside Nursery, Colchester, made a pretty exhibit with a small but choice exhibit of herbaceous bloom; several vases of the beautiful new Arctotis grandis were included as a very pretty new Montbretia Rayon d'Or, which was a very pretty shade of old gold with a magenta mark in the throat. M. Gerbe d'Or was also an exceptionally pretty variety of a bright golden colour without a mark of any kind.

Mr. S. Mortimer, Farnham, Surrey, made a very attractive display with a collection of Dahlias. All the types were represented, the Cactus varieties being exceptionally fine. Amongst those we noted were Progenitor, a crimson-lake variety with curiously furcated petals; Monarch, orange-red, tipped with light magenta; Winnie Walter, a pale greenish yellow tipped with white, a very handsome flower; Mayor Tuppenney, this was one of those beautiful art shades so hard to define. The centre florets were well suffused with orange, and the nearest we could describe the outer one was a fawn suffused with orange. Starfish was also very good, being a remarkably bright fiery scarlet. Some were arranged in vases and some in the old show boxes, and the merits of the former method of staging were well demonstrated by the comparison made. (Silver Flora Medal.)

Messrs. R. Wallace & Co., Colchester, made a good show with a somewhat crowded exhibit of Lilies, Gladioli, herbaceous stuff, &c. Amongst the Lilies we noticed that somewhat curious variety of L. tigrinum flore pleno. L. Henryi, L. tigrinum splendens, and L. Batemanniae were also well represented. There was also a very fine vase of the showy Hemerocallis aurantiaca major. A 7-ft. flower stem of Ornopordon bracteatum created a deal of interest. (Silver Banksian Medal.)

Messrs. Jones & Sons, Shrewsbury, brought up a very showy collection of Sweet Peas and Dahlias. Amongst the best of the Cactus type we noted Mayor Tuppenney, Magnificent, Exquisite, Starfish, Charles Woodbridge, Night, Loyalty, and Uncle Tom. The Sweet Peas were a representative collection of all the best varieties obtainable, and, of course, that exquisite variety, Miss Willmott, was well represented. Emily Eckford was also to be seen in fine colour, while the soft mauve shade of the New Countess was the admiration of everybody. (Silver Flora Medal.)

Mr. Maurice Prichard, Christchurch, Hants, put up a representative collection of the best of the hardy plants now in bloom. Lilies and Montbretias were much in evidence and in great variety, Phloxes were also shown, also a vase of that excellent hardy climber Polygonum baldschuanicum. The Compositae order was well represented, and Gladioli were by no means neglected, several of the latter were given an Award of Merit. (Silver Banksian Medal.)

Mrs. Davies-Evans, Highmead, Llanybythea, South Wales (gardener, Mr. Fox), sent up a collection of Nympheas. They were arranged in vases and as their leaves do not possess an epidermis on the under surface, they very soon suffered through the excessive evaporation. Of course it would be a lot of trouble to bring pans from that distance, but that is pre-eminently the best method of showing them, as when their under surfaces rest on the water the evaporation is prevented. (Bronze Flora Medal.)

Messrs. J. Cheal & Sons, Crawley, showed a varied collection of Robinia Pseudacacia, many of which were in bloom. Robinia hispida was exhibited in full bloom and was greatly admired.

Mr. Amos Perry, Winchmore Hill, London, staged a bright group of hardy bloom, and included most of the choice plants now in bloom in the flower garden. The Kniphofias were very fine as were also the Nympheas. Lilies were also shown in variety. The pretty Armeria cephalotes purpurea was also to be seen in this exhibit, and the Sunflower family was also well represented. (Silver Banksian Medal.)

Professor Hartoy, Cork, exhibited a small group of Abutilons.

Messrs. James Veitch & Sons, Ltd., Chelsea, large pieces of Clerodendron trichotomum and Andromeda arborea, also a skip of Apera arundinacea.

Messrs. Dobbie & Co., Rothesay, exhibited a collection of fine double Zinnias and a pair of fine African Marigolds named Lemon Queen and Prince of Orange.

Mr. John Russell, Richmond, Surrey, brought up a collection of their highly coloured Crotons. They made a very pretty group, and were in a position where the light fell well on them. The effect was greatly enhanced by the edge of Phyllanthus nivosus and Panax Victoriae. (Silver Flora Medal.)

Messrs. James Veitch & Sons made a blaze of colour with a group of Tritoma hybrida and Helianthus. (Silver Flora Medal.)

Fruit and Vegetable Committee.

Miss Adamson, South Villa, Regent's Park, N.W. (gardener, Mr. G. Keif), made a very good exhibit of fruit grown within two miles of Charing Cross. The Plums were very fine. Grapes also were well shown, and the three bunches of Muscat of Alexandria would not disgrace the best show board in the country. Peaches were very good, and the six Melons distinct would take some beating. The committee recognised the merits of the exhibit by awarding it a Silver Gilt Knightian Medal.

Messrs. W. Ray & Co., Teynham, Kent, exhibited several boxes of that famous black Cherry, Noble. (Vote of Thanks.)

Messrs. H. Cannell & Sons, Swanley, Kent, staged a collection of Apple trees in pots and a large number of dishes. In this exhibit we also noticed a fine specimen of the Giant Puff Ball, Lycoperdon giganteum. Amongst those growing in pots we noted well fruited specimens of Lady Sudeley, Wellington, Bismarck, Warner's King, Devonshire Quarrenden, Cellini, Stirling Castle, Bramley's Seedling, Yorkshire Beauty and Red Astrachan. There were also several dishes of Pears, including that highly-coloured variety, Princess. (Silver Knightian Medal.)

Alderman A. Walker, Low Hill, Lindley, Huddersfield (gardener, Mr. B. Lockwood), exhibited eighteen dishes of Peas. They were all sterling varieties, and the pods were large, green and well-filled. A dish of Sutton's Defiance and a dish of Carter's Seedling were amongst the best in the exhibit. (Silver Banksian Medal.)

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends *the most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. E. Brown, The Gardens, Nostell Priory, Wakefield, Yorks, for his article on "Cyclamen persicum," p. 797. Two or three other articles were almost on a par with this.

QUESTIONS AND ANSWERS.

Begonias good to Propagate at this Time.—*Stove*: Either or both of the Begonias you sent us may be propagated at this time of the year; but for your purpose we do not think that B. scharfiana would be of much service to you as it has never been a very popular plant, though fairly pretty and interesting when well grown. The double white variety of Begonia semperflorens might be useful for bedding purposes. The single varieties of the same species make very useful bedding plants. We have no doubt the double variety would grow as freely, but we have not yet seen it used for bedding purposes to determine its value in that respect. It flowers freely enough in pots.

Quality of a Border Carnation.—*M. B.*: For mere garden decoration the flowers you sent are good enough, and provided the plant is of good constitution, and produces plenty of shoots for layering, it might be worth your while to perpetuate it by layering it. You cannot very well judge of its capabilities for producing grass from a seedling flowering for the first time, as most of the shoots develop flowers. You can layer what shoots there are upon the plant, and next year you will be better able to judge of its qualities in this respect. You may not get so many flowers from the layers next year, but that is the usual behaviour of Carnations. For border work those plants which develop plenty of shoots for layering are generally the most serviceable.

How to make Gladioli open their Flowers.—*J. T. Sidney*: The method is simple enough with a few boxes of a certain pattern, which you can make yourself. Get some deal boards and make some narrow boxes about the length of your arm. The sides, back, and top end should be of wood. The lower end must be left open. The lid or front, but particularly the upper half should be of glass. One of these boxes should be put over each spike you wish to develop. The spike should go in at the open end of the box, that is, you should drop the box down over the plant like a candle extinguisher, and fix it to a stout stake. The Gladiolus should also be staked to keep it from rubbing on the box with the wind. The lower portion of the sunny side of the box being of wood will keep the older portion of the spike cool and partly shading it; while the upper portion of the front being of glass will admit sunlight to warm and hasten the younger buds on the spike, so that many will bloom together.

Small Stove to Heat a Tomato House.—*Stove*: You should have no difficulty in getting a small boiler, with pipes attached, and which could be satisfactorily heated with coke, small coals, breeze, or cinders, whichever you may like to call them. Small stoves, greenhouse boilers, or hotwater apparatus of various kinds and sizes are advertised in the pages of THE GARDENING WORLD, and if you require further information than is there supplied, your best plan would be to write to some of the advertisers you may select, tell them what you want, and ask for their catalogue. The boiler or heating apparatus should be a little larger than you actually require, so that it will be unnecessary to drive the boiler and waste the fuel when it happens to come a frosty night. A suitable boiler for your purpose would not take up much space, but it should be outside the house as you propose. A neat wooden or galvanised shelter should be built over it to keep rain and snow off the boiler, as that would run away with much of the heat. We see no necessity for this being much larger than just to clear the boiler all round, with a little air space inside. The little shed, if we may so call it, should have a door, so that you may readily get to the furnace to feed it whenever necessary. As far as we can see, there would be no necessity for you to have space to get inside the shed, so that the door may be close up to the boiler. You can store the cinders or coals elsewhere in some convenient shed or corner. We think it ought to be cheaper to get this shed from the firm who supplies the heating apparatus, making only one contract for the whole. Possibly, such a covering could be obtained ready made from the boiler maker.

Names of Plants.—*Stove*: Campanula pumila alba is the name usually given it, but C. caespitosa alba is the correct name. See THE GARDENING WORLD, p. 804. In your second communication No. 1 is Begonia sempervirens alba plena; 2, Begonia scharfiana. (See separate note.)—*A. Loydell*: The plant is Gram or Chick Pea (Cicer arietinum). The seeds are used in India for making curries. The plant was known to the Greeks, Ancient Egyptians and Hebrews.—*A. M. T.*: 1, Clematis Vitalba; 2, Clematis Flammula; 3, Passiflora caerulea Constance Elliott.—*J. R*: 1, Veronica longifolia subsessilis; 2, Veronica virginica japonica; 3, Aconitum variegatum; 4, Monarda didyma.—*R. S.*: 1, Digitalis ferruginea; 2, Eccremocarpus scaber; 3, Phlox paniculata var.; 4, Lychnis chalcedonica; 5, Veronica longifolia rosea; 6, Lathyrus platyphyllos albus.—*E. F.*: 1, Monardella lanceolata variegata; 2, Mentha rotundifolia variegata; 4, Artemisia Abrotanum; 5, Balsamita vulgaris; 6, Mentha Requieni.—*T. B*: 1, Oncidium pumilum; 2, Cattleya Eldorado; 3, Cypripedium Godefroyae. *A. R.*: 1, Begonia maculata; 2, Begonia President Carnot; 3, Begonia manicata; 4, Fuchsia gracilis variegata.—*D. D.*: 1, Rhus typhina; 2, Rhus Cotinus; 3, Spiraea Bumalda Anthony Waterer.

Communications Received.—T. W. Dollery.—G. Bailey.—Webb & Sons.—W. Henry Brown.—W. T.—A. M.—E. R.—W. M.—H. J.—E. B. J.

TRADE CATALOGUES RECEIVED.

SUTTON & SONS, Reading.—Sutton's Bulbs for 1901.

DICKSON & CO., 1, Waterloo Place, Edinburgh.—Dicksons' Flower Roots.

JAMES VEITCH & SONS, LTD., Royal Exotic Nursery, Chelsea.—Bulb Catalogue; also Novelties and Specialities; Eremurus; and List of Select Strawberries.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, AUGUST 24th, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.,** where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, August 27th.—R.H.S. Committees.
WEDNESDAY, August 28th.—Henley-on-Thames Exhibition; Glasgow Plant and Flower (2 days); Hinckley Exhibition.
THURSDAY, August 29th.—Dundee Exhibition; Thame Exhibition; Stirling Exhibition (2 days).
FRIDAY, August 30th.—Bradford Horticultural Society (2 days).

THE STORY OF WILD FLOWERS.*

IN a little book of some 249 pages the Rev. Professor G. Henslow tells the story of wild flowers, and how their various shapes and forms have arisen from simpler and less modified ancestors, themselves in turn originating from one common stock, but when or where he declines to say without more tangible proof than we as yet possess. The story is not exactly new but told afresh in the vein with which many of our readers are no doubt familiar, who have heard the professor speaking on his favourite themes at the Drill Hall and other meetings. As the story develops, and the roots, stems, leaves and other parts of plants are taken in hand, he illustrates his narrative with anecdotes and legends to illustrate the points he has in hand, to emphasise his remarks or to explode popular fallacies, which like superstition are hard to eradicate when once they have taken a firm hold of the popular mind. Like bad weeds, these fallacies seem to creep along and take fresh hold in other soils, while the gardener is slowly following in their rear trying to eradicate them, or in other words, while the instructor is labouring in a wide field to disseminate the truth and explode the fallacies. Some introductory chapters are of an educational nature, and are meant as the explanation of descriptive and other terms, in a simple way, so as to enlist the attention of beginners in natural studies, and enable them to follow and understand the subsequent instructions and examples of Nature's way in the wide field of plant life.

Affinities of Plants.—The professor postulates as is now pretty generally recognised that plants had a common origin, and that the modern representatives are merely their modern and lineal descendents very much modified. Indeed, many authorities on the subject go much further than that and furnish, at the least, very plausible evidence that plants and animals had a common origin; for many of the lowly organisms in certain stages of their existence are indeterminable as to which of the two great animated kingdoms they belong. Bentham is quoted as stating that of ninety genera of the great tribe Asteroideae of the Composites there is no decided break separating the one from the other. In like manner it is shown that species are so connected by intermediate forms that no exact line of separation can be found. The same may be said of varieties, and this we are positive may be amply demonstrated by anyone who likes to study the British Hawkweeds, Roses, Brambles, &c. In other cases certain plants may be isolated from all others by wide gaps that cannot be bridged over. This, of course, is due to the missing links having become extinct. Indeed, it is owing to this fact that botanists are able to classify plants at all; and it is due to the presence of intermediate forms that botany is so complicated a subject, and that so many names have been given at different times to plants that are practically one and the same species. The lack of general and wide information in the early days of the study was also a fertile source of mistakes and errors that education only can eradicate and that with difficulty.

Causes of Variation and Differentiation.—The early botanists believed that plants were created in certain forms and that those forms were invariable. The nicety with which plants were adapted to their surroundings was, no doubt, a strong factor in fostering this belief; and the fact that they were supposed to have been created in the places we now find them would exclude the idea that they were capable of travelling or shifting their places of abode. Individual plants were described to a hair in the belief that such were stable and invariable species, whereas the many additional specimens since gathered go to prove that hundreds of plants, it may be, though varying in minor particulars, are, after all, but individuals of one and the same species. Botanical books of high standing in those early days abound with illustrations of this fact.

The questions have often been asked, "Why do plants vary, and what causes them to do so?" Plants and flowers have been taken from the tombs of Egypt (where they are known to have lain for thousands of years), and seeing that they are exactly identical with species that still exist there, they are held up as examples or proofs that plants do not vary. While the facts may have been true so far as they went they were only half the truth. There is evidence that the natural conditions of Egypt as to climate and otherwise have remained the same for a very long period. Such being the case it only proves that plants growing in the same district and under the same conditions for a lengthened period of time acquire fixity of form by long continued growth under the same identical conditions to which they may be and generally are well adapted. Plants have within themselves the power of becoming adapted to environment; for has it not been proved by experiment that protoplasm, the physical basis of life, is highly sensitive and responds to external agencies and causes acting upon it. This sensitiveness to outside influence enables the protoplasm and likewise the plants as a whole to adapt themselves to their surroundings, and thereby continue to live under the changed conditions. The latter in any given locality change slowly, and plants gradually change with them; and while this process is usually slow in a state of Nature, it may and does take place rapidly under cultivation. Plants have the power of travelling, which becomes a necessity owing to the competition amongst themselves for the available space, and as they go farther and farther afield they encounter different conditions to which they have to adapt themselves. Varieties arise that are better fitted than the rest to live and spread under the new conditions. Varieties become species in course of time by gradual differentiation from their forbears.

Traces of Variation and Change.—Among other examples the professor takes the Lesser Celandine (Ranunculus Ficaria) to illustrate a plant whose ancestors were aquatics, a conclusion at which he arrives by a process of "inductive reasoning." It also serves to show how genera are made, so that, botanically, it is a very interesting plant. By microscopical examination it is found that the structure is closely similar to that of an aquatic in many respects. From this he reasons that the long lost ancestral plant took to the water, becoming a true aquatic, but after a time the plant readapted itself to terrestrial or land conditions, but has not yet been able to throw off all its "acquired aquatic characters." We might point to another plant which possesses a dual nature of a more pronounced character than the Lesser Celandine. We refer to Polygonum amphibium, which has a terrestrial as well as an aquatic form, both of them flowering well. We have also seen an intermediate stage where half of the plant was in water and the rest on land.

The Rev. Professor Henslow also brings forward the Water Lily as evidence ("seems an obvious fact" are the words used) that petals were formed out of stamens, as there is every transition between petals and stamens. It seems to us that the reverse might just as well have been adduced. Leaves existed before petals, the latter being only a modification of the ordinary green leaf just as stamens and carpels themselves are. While we admit that it is all supposition, we believe that Nature does not always work on the same uniform plan, but arrives at the same or a similar goal by different ways or processes of transition.

Submerged Leaves of Aquatics.—The Water Crowfoot is given as a good instance of adaptation to conditions, and that the finely divided leaves are the result of their being submerged in water. We could also instance a good many plants that produce these finely divided leaves; but land plants in plenty have equally finely cut leaves. For instance, Fennel, but more particularly Meum athamanticum has its leaves so finely ramified that the ultimate segments are almost as fine as hairs. Then, again, we have Ferns including the filmy Ferns, many land Umbellifers, Composites, &c., whose leaves are very finely divided. Seedling Water Lilies including Victoria Regia, have their first few leaves very simple, but full grown leaves of Nymphaea and Nuphar, when living in deep water are almost as highly developed as the floating ones. In many parts of the Thames the Yellow Water Lily seldom gets a floating leaf on the surface of the water. Amongst the Pondweeds (Potamogeton) some of the species have well differentiated leaves, but others may have them all narrow or all broad in different species, yet all the while they are wholly submerged. Truly there are many things that yet require elucidation. The book before us is intended to be purely of an elementary character, and so does not attempt to explain everything. There is, therefore, a wide field of research for workers in this special department of botany.

Vegetative Multiplication.—The study of different methods of reproduction and propagation is always an interesting theme for gardeners; so that the chapter on vegetative reproduction should prove highly interesting to them. Many of the instances mentioned here are familiar; but others are less known, and a study of the chapter as well as the allusions to other methods and other plants scattered throughout the book, will furnish much food for reflection. The illustrations of the method of vegetative reproduction in Sedum dasyphyllum, a

* The Story of Wild Flowers. By Rev. Professor G. Henslow, M.A., F.L.S., F.G.S., &c. With fifty-six Figures in Text. London: George Newnes, Limited, Southampton Street, Strand. 1901. Price 1s.

rare British plant, may induce students to find similar instances in other plants for themselves; for that is really the object of this book, readers being frequently advised to see for themselves. Roots, stems, branches and leaves of many plants give rise to young plants in a state of nature, and many of them may be induced to do so by artificial means. Oxalis cernua, or the so called Bermuda Buttercup, is a native of South Africa, and was introduced to Malta in 1806. It does not produce seeds, but since that date it has spread all over Malta, and as a result of traffic in merchandise this plant has spread round a great portion of the Mediterranean coast on both the northern and southern shores as well as on many of the islands and the rock of Gibraltar.

Instances of vegetative reproduction here given might be multiplied, but the reader will derive most profit by reading the book itself. Other chapters follow giving interesting details concerning the manifold phases of plant life; and much of the information vouchsafed can be turned to useful and direct account by the gardener in his daily labours, and the rest makes interesting reading. Some accounts of improvements being effected by artificial means may induce the gardener to try and improve something coming under his notice.

Honour to Messrs Little & Ballantyne.—We understand that Messrs. Little & Ballantyne have had the honour conferred upon them by the King appointing them nurserymen and seedsmen to his Majesty by Royal Warrants.

Messrs. Hogg & Robertson, seedsmen and bulb growers, Dublin, have not gone unhonoured in the distribution of Royal honours; for we learn that they have been honoured with the Royal Warrant, appointing them seedsmen to his Majesty the King.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, August 27th, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 p.m. A lecture on "Garden Manures" will be given by Mr. F. J. Baker, A.R.C.S., at three o'clock.

Onions in Plenty.—According to a correspondent, the quantity of Onions which are grown for seed in the neighbourhood of Milford, Conn., is astounding, as in one year the shipment of seed from this town amounted to 100,000 lbs. Readers who know Onion seed may judge the extent of the Onion fields, and no doubt, like ourselves, have a sufficiently cute imagination to have some idea of the odour.

Death of a Scotch-American Gardener.—Mr. John Kinnear, who was in charge of the gardens of Mr. Charles W. Bergner, of Philadelphia, has been a victim of the recent spell of hot weather in America, and has succumbed to a severe attack of jaundice superinduced by indigestion and a weak heart. Deceased was a native of Kerriemuir, Scotland. He had charge in his younger days of the laying out of the park at Cleveland, O., and fulfilled many other high positions on that side of the Atlantic.

The Technolexicon.—We have received circulars relating to a great trilingual technical dictionary, which is to be published by the Society of German Engineers. It is a work, the want of which has long been felt, and now that it is likely to be actually produced its advent will be watched with great interest. It is to be a dictionary of technical terms. English, French and German are the three languages in which it is to be published. Societies, associations, authorities, technical colleges, important industrial establishments, trades, &c., that take an interest in the work are requested to give the names of persons and firms that can be useful collaborators. Every intending collaborator will do well to begin by collecting the technical words and expressions of his speciality. All communications should be addressed to the Editor of the Technolexicon, Berlin (N.W. 7.), Dorotheenstrasse, 49.

Cultivating Honey-bees in a Dwelling House.—An enterprising person in Chicago has discovered that the bee keeps just as busy in storing away honey on the third floor of a home, as in a hollow tree in the woods.

Fellows of the Royal Horticultural Society.—At a general meeting of the Royal Horticultural Society, held on Tuesday, August 13th, eighteen new Fellows were elected, making 706 since the beginning of the present year.

The National Dahlia Society.—We have before us the annual report and schedule of the forthcoming show of the above society, which is to be held at the Crystal Palace on September 6th and 7th. The schedule is much the same as on previous years, and is so arranged that everyone has a fair chance. The amateur grower is well provided for, twenty-three classes being exclusively reserved for him alone. Their balance sheet shows a slight falling off of the cash in hand, but it is only a trifling decrease. The schedule is full of useful information and contains a useful analysis of the varieties shown during the past five years at their annual shows.

Plant Competitions.—We generally look at this term as something relating to a flower show, but the following paragraph, written by a great botanist, will show the term in a different light—"Plants compete with one another all round for everything they stand in need of. They compete for their food—carbonic acid. They compete for their energy—their fair share of sunlight. They compete for water, and their foothold in the soil. They compete for the favours of the insects that fertilise their flowers. They compete for the good services of the birds or mammals that disseminate their seeds in proper spots for germination."

Nettle Stings.—Our contemporary, *The Farmers' Gazette*, is always alive with interesting articles, and as the one bearing the above title may be of some interest to gardeners we reproduce part of it. "The pain caused by the sting of the common Nettle is due to the injection into the portion of the skin pierced by the prickle on the leaf, of a liquid which chemical analysis shows to consist of formic acid and another ingredient, the composition of which is closely allied to snake poison. The stings of the Nettle plant are furnished with very sharp points, but at the base they are considerably enlarged, and this enlargement acts as a little reservoir or bottle in which the stinging material is stored. The point of the prickle is so very delicate that when it enters the skin it is easily broken off, and as soon as this occurs the liquid contained in its lower part at once escapes into the aperture made by the point. Though capable of causing considerable inflammation the stings of our common Nettles are comparatively harmless when viewed in the light of the injuries caused by some of the Nettles met with in India and other places in the East. There the stings inflicted by some species of Nettles are so severe that their effects last for several weeks.

Germs.—Just at present there is a perfect raid into the mysterious life of the microbe order, and the uninitiated would think when reading the various reports that each mycologist was trying to be the biggest alarmist, but with the aid of a powerful microscope their investigations may be followed by the masses. Dr. Ceresote has been examining the various germs to be found on vegetables bought in the market, and certainly his report does not give one an appetite for vegetables until we reflect that we are not the only generation which has eaten vegetables. But perhaps it was the germs on the vegetables which caused the decease of our forefathers, who knows? Anyhow, here are a few extracts from the report—"A simple microscopical survey revealed a fauna of fifty-two species, composing amoebae and the eggs of Taenia, Oxyuris ascarides and O. ankylostoma. Bacteriological investigations added a rich flora of varied microbes, including micrococci, staphylococci, streptococci, sacrinae, and a wealth of bacilli. Among the latter I could isolate the Bacillus coli communis, as well as the Bacillus septicus, and the Bacillus tetani." All these were found on a Lettuce. It is lucky for us that the greengrocer does not know what a bargain we get for our money, or he might want to charge for it.

Royal Honours to Messrs. J. Veitch & Sons.—We learn that Messrs. J. Veitch & Sons, Limited, Royal Exotic Nursery, King's-road, Chelsea, have been graciously honoured with the Royal Warrant, appointing them nurserymen and seedsmen to His Majesty the King. The widely representative character of Messrs. Veitch's cultures, but more especially their magnificent work in the hybridisation of Orchids, Rhododendrons, Amaryllis, &c., well entitle them to Royal favour.

The Protheroe and Morris Register.—We have just received the above pamphlet from this well known firm of auctioneers. They issue one monthly, and to those who wish to buy nursery property or to sell such will find this a very useful little paper. It gives descriptions of property to be disposed of not only at home but also in the colonies. Those who are looking out for a business should avail themselves of the information offered. It deals exclusively with agriculture and horticulture, and can be obtained from the firm's offices, 67 and 68, Cheapside, London, E.C.

Miss Ormerod's Will.—Besides the legacies left to private friends and relatives, Miss Ormerod has left the following bequests:—University of Edinburgh, £5,000; Anne Hartwell, her secretary and housekeeper, £5,000; three servants, £200 each; Dr. E. H. Lipscomb and Mr. Edmund Kell Blyth, executors of her will, £500 each; Mr. T. Prichard Newman, in recognition of his valuable services, £2,000, and the copyright of all her works, and the copies of her works in the possession of West, Newman & Co., and of the publishers, Simpkin, Marshall & Co., and all of her collections. Professor Wallace receives £1,000 and her book of documents reciting the circumstances of her obtaining the honorary degree of LL.D. The nett value of the estate was £51,582 13s.

Marriage of an American Florist.—Wedding announcements are always more or less embarrassing to the parties concerned in all civilized countries. Whether a writer in *The American Florists' Review* sought to minimise or increase the embarrassment of a happy pair who have just been joined in holy wedlock in America is difficult to find out, but perhaps it may interest some of the readers of this paper to read the article referred to. It is necessary before copying it to state that the bridegroom is a champion player at bowls. Here is the article, we pass no comment upon it, but leave that for our readers to do:—"That redoubtable ten pin champion, Philip Scott, has been bowled out. He is no longer a bachelor privileged to frequent the alleys at will, but must now ask permission of his wife, and will in future probably be restricted to two hours once in two weeks, and the Denver team's hopes of achieving distinction at Buffalo have gone glimmering. Miss Simpkins, who is now Mrs. Scott, had already been with the Park Floral Co. several years when Philip first landed in Denver. In the year and a half since that time he has had ample opportunity to see her under all the trying conditions that arise in a retail store. He held out manfully, but had to surrender at last. The wedding took place on the evening of June 4th at the home of the bride's parents in Berkeley, and Ben Boldt fairly outdid himself in the decorating. 'Billy Crowe,' also with the Park Floral, devoted the whole afternoon to the creation of the bouquets, and Peter Crowe, of Utica, sent some of his famous 'Bardi' Adiantum for the occasion. The bride was showered with gifts galore, and it was evident that both bride and groom were great favourites with their fellow employes, and with Mr. Valentine, their 'old man.' If Willie and Davie will now follow Philip's lead, 'Great Scott' may, in a measure, be consoled when the time comes for him to surrender his charming daughter. Judging from appearances it is only a question of which one she will select from among the many. In the meantime here's to the health and happiness of Philip and his bride. Drink hearty."

GLASGOW INTERNATIONAL EXHIBITION.

The "Gardening World" Representative will be at the Great Flower Show on August 28th and 29th. Communications from Advertisers should be addressed to "Gardening World" Special Correspondent, Press Offices, International Exhibition, Glasgow.

Copies of the paper containing Report of the Show will be distributed in the Exhibition on Thursday, August 29th.

Irish Honours.—Irish gardeners are delighted over the successes of Irish grown stuff at English shows. In the spring they were enthusiastic over the successes obtained by Irish grown bulbs; now they are delighted at the sweep which Messrs. R. Hartland and Sons, of Lough Nurseries, Cork, and Messrs. A. Dickson and Sons, Newtownwards, recently made at Hanley show. Messrs. A. Dickson and Sons won four firsts and a second for Roses, while Messrs. R. Hartland made a sweep with their famous Begonias.

Coprophilous Fungi. — At a meeting of the Linnean Society on June 20th, Messrs. George Massee, F.L.S., and E. S. Salmon, F.L.S., communicated a paper on Coprophilous Fungi. The authors have had under observation many genera of coprophilous fungi considered rare or hitherto absent from Britain, including species of Gymnoascus, Magnusia, Sporormia, Thelebolns, &c.; and a series of experiments have confirmed the supposition that the spores of these fungi require to pass through the intestinal canal of an animal previous to germination. In some species the spores are mixed with a mucilaginous substance, which on being ejected from the ascus coagulates in a mass insoluble in water. Such spore-masses as happen to be thrown upon grass must often be swallowed by herbivorous animals along with their food, and subsequently produce fruit on the dung of the animal. By this means the distribution of certain species is effected.

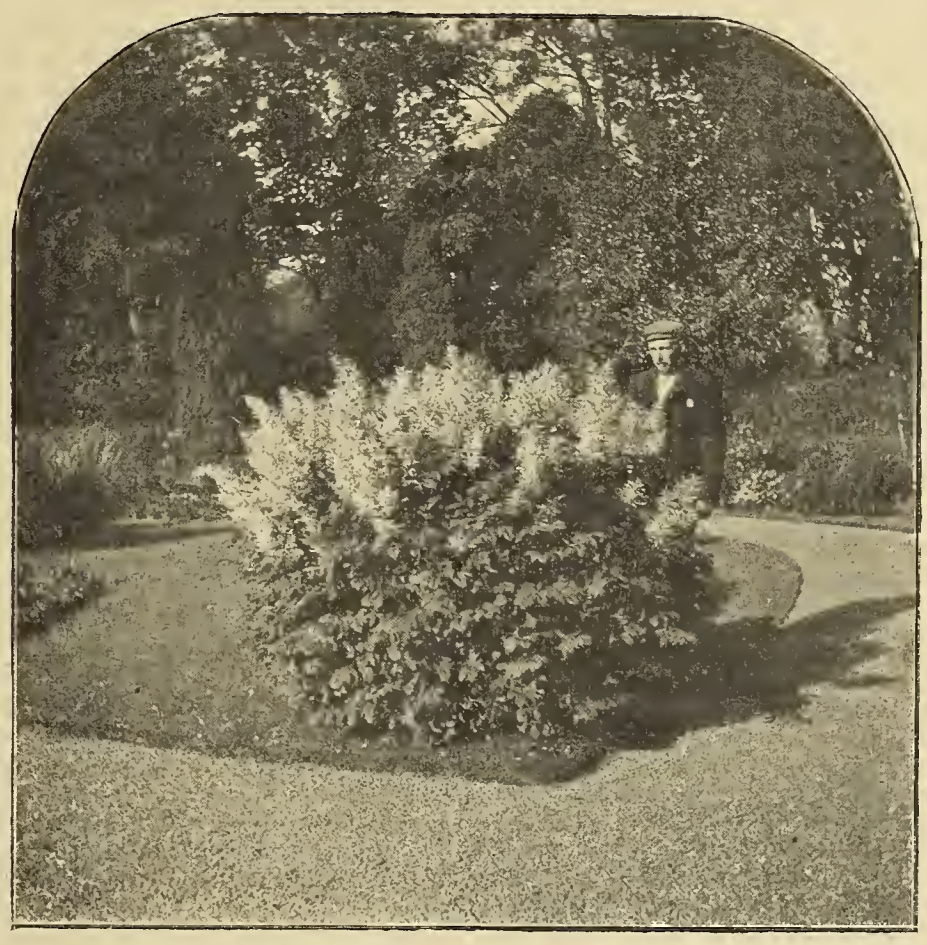
Doubtful.—We often hear of strange things performed in some continental laboratories, but this latest yarn, hailing from Naples will not go down even with a broad reasoning, at least not as the experiment is detailed in various contemporaries. Here is an example. "A flowerless exotic that grows normally with its roots fixed in sand and its leaves immersed in water had this position reversed, some of its leaves being buried in the sand and the roots standing up in the position the stems and leaves would normally occupy. After being subjected to this treatment for some time, the roots gradually changed to stems and leaves while the buried portions of the plant adapted themselves to the nature of, and carried on the functions of the roots." We have known many remarkable cases of plants adapting themselves to their environment, but surely this is a case of a journalist adapting his matter to the fancifulness of his mind.

Tree Planting.—It is much to be regretted that with the present scarcity of timber and paying prices, a greater area of the uncultivated lands of our country has not been planted up. There can be no doubt whatever that with the keeping back of the supplies by foreign countries—conservancy being now imperative — home grown timber will take a place in the market that it has never before done in the history of our country, and it therefore behoves us to make all the possible haste to ward off a timber famine, which we have long predicted is imminent. What an amount of labour could be afforded by extensive woodlands; what a shelter to the wind-swept downs and hillsides; what an improvement from a landscape point of view, and last, and most particular, what a revenue might accrue if only our Government would take up the question of afforesting some of the vast uncultivated lands of our country.—*A. D. Webster, in Farmers' Gazette.*

Revision of the Genus Hypericophyllum.—At the Linnean Society on June 20th, Mr. N. E. Brown, A.L.S., read a paper entitled "A Revision of the Genus Hypericophyllum, with Notes on certain allied Genera of Compositae." After pointing out that the genus Hypericophyllum had been founded by Steetz on a remarkable plant collected by Peters in Portuguese East Africa, and that specimens of it were so rare in collections that much misapprehension prevailed regarding it, he remarked that Bentham had united it with the genus Jaumea, Pers. An examination, however, of the material now available had demonstrated that this view was untenable; he regarded Hypericophyllum as quite distinct from Jaumea in its distribution, habit, and appearance; in the possession of glands in its leaves and tissues; and in its remarkable pappus, the hooked bristles of which appeared to be unique in this order. He therefore proposed to restore this, with three other genera, to their former generic rank, and furnished a key to their distinctive characters. In addition, he described a new species (H. scabridum) from British Central Africa, whence specimens had been received at Kew from Nyassaland between Kondowe and Karonga (Whyte), from the Manganja Hills (Kirk), and from the Shiré Highlands, near Blantyre (Buchanan). Some further remarks were made by Mr. W. P. Hiern.

A LARGE SPIRAEA ARUNCUS.

Of all the herbaceous species of Spiraea none is capable of producing a finer effect when in bloom than the subject of this notice. The only one to which we may compare it is the shrubby S. ariaefolia, which produces great panicles of creamy white flowers, but the plant is of spreading and drooping habit. S. Aruncus is herbaceous, of erect habit, and strictly deciduous, dying down to the ground in autumn. There are male and female plants in cultivation, but the latter is seldom seen in collections, and is not particularly attractive. The male plant owes its splendid appearance to the erect and dense habit of the plant and the great size of the branching panicles of creamy white flowers. The stamens also serve largely to give the plant the prepossessing appearance it possesses.



Spiraea Aruncus at Bargany.

The plant varies from 3 ft. to 5 ft. in height and is well adapted for border culture as well as for an isolated specimen on the lawn. The illustration accompanying this notice was prepared from a photograph sent us by Mr. D. Buchanan, gardener to the Earl of Stair, Bargany, Dailly, Ayrshire, and represents an old-established plant growing at a corner of one of the lawns in the flower garden. It is 30 ft. in circumference, 5 ft. high when in bloom, and carries annually seventy to eighty handsome panicles of its plumy looking flowers. A bush 10 ft. in diameter is a treat for anyone to behold, that being the width of this grand specimen.

COED DERW.

A short time ago it was my privilege to be conducted round the garden of E. C. Buxton, Esq., J.P., Coed Derw, near Bettws-y-Coed, North Wales, by Mr. Howard, the gardener (an old Dalkeithian).

Coed Derw is situated on the banks of the Llugwy, at the bottom of a mountain range several hundred feet high and scarcely climbable on account of its steepness, yet covered with Firs from base to summit, planted amongst stones and boulders by Lord Ancaster more than thirty years ago. How they have made any growth at all is a marvel, for there appeared more stones than soil on the surface. Near the base other trees and the Oak grow fairly well, the translation of Coed Derw being Oak Wood.

Coed Derw is a *multum in parvo* sort of place, for though the glass area is only small, Melons, Cucumbers, Peaches, Figs, stove and greenhouse plants are well grown. But it is the pleasure ground that rivets attention. Here, all kinds of herbaceous and alpine plants find a home in the borders and amongst the rocks and stones which protrude at every step. The walks in this part of the garden seem to have been formed by moving loose stones, and stones as placed by Nature form the outlines.

As we proceed we come to a part not quite so stony and rocky. Here are nine varieties of Bamboos, 3 yds. to 5 yds. in diameter and the tallest 3 yds. high, and Spiraea flagellata, 9 ft. across and 8 ft. high, whilst large specimens of shrubby Veronicas, full of flower, were noticed in different parts. Some of the Conifers planted about twenty-seven years ago, lining the carriage road, have made excellent growth, Abies Douglassii being 40 ft. high, Cupressus lawsoniana, 30 ft., and C. l. lutea was also fine.

I must not omit to mention a pond containing five varieties of Water Lilies, which seemed quite at home. I commenced to take down names of these and other things, but as I did not know which to select as the most worthy, I gave it up. I can truly say that Coed Derw is a most interesting garden situated in a most delightful spot.

What must strike the horticulturist on visiting Bettws is the absence of gardens attached to some of the older-built houses, nothing more than a strip 2 ft. to 3 ft. wide, supported by a low wall topped with iron railings. Where the houses are built this was inevitable, for at the back, commencing from the back door, is a mountain almost perpendicular, and in front the highway, and a few yards beyond that the river Llugwy, with its rumbling torrents, like a passing train. It appeared to me that the rock had been hewn and the space and stones utilised for the dwellings.

Some of the more recently built houses have gardens, but the price is too prohibitive to have large ones—£15 a year ground rent for a piece 22 yds. by 45 yds., which, for agricultural purposes, does not seem to be worth 20s. an acre. Rent for land is rather stiff. As showing how things would grow at Bettws, I noticed on a recently built house a Cheshunt hybrid and Celine Forestier Roses in splendid

health and full of flower, planted four years ago and covering a space 6 ft. by 15 ft.—the only Roses I saw except Gloire de Dijon, but Tropaeolum speciosum was frequently noticed in front gardens.

The owner of those Rose trees perhaps almost wished he had not planted them, for since then (a year or so ago) he has been defendant in a breach of promise case, which created much amusement at the time, for he and the lady had kept company over thirty years, and which cost him a large fee in damages, and now visitors to Bettws are told that the breach of promise gentleman lives in the house covered with beautiful Roses, and if you wish to see the lady you must go to a certain other place. Curiosity led the writer, like a good many more, to follow up the trail and see the lady.—*W. P. R., Preston.*

FRUIT AND FLOWERS IN QUEENSLAND.

HALF an hour's stroll in the grounds of the Acclimatisation Society at Brisbane will secure an inspection, amongst others, of the following:—

Strawberries, imported from England, France, the United States, and New Zealand, grow alongside Pineapples which have come from Florida, the West Indies, and Singapore; also Bowen Park seedling plants of both Pines and Strawberries, the whole in full fruit.

English and Himalayan Blackberries, just through with their spring and early summer crop, stand within a stone cast of Mangoes from Bombay and the Mauritius, and a Custard Apple from Brazil, all promising a satisfactory harvest for the coming mid and late summer.

Just on the margin of a large patch of tall sugar-canes, consisting mostly of Bowen Park, West Indian, and Demeraran selected seedlings, can be seen Rock and Musk Melons, maturing on the same strip of land that ripened Tomatos during the recent mild winter, and which will probably be called upon again directly to carry an early winter crop of Cauliflowers.

The filling of one section of the grounds is suggestive of an extensive itinerary owing to flourishing examples of the following coming under review:—

Side by side are Rhubarb from Siberia, English Apples and French Lavender, Spanish Chestnuts and Italian Olives, a Mulberry from Constantinople, Smyrna Figs, Persian and Soudanese Date Palms, Henna from Egypt, Coffee and Castor Oil from Arabia, a hedge of Kai Apples from Cape Colony, Jackfruit and Tamarinds, Teak and the Toddy Palm from India, Cinnamon from Ceylon; and many East Indian representatives, such as Ginger, Croton Oil, Pachouli, Nux vomica, and Rice; Arenga saccharifera from the Philippines, Litchi-Litchi and Tea from China. Central Asian Buckwheat and Japanese Cumquats and Persimmons, California Redwood, Rondoletia and Monstera from Mexico, Limes from Tahiti, Taro from the South Seas, Central Australian Salthush, Flax from New Zealand, Mate from Paraguay, and Green-heart from British Guiana, with many plants from intervening portions of South America, including Cocaine, Tobacco, Guavas, and Tapioca; Granadillas, Logwood, Guttapercha, and Mahogany from quite tropical and Central America, Allspice and Alligator Pears from the West Indies, and Pecan Nuts from Texas.

A flower border in the same grounds further emphasises the lesson, for in it in their season can be seen, in splendid flower, Daisies and Hibiscus, Ranunculus and Frangipani, Snowflakes and Ipomoea Horsfalliae, Jonquils and Gardenias, Larkspur and Poinsettias, Geraniums, Fuschias, Hydrangeas, Wallflower, Sweet Peas, Dahlias, Freesias, Chrysanthemums, Hollyhocks and English Ivy, along with Azaleas, various Orchids, Allamanda, Gelsemium, and the Rangoon creeper.

Without entering the shelter and glass houses, wherein it is usual to protect plants designed for the tropical north, such as Cocoa and Vanilla—and passing the packing shed, through which may be seen in the winter time such plants as Cherries and other stone fruits destined for the elevated inland portions of Southern Queensland—should further evidence be required to carry conviction, one minute's longer stroll over a sward composed mainly of tropical Buffalo Grass and English Clover will take the visitor to a pond, within which, flanked on one side by Burmese Bamboos, and on the other by a weeping Willow, can be seen growing from seeds ripened in the open air, and soon now to be in full bloom together, the British white Water Lily, culled originally in a tiny Welsh streamlet, and the giant Brazilian "Victoria Regia" from the mighty Amazon.

THE MARKINGS ON FLOWERS.

MANY flowers have a characteristic darkening of the lower petals, especially the tubular flowers. Take the Gladioli for an example. Why should the marks be there? is the question asked by the more inquiring and more observant section of flower lovers of to-day. Have they always been there or have they been caused by some outside agency? It is a generally accepted theory that insects have been the primary cause of the marking by irritating the part of the flower on which they alight, and that in the course of ages the marking has become hereditary.

What grounds are there for this strange theory? will be naturally asked by the sceptics. There are many. Carefully examine any flower with this class of irregular marking and it will be found that the nectaries, the object of the insects' visits, are always closely associated with the marks, and are just where the working of the insect would, in its endeavours to obtain the nectar, most irritate the petals. The case of Orchids will help to clench this theory. It is not the lower segments which are marked in this case, although they hold the lower position, but the top ones, as the flower is produced up-side down. This shows that it is the alighting platform of the insect visitors which is most generally darkened and not necessarily the lower petal of a flower.

Look again at the Gesneraceae order. It will be found that the marking is on the place where the flower would be most irritated by insects. As a proof again take the wild, original Gloxinia; it is marked on the lower portion of the interior of the tube, but under cultivation when the plant was induced to produce erect instead of drooping flowers this characteristic disappeared and the marking took no definite position, but was either scattered all over the flower or was entirely wanting. Instances might be multiplied by observing other plants; look, for instance, at the Antirrhinum and Digitalis. The sceptic might point out the marking on the Pelargonium as an exception, but let him examine the peculiar position of the nectary and he will see that it is the upper petals which will be irritated the most. In conclusion we will point out the great genus Rhododendron as a final example of ground for the theory of the markings having been evolved by visits of nectar seekers.

HINTS ON DAHLIA CULTURE.

THE Dahlia season is now coming on us. Those who require them for exhibition should lose no time this dry and hot weather before they mulch them with old stable manure round the roots. Liberal watering should then be given if the weather be very dry. A little lime or soot should be put round the plants to prevent the slugs from eating them off. Also pots with a little hay in should be put on the stakes to catch the earwigs, and after a dull day the pots should be looked over and the earwigs emptied out into a pail of paraffin oil and water to kill them. Most of the Cactus and double varieties require thinning and disbudding to produce fine blooms. In disbudding them care should be taken to leave only the best buds; the side laterals and buds should be taken off. Singles and pompons do not require thinning out.—*T. Prior, Burnt Heath, Ardleigh, Essex.*

BEAUTIFUL AUTUMN TINTS.

THE beautiful tints of autumn are beginning to show on many of the trees and shrubs already. Some people wonder how those tints are produced. The answer may be given in a general way that the leaves are ripening off, or, for lack of sap in the leaf the rays of the sun have a stronger influence in changing the colour. In proof of this anyone having an observant eye, taking particular notice of the trees in autumn, must have seen that in a wet year the leaves never assume so high a colour, and are often frosted down before they get bronzed at all; but in a dry summer the reverse happens. In some dry seasons I have seen the Rowan and Beech tree leaves as bright as scarlet Geraniums, especially where the soil was thin, and near the rock. Wild shrubs and also many weeds display gorgeous hues in a dry season such as this, although soil, too, has a great deal to do with it. I have noticed that certain varieties of Pears colour extremely pretty in some gardens, some bright yellow, others purplish crimson; and the same sorts in other gardens where the soil was clayey, did not take on the rich hues at all. The most lustrous autumn foliage is to be seen where the air is very dry; and it is said that in America the forests display indescribable magnificence in the fall of the year.—*J. C. Dick, The Gardens, Champfleurie, Linlithgow.*

FREESIAS.

THERE are few things more fragrant than Freesias, but they are not always grown satisfactorily, and failures in most cases may be traced to late planting. The best bulbs come from the Channel Islands. They arrive here in a dormant state early in August. They should be potted at once, not late in autumn, as is often done. Their roots are very brittle, so it is best to put them into the pots in which they are to flower. I put eight bulbs in a 5-in. pot, but they are seen to the best advantage when grouped together in batches of eighteen to twenty.

Pans answer for this purpose best; good turfy loam with three parts leaf mould and sand suits them well. In potting put ½ in. of soil over the bulbs; use clean pots carefully crocked, as one of the secrets of success is that the water will pass through freely. Place them in a cold frame or under a south wall; cover with ashes until growth commences. About the end of September they must be taken into the greenhouse, which must be light and airy (not draughty), and placed close to the glass. Temporary shelves that can be lowered as the plants grow are much the best. After flowering they must be supplied with water until the leaves turn yellow; and when dormant shake the soil away from them, pick out the largest bulbs and pot them again.—*F. Ross, Strathtyrum Gardens, St. Andrew's, N.B.*

PROPAGATION OF ERICAS.

ERICAS, more familiarly known as Heaths, are great favourites with every lover of flowers. Autumn is the best time for putting cuttings in, as they get rooted before the damp weather sets in. Those little wiry shootlets which are formed at the base of the plant should be selected as cuttings. These are about 1½ in. or so long. Pull them gently from the plant, as by so doing a portion of the old wood is attached, and assists the cutting in callusing and forming roots; be careful when removing the cuttings not to pinch the tips or the plants will perish. Strip the lower half of the cutting of its foliage, pulling it away with finger and thumb, one or two leaves at a time. Then with a sharp knife make a clean cut at the base. Some 5-in. pots should be got ready and filled with crocks to within 2 in. of the top; these should be covered with a layer of peat fibre, and then fill the pots to within ½ in. of the top with an equal mixture of finely sifted peat and silver sand, finishing off with silver sand. Sprinkle with water so that the cuttings can be put in firmly, dibbling them ½ in. apart, leaving a margin round the pot for a bell glass. Water well, and after it has drained off cover with a bell glass, and stand in a house with a temperature of 55° to 60° on a dry stage. They also do very well if stood on a stage with ashes on. They should be shaded from sunshine, and should also be shielded from root drip. They should be watered as the sand approaches dryness. Always take care not to replace the bell glass till the water has drained off. The glass should be wiped when necessary. When rooted the cuttings will commence to grow, after which the glass should be removed, and the young plants exposed a little so that they may become hardened. They should be gradually hardened off, finally transferring them to a cool frame ready for potting.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

To Kill Wood-lice.—Half-a-pound of sugar and a teaspoonful of Paris green make a very good poison for wood-lice, but must be used with care.

THE PLANT HOUSES.

This is an exceedingly busy time just now with the men in this department of the garden as propagating is going on in every direction, and putting in cuttings and attending to them in the propagating pits takes almost all the time available.

Crotons and Dracaenas should now be put into the pots in which they are to remain through the winter and given all the sun possible to harden their wood and to increase the colouring. Those which have their pots full of roots should be given a small quantity of soot water occasionally. This will be found to give tone to the colours, and is not so liable to stimulate the plants into growth as is other manures. Except in those which were struck late, and it is desired to grow them on, they should be stopped from making any further growth as much as possible and encouraged to ripen what they have made by giving a more liberal supply of air and as much sunshine as possible. By properly ripening the growth during the autumn they are better enabled to withstand the evils attending fire-heat and the long periods of sunless weather which they have to experience during the winter. Keep the syringe well to work while you can, as this will save days of sponging later in the year, and will keep the plants in a good condition. Those Crotons or Codiaeums which have the narrow twisted leaves, such as Warreni, should be well looked after to keep them clean, as when once they are allowed to get scale on them they may almost as well be thrown away, as they are generally disfigured in cleaning, and nothing looks worse than a decorative plant with disfigured foliage.

Stove Creepers.—Those which will bear such treatment should be thinned out now, so as to allow those shoots which are to remain to have a better chance of ripening before the dull weather. All root climbers should be induced to stop growing now, as growth made after this time seldom ripens.

Cleaning.—During the coming months the houses in all establishments are more or less crowded, and like all other places where crowding takes place, if not clean, things soon get in a bad state, and disease makes ravages in all directions. It is difficult to find time for such work, but to be on the safe side, and to give the plants every possible chance, it should not be neglected. There is also a great advantage to be gained for the plants in the washing of the glass, as it admits a greater amount of light. In the neighbourhood of large towns, London especially, it is necessary for the welfare of the plants to wash the glass on the outside every month, as the deposits of carbon and other matter with which the atmosphere of towns is laden soon make a heavy shade.

When washing a house from the inside, always take pains to thoroughly wash out and disinfect all corners and brush out the matter between the laps of the glass. If these little details are neglected the house might as well not have been washed as far as disinfecting is concerned. The walls should have a good scrubbing and be given a fresh coat of lime-wash. When the glass is clean and the walls are nice and white, the interior has a bright appearance even if the weather is dull and the stages are over-crowded.

In the stove especially, the tops of the pots very soon become covered with a mass of the lower forms of vegetable life, very interesting botanically, but not desirable where higher orders of plants are in favour. This should be picked off with a label or something similar, a budding knife handle perhaps being more used than anything for the purpose. If the surface of the soil is kept pricked up for about a quarter of an inch deep, these Mosses and Algae will not be able to grow. It is not an undertaking which will occupy a long time, and will be of great benefit to the plants, as it affords a better aeration of the soil, and the roots are thus preserved in a more healthy condition.

Ferns.—These should now have completed most of their growth, and the fronds may be hardened by a judicious exposure to more light and air. Discontinue giving stimulants except a weak dose of soot-water occasionally to keep up the colour in the foliage. Nothing, I believe, is more conducive to the deepening of the colour in Fern fronds than soot water; indeed, this is, in my opinion, unrivalled as a producer of colour in foliage.

Freesias.—There are many bulbous plants which require potting at this time of the year, and it is time now that these, the sweetest of all our bulbs, should be potted up. Half-a-dozen in a 48-size pot will be quite sufficient if the bulbs are good. If they are home saved they should be carefully sorted and all the largest ones potted by themselves. Give them a rich, light soil, and allow them to come along naturally, always keeping them as close to the glass as possible, and as soon as the blades reach a height of about 2 in. four light sticks should be put round them and a strip of bast put round as neat as possible. If the precaution of putting the sticks in early is taken there will be far less fallen, unsightly pots of plants to be seen, as if they are neglected and once allowed to fall they can never be righted again.

Mignonette.—This fragrant flower should be had in bloom throughout the winter. This can easily be done by making sowings at intervals of about a fortnight and thinning the plants out to about five in a pot as soon as the best can be selected. Always use a rich soil and keep the plants within a few inches of the glass; a shelf in the greenhouse is where they are generally brought along. Later in the season they may be transferred to the warm fernery if there is a shelf available for them.

Calceolarias.—The young plants of these must be watched and potted on as soon as they require it.

Cinerarias.—Keep these in a cool, moist pit, and as their pots fill with roots shift them on into larger sizes, but never more than one size at a time. They will be greatly benefited by a syringing in the early part of the afternoon when the weather will permit. Always remember that prevention is better than cure, and as they are very susceptible to the attacks of insects they should be fumigated once a week.

Cyclamen.—They should be dipped periodically to ensure their being free from mites and other injurious pests. Those which have filled their pots with roots and are not to be potted again should be helped by frequent applications of very weak manure—sheep dung diluted with water when obtainable.

Asters.—Those which are grown in pots should be well fed with manure, especially at the time when they are forming their flower buds. Abundance of water should be given as they soon lose their leaves if allowed to get dry. The dwarf species of Aster are not nearly so much used for pot culture as they deserve.

Palms.—See that these do not suffer from lack of moisture either at the root or in the atmosphere, as they soon show the ill effects of a deficiency either way. As they are generally grown in small pots, in comparison with the size of the plant, they should be fed at intervals with a good Palm manure.

Hardy Fruit Garden.

The work of gathering the various fruits is still the chief work of the day, and will be until the end of autumn. Be sure that fruit which has to be stored is dry, and wherever possible store it in single layers, as all fruits keep much better under such conditions.

Fruits ripening.—Every gardener knows that for wall fruit and for most other fruit abundance of sunshine is the chief thing for producing well-coloured fruits, and not only giving them a better colour, but also a far better flavour. With this fact in mind the gardener should frequently go over his trees and thin out or dispose the shoots in such a manner as to allow the fruit all the light and air possible. If the trees are dry at the root they cannot be expected to produce juicy fruit and should therefore more than at any time be supplied with sufficient root moisture during the time the fruit is making its final swelling. When it has finished swelling it may not be so easily affected by dryness at the root, but it is a fallacy which ought to be expelled as soon as possible that the roots should be kept dry at this period. It must be borne in mind that there are the next season's fruits to be produced on the same tree and that the rudimentary buds are at this time forming and the sap is being elaborated for their next year's development.

Summer pruning.—Trees will not make much more growth this season, and those shoots which are to be retained should have all the room, light and air possible. Nature, left to herself, corrects herself, but when trees are grown under purely artificial conditions, such as those afforded by wall culture, man has to supply the place of Nature in many ways and regulate the growth so that a well-balanced tree is maintained. It is at this time of the season that trees are apt to make here and there gross sappy growth. This must be watched for and checked immediately, as it robs the other shoots, and if allowed to grow will spoil both the shape and the constitution of the tree.—*F. J.*

Gleanings from the World of Science.

The subjects described below were brought up to the Scientific Committee of the Royal Horticultural Society on the 13th inst.

Iris Leaves Diseased. — Mr. Wilks brought leaves of a German Iris thickly bestrewn with brown spots, which become confluent, and eventually bring about the death of the plant. Dr. Cooke identifies the fungus as Heterosporium gracile, and recommends spraying with sulphide of potassium or ammoniacal solution of copper. All diseased leaves should be forthwith burnt.

Banana Disease in Egypt.—Mr. Lionel Saunders made some enquiries about this, but, in the absence of specimens, the committee could not pronounce an opinion.

Ceropegia debilis.—Mr. Odell exhibited specimens of this curious stove climber from the Zambesi.

Lycoris squamigera, and other Flowers.—Mr. Worsley showed flowers of this species which turn of a slaty-blue when exposed to the light. He also showed flowers of a Hippeastrum with rosy, acute, perianth segments, traversed by veins of a deeper colour. The leaves are produced some months after the flower is expanded. The filaments are more exserted than in H. stylosum, to which it is nearly allied. From the same gentleman came flowers of the single and double varieties of Zinnia haageana, and of Tagetes patula nana. Seeds from this latter form, known as Cloth of Gold, produced pure yellow flowers, and some had, except in their dwarf habit, reverted to the large African Marigold. Both single and double forms were observed. Mr. Worsley also alluded to the variation in the Dahlia. Seeds of a white-tipped variety produced 70 per cent. of self-coloured flowers, and 30 per cent. of flowers varying in colour from red and yellow to white.

Diseased Crocus Corms.—Mr. Bowles showed diseased corms, which were referred to Dr. Cooke for examination.

Proliferous Aconite.—Mr. Bowles also showed flowers of an Aconite, in which the stamens and carpels were absent, and in their place were secondary flower buds, each with fine green sepals, no petals, numerous stamens, and generally no carpels.

Plantago major.—Mr. Bowles exhibited fine specimens of the so-called Rose Plantain, in which the bracts are replaced by tufts of leaves.

Mandragora officinalis. — The egg-shaped fruits of this species were also shown by Mr. Bowles.

Osmunda regalis.—Mr. Druery exhibited fronds of an entirely new type of Osmunda regalis recently found in Co. Kerry by M. M. A. Cowan, of Penicuick, and W. Boyd, of Melrose. Nine plants in all were found, six of which were fertile, and three barren, the latter being more finely cut than the former, and apparently forming the plumose type of the species. In both forms the usually simple pinnules, with quite smooth edges, are deeply lobed on the edges on the lower and larger divisions, which, towards the upper part of the frond, merges into a distinct and thorough tertiary pinnation, rendering the frond extremely handsome. The fertile spikes consist also of rows of bead-like sporangia, while normally these are only slightly lobed. Mr. Druery has named Mr. Cowan's form O. r. decomposita, reserving the naming of Mr. Boyd's find until its distinct character is confirmed.

Hints for Amateurs.

As I promised last week, I intend to continue my hints on some of the most popular spring bulbs.

Crocuses.—These harbingers of spring are popular favourites with everyone, but there are many people who fail to grow them as successfully as they wish to. In general they are very little trouble if given the proper soil in which to grow and a good position. Too many people try to grow Crocuses in a wet, heavy soil, and they may try all their life and they will never be successful, as the corms resent such an environment as is provided by a wet soil, which is too often in conjunction with a shady position. They thrive best in a light sandy soil, but one that is rich as well as light. An ideal place for Crocuses is where they are naturalised in the grass. No bulb lends itself more readily to this class of cultivation, if it may be termed such, as they are simply allowed to grow wild. Anyone who visits the public parks in the spring will find that this method is being adopted very largely, especially on the mounds at Kew, Regent's Park, and St. James' Park, where they make carpets of colour in the early part of the spring. People generally confine themselves to the one sort, but there are numerous sorts obtainable from good bulb nurseries. A few blue, purple, and white varieties judiciously mixed with the yellow and orange colours considerably enhance the beauty of the effect. A better time for planting cannot be chosen than the first week in September. As sparrows often, or always, with very few exceptions, make a raid on the blooms, it is advisable to stretch cotton over the beds. There are several beautiful species which are autumn blooming. It is too late now to plant these for this year's blooming, as they ought to be in flower before the beginning of August. One very pretty species is Crocus iridiflorus, a purple and lilac; it ought to be seen in every garden, as the flowers are of exceptional beauty.

Snowdrops.—At the first thought it seems waste of space to give hints on the culture of Snowdrops, but far too many amateurs rely on the one species, Galanthus nivalis. This, although certainly a very pretty little flower, has been put in the back-ground by more recent introductions. The one that seems to find the most favour is G. Elwesii, which is the largest one grown. There is a pale yellow variety also to be had, but at present its price is rather too high for the majority of pockets, and its constitution does not seem to be good. Snowdrops may be grown in pots, but on no account must they be placed in heat, as they will not stand it. The bulbs of Snowdrops should not be planted later than the middle of September. They give a very good effect when grown under large trees, and so long as the soil is not too heavy they will thrive in such positions for years without any attention. Mice often make raids on the bulbs in the winter. The only remedy for this is to employ every means within power to exterminate them.

Chionodoxas.—Who does not love this pretty little flower coming as it does so early in the year, and thus earning for itself the name of "Glory of the Snow"? There are several varieties to be obtained, but the old C. Luciliae seems to still hold its own, and it will take a good flower to beat it, with its pretty blue and white flowers. They give the best effect either when growing in the grass or when in clumps on the rockery.

Bulbocodiums.—Only one species is known in this genus of plants, namely, B. vernum, but that one is well worth knowing, owing to its beauty and early flowering propensities. In mild seasons it produces its highly coloured, Crocus-like flowers as early as January. The flower is produced before the leaves, which are of a pretty shade of green and lance-shaped. It requires the same treatment as the Crocus, and as the corms can be obtained very cheaply, they ought to be more popular than they are at present. I am sure it is only because they are unknown that they are not seen more frequently.

Hepaticas.—There are few flowers to be had early in the year, but what there are seem to be very pretty. By no means the least beautiful are the Hepaticas, especially H. triloba, or as it is now called, Anemone Hepatica. The flowers are produced during February and March, and with the numerous red, white, and blue varieties a very pretty show can be made at that time of the year if the plants are given a deep, rich soil and left undisturbed for several years. Double varieties may also be had, and are more durable than the single ones.—*Hortus.*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

Fumigation of the Greenhouse.—*C. S.*: We know of nothing which will remove the offensive smell which pervades the greenhouse after fumigating with tobacco paper. It can be dispelled in a day or two by giving an abundance of air. We should not advise you to use the old fashioned tobacco paper with its noxious perfume, but buy one of the patent vaporisers which prove a cheap and effective remedy for all insect pests, and the odour emitted is not nearly so unpleasant as that of smoke, and by the middle of the next day after using it no trace of the smell can be found. Be careful to measure the interior of your house before using these patent vaporisers, and then measure out your liquid exactly as recommended, as excess may prove disastrous and an insufficient quantity may be ineffective.

To keep Celery Clean.—*Show*: This is a very easy matter if a little care is taken. It should not be earthed up in the ordinary way but should be blanched by putting folds of brown paper round it. This must be watched to see that it is kept dry or the result will be worse than when soil is used.

Planting Roses.—*Country*: We should not advise you to buy in your Rose trees for another few weeks. Late in September is a very good time for shifting Rose trees. Be sure you do not allow the roots to get dry, and take precautions against this danger by wrapping them either in wet straw or wet mats, for if once they are allowed to get dry the ill effects are sure to show themselves in the following season by impaired health and want of vigour. It is through buying Rose trees in this state that so many failures ensue. When planting take care to make the holes of sufficient size to allow of the roots being spread out evenly on the bottom, and plant them as low as they were before. If your soil is rich do not give any manure, and at all times use it judiciously, as it often produces rank growth. Do not plant your standards at less than 3 ft. apart, and see that they do not suffer from want of water if the autumn is dry. If the trees have much wood in them they may be pruned back slightly; but do not cut them about too much or they will perhaps push their dormant buds, and if they do, they are sure to be destroyed during the winter. Defer pruning until all danger of frost is past in the spring.

Red Spider on Hollyhocks.—*Avery*: The best plan to rid the plants of this insidious pest is to keep them well syringed with clear water or with the addition of a small quantity of soft soap. Take care to wet the under side of the leaves, as it is there that the insects generally work. If the plants are syringed twice a day for a week they ought to be freed from it without any other trouble. Are you sure that it is the red spider or is it the Hollyhock disease?

To dry off Onions.—*Jardin*: With a dry season like the past one you ought not to experience much difficulty in drying off your bulbs. The reason that they have not died down is because they are growing in too rich and loose a soil, or have been kept watered too long. Go over them and carefully bend over the tops of all those which show a tendency to still continue growing; this will induce them to ripen. When they are ripened they should be laid on a dry walk in the sun for a few days with a mat over them at night to keep them dry. To keep them well, be sure and store them in a dry, airy place where they will be safe from frost. Hanging them up in bunches, or making Onion poles is preferable to laying them on the floor.

To Dry Herbs.—*Kitchen*: This will be found the best month for drying the majority of pot herbs. They are usually gathered just before they come into bloom, and some people say that they are best in that condition. They require careful drying to retain their flavour. The best method is to hang them in bunches in a dry, airy place and surround them with tissue paper or linen to keep off the dust. When they are quite dry they should be stored in ventilated cardboard boxes. It is a bad plan to store them, as they are often done, in bunches hanging from the ceiling, as they become covered with all kinds of filthy deposits when hung in such exposed positions.

Crimson Rambler Rose for the Greenhouse.—*F*: If given a light, airy position a better plant for the decoration of a cool house cannot be had, as it blooms so freely, and when grown indoors for a very long time. As it is a most vigorous grower it must be watched to see that it does not get too thick and crowded, or it will be sure to be attacked by mildew. Whenever possible it should be syringed, as red spider proves troublesome in very dry seasons. Do not give it a soil which is too rich.

Tree Ivies.—*Ivy*: You will find these very fine bushes for the purpose you state, but you must bear in mind that they are not such rapid growers as the climbing varieties. See that you obtain plants which are on their own roots, as it is a very common plan to graft them on quick growing stocks. They grow much quicker in this way, but there is always a lot of trouble with the stock, as it will throw out shoots from below the base unless well looked after and the knife kept at work. Keep them well watered and grow them in a fairly rich soil, but do not have any fresh manure in it. They are difficult to root and take a long time before they make good plants, thus causing them to be dearer than the common wall Ivy. For making bold evergreen clumps on the side of the lawn there is nothing to surpass them.

Hardy Chrysanthemums.—*B. K.*: If you find that your plants will not come into bloom before the frosts are expected, we advise you to lift them and put them in boxes of leaf mould. Get as good a ball as possible and, if carefully watered, they will not be much affected by the transference.

Maggot in Cineraria Leaves.—*S.*: We do not know of any remedy for this troublesome pest other than hand picking unless the plant is destroyed also. With careful searching and then picking out the grub with a pin, they may be exterminated before much damage is done. The Marguerites should receive the same treatment. You will find that the yellow variety of Marguerite, named Etoile d' Or, is very susceptible to this disfigurement, and for this reason should always be grown apart from the other varieties.

Bulbs for Window Boxes.—*D. H.*; When your summer plants have died down it will be time enough for putting in your bulbs. They should be covered during very cold weather with mats, or better still the boxes should be taken indoors. The best way of growing bulbs for the window box is to grow them in pots and then plant them out just before they flower, taking care that the balls are kept intact. Leaf soil will be all that is required to put round them when they are turned out from their pots. By growing them in this way some very pretty combinations of colour may be made as they can be arranged after they begin to show colour.

Passionflowers Dropping.—*O.*: This seems a very common complaint from many growers this season, and doubtless the weather is the main cause. In nine cases out of ten it may be traced to lack of moisture at the root and in the other to poor soil. Both causes are easily remedied, and you should apply the obvious remedy to whichever you think is the cause. If you find that it is the drought, then loosen the surface and give a thoroughly good soaking. If you think that it is both, then give a weak stimulant in the water and afterwards mulch the surface of the ground for a few feet round the stem. It is only natural for the flowers to remain open one day, and perhaps you may have mistaken some of the closed up blooms for fallen buds. You ought not to have any trouble to keep your plant through the winter if you protect its roots and the base of the stem with dry litter or mats. The vine is gener-

ally killed to within a few inches of the soil in districts north of the Thames.

Grapes Rotting.—*Vinery*: There may be several causes for this; the most probable one is bad ventilation and excess of moisture after the berries have coloured. If you do not keep the bad berries picked out the whole of the bunch soon becomes rotten.

LISTER'S PROLIFIC TOMATO.

On several previous occasions we have had notices of this prolific and distinct variety of Tomato from correspondents in The Gardening World. We ourselves have seen a houseful of it in September. On this occasion Mr. G. Bailey, Mona Cottage, Holbeach, Lincolnshire, sends us a photograph representing a garden wall in the open occupied with a batch of this variety in full fruit. Unfortunately the shade afforded by the foliage on walls prevents a clear representation of the fruits, whether of Tomatos or of fruit trees.

The plants were put out at the end of May, when they were showing their first flowers. The wall faces the south, and is 7 ft. high under the coping, which will give a fair idea of the growth made by the plants. The photograph was taken on the 3rd inst., just after a few ripe fruits had been gathered.

The special feature of the variety is the great size of the bunches, which are repeatedly branched and hang down over one another like ropes of Onions, giving ocular evidence of the productiveness of the variety. The fruits themselves are moderate in size, but the bulk of them are of even and suitable size for table use. Their size and earliness are suggestive of the suitability of the variety for outdoor culture, when the climate is warm enough as in England. The climate of Scotland is cooler and less suitable for Tomatos in the open, so that Mr. A Lister, of Rothesay, Buteshire, who put the variety into commerce, grows his plants under glass, thereby getting the best results under the circumstances.

Lister's Prolific Tomato.

Beautifying the Streets.—The following is an extract from a speech at a meeting of the citizens of an American city:—"Authorise trustees to plant, remove, and care for street trees, and assess property owners for the cost of the work; create the office of city forester; reduce width of driveway on residence streets; and keep planting spaces clean; induce property owners to adopt a regular alignment of buildings, and maintain neat lawns; prohibit advertisement from trees; enforce the ordinance against hitching horses to trees; keep the drives and streets well sprinkled; plant trees where needed, and remove them where too thickly planted; plant more deciduous trees; make manufacturing institutions and packing houses attractive with creepers, and make the whole city a work of art." What an ideal that city will be if they act on this advice.

STRAWBERRY NOTES.

The supply of Strawberries is nearly finished. We have during several late seasons gathered fair Elton Pines as late as September. They were grown behind a hedge, but were of poor flavour. More than once we have tabled this sort to give variety in a collection of sixteen sorts of fruit, also Rasps of extra size from second crop.

Many of the Strawberries which were of the choicest varieties are now seldom seen. British Queen and Keen's Seedling were reckoned two of the best, and are still valued much, but they are seldom seen. Dr. Hogg is an excellent cropper in this district, and is grown extensively in Lord Zetland's garden near Grangemouth in this county (Stirling). Probably V. H. de Thury is grown more extensively in Scotland than any other. It seems to do well in every district. Royal Sovereign does well nearly everywhere.

The largest crops we ever had was by that variety. They come in nearly all at once, and when treated as annuals they attain great size and the crop is immense. Our supply was from plants forced last year, planted out of the pots in the month of June on well-manured ground. Some consider that plants which have been forced are not so good as plants which have been taken from the parent plants when young and growing. We have never found it so, and have witnessed the same in East, South, and West of England, where Strawberries were forced in great numbers. I would suppose that Veitch's Prolific will hold a good position among Strawberries. It is an excellent cropper and the flavour is first-rate.

The general treatment of Strawberries is very varied. Some plant wide apart (we have seen 3 ft. allowed), and manure heavily, making new plantations every third year. Others plant half the distance of what we have indicated. Some plant main crops during August and September, others grow young plants in beds through the winter and plant early in spring. To know what to do as the best plan can only be ascertained by experience on the ground. Some sorts which have become great favourites in some districts will do no good with us.

The mode of culture which has appeared to us most peculiar is the removal of the whole of the foliage and then give a heavy surface dressing of manure, which may be in July or immediately after the crop has been finished. We have seen this practice more successfully in Worcestershire and Perthshire. The plan is a very old one and was very general at one time. It appears at first sight unnatural, but when success attends the effort one need not mind anything contrary to preconceived notions. One thing worthy of note is the whole growth of the plant is new, and by liberal mulching the growth is strong and crowns become prominent. —*M. Temple, Carron, N.B.*

THE SCALDING OF GRAPES.

The present season appears (with us at least) to have been particularly bad for such a variety as Lady Downes especially. Our lean-to house is west-south-west, and gets the full sun from one o'clock onwards. As soon as we saw the least signs of a berry being attacked, we increased the ventilation earlier in the morning and did not close, rather damp down until five p.m., always leaving from 1 to 2 in. of air at the apex and front lights too. No damping was carried out in early morning, waiting until eleven o'clock before doing this. Yet in spite of all these precautions, the scalding still continued up to the time the berries began to colour.

We prepare for this bit of ill luck by not over thinning, as it occurs each year with this variety. Still, it is most annoying to see nice bunches made to look so ragged. Two years ago I whitened the roof for about five weeks, but the malady was just as bad.

Can any grower give a remedy for this evil? It would be interesting to the writer to learn how this Grape has behaved in other parts this year, as no doubt it is the best late keeping Grape we have as regards flavour.—*J. Mayne, Bicton.*

The Varnish Tree (Koelreuteria paniculata) is being largely advertised by a certain firm in Pennsylvania. It is rare in America, though well-known in Europe. It is a handsome and free flowering tree.

MESSRS. JOHN PEED & SON'S FRUIT TREES.

On many occasions we have bad the pleasure of visiting tbe nurseries of this well known firm. Often bave we been surprised at what bas been shown to us in the way of plants and flowers, and anotber surprise awaited us on our visit to tbeir fruit grounds at Mitcham Road, Streatham, S.W. Never before have we seen such an abundance of fruit on such small trees, and never have we visited a better managed establishment. Everything was as orderly and as clean as if it was a gentleman's garden.

But it is not of the general aspect of the place that we wish to speak, but of some of the trees which it contains. Any description we can make will give but a very inadequate idea of wbat tbe place is really like, and persons intending to plant frnit trees will do well to examine this stock before doing so, as many valuable lessons may be learned.

Tbe first thing tbat struck us on entering the Apple section was tbe frnitfulness of tbe very smallest trees—trees little more tban 1 ft. bigh were bearing handsome fruits. Messrs. Peed & Son do not seem to grow fruit trees for tbeir timber but for tbeir fruit, and tbey are great advocates of growing Apples on the Paradise stock, and busb and pyramid Apples are largely grown. Tbe trees are all sturdy, and as the position is an exposed one tbey ripen tbeir wood early. Tbe varleties are so numerous that it would take days to write an account of each. Tbere is not need to plck and choose as to which are wortb growing and whicb are not, as only tbose varieties wbicb are well worth cultivating are allowed a place in the nursery.

For their fruitfulness on such very small trees we could not help noticing a few. Blenbeim Orange is largely grown on tbe Paradise stock. It ls seldom tbat tbis fine Apple can be induced to fruit at a very early age, but wben seen growing on tbis stock as it is grown in these nurseries, lt will be found that it is a pure fallacy to make out that Blenheim Orange will not frnit until it reacbes a good age. Even the two-year-old trees were fruiting. We noticed a number of these being run up on the standard system, and we can recommend these for owners of small gardens, as they make botb pretty and useful trees. We also noticed that famous Apple, Hawthornden, the old variety, growing and fruiting well on the dwarf stock. It makes a very good Apple for cooking purposes about December. It is a great bearer, and tbe frults, which are pale green and round, are of a large size. Tbis must not be confounded with the New Horthornden, which is a much different Apple, except that it is a good cropper. It makes a very fine tree, and both varieties onght to be included in every collection. Kentish Fillbasket was bearing a heavy crop, and lt greatly surprised us to see tbe number and size of the fruit on the smallest trees. A large piece of ground ls also allotted to a number of Lane's Prince Albert. Loddington, one of the best of the kitchen Apples, was well represented.

Mrs. Barron is a pretty and useful Apple, botb for dessert and kitchen purposes. It is very sweet and of the first quality. It is quite a recent production, and wben it becomes better known we are sure tbat lt will be a popular favourite.

Every Apple-grower knows the brigbtly-coloured Gascoigne's Scarlet and the show the fruits are making now in Messrs. Peed & Son's Nurseries is not likely to be forgotten by those who have the pleasnre of seeing tbem.

Peasegood's Nonsuch and the old Ribston Pippin were making a good sbow, especlally on the three-year-old trees. Schoolmaster attracted our attention also by its wealth of fruit. It is a medium sized fruit of a good colour and slightly flushed. It is suitable both for kitchen and dessert. A large piece of ground is devoted to Wellingtons, and a better lot of trees could not be wished for.

Our attention was next called to the Bismarcks, which were in fine form, and made a pretty picture with their handsome striped fruit. One would think that such a pretty Apple was a good one for dessert, bnt if they once tasted it they would find that it is far too sharp for that purpose. It keeps well and may be seen in good condition in April. Nearly all the trees are grown on the Paradise Stock, and when we came to those grown on the Crab Stock we soon noted the difference. Tbe Crab Stocks were very pretty, but what is wanted ln an orchard is utility, combined witb beauty, and if the former is missing the latter is not of much nse to the grower. The standards whicb are grown are clean and straigbt and possess a well-balanced bead.

Passing into anotber section of the extensive grounds we came upon a large collection of trained trees of all kinds, Apples, Pears, and Peacbes being much in evidence. Tbe same weight of fruit and firmness of wood cbaracterised tbese, as was noticed in tbe other section. Great care is taken in the training of the trees, as may be seen by the close tying whicb they receive. They are by no means crowded, hence tbeir wood has ample cbance to ripen, and tbe Peaches—trees whicb are often troublesome in this respect, have already got good coloured wood. Some of the earliest varieties were picked tbree weeks ago, and as the trees have not the assistance of a wall to ripen their fruit this ougbt to give some idea as to tbeir condition.

We next visited a portion of tbe grounds wbere the two-year-old trees were growing, and we are sure tbat lf they could be lifted as tbey were and placed on tbe exbibition table tbey would make quite a sensation, as tbey look like monstrosities, especially the little trees of Lord Suffield Apples, wbicb were scarcely more than 18 in. bigb, and yet were laden witb fruit fit to be sbown in a collection.

Here, too, we were sbown thousands of small Gooseberry trees, and tens of thousands of Ivies in all varieties.

In tbe sectlon devoted to Pears tbe trees were just as frultful, and just as Messrs. Peed & Son are strong advocates of growing Apples on the Paradise stock, so are they strong believers in growing Pears on the Quince stock, as the best method of producing large quantities of frult. Tbere are some very fine standard specimens of Pears to be seen, and all were loaded to breaking point with fruit, especially the Williams and Easter Beurré. Morello Cherries are also largely grown as trained trees.

Tbls nursery is not entirely devoted to fruit culture, as there are extensive beds of dwarf and standard Rose trees. Although so late in the season tbey are still making a fine display of blooms Crimson Rambler is grown in great quantity, and many otber popular varieties are given special attention.

Sweet Peas are extensively grown, and at tbe time of our visit were just filling out tbeir pods, but judging from the few flowers still out we noticed tbat most of tbe latest productlons were included. Dahlias are grown in large quantities, also tbat popular suburban sbrub, the Golden Privet.

Tbe Phloxes were looking very gay; P. Coqnelicot took our fancy; it is quite new, and somewbat resembles Streatham Gem, on which it is an improvement. There were large batches of Statice latifolia just at its best. Large beds of Solidago were also making brigbt golden patcbes. S. Virgaurea nana attracted our attention by its dwarf compact habit. A bed of a hundred varieties of Asters will soon be making a fine show. Many are grown in pots, so doubtless tbe public will have a chance of seeing some of tbem on the exhibition table before long.

After a pleasant bour or two's ramble we took leave of Mr. Peed, Sen., who escorted us round the place, and in conclusion of our brlef notes we wlll once more urge our readers to grow tbeir Apples on the Paradise stocks as grown by tbis firm, and if visiting the Metropolis not to neglect visiting this nnrsery, as it may truly, at the present time, be classed as one of the sights of London.

PLANTS RECENTLY CERTIFICATED.

The awards mentioned below were accorded by the Royal Horticultural Society on the 13th.

Floral Committee.

Pelargonium endlicherianum. — Tne orbicular and softly downy leaves of this peculiar and pretty species resemble those of a Heuchera. The stems are herbaceous, about 18 in. high, carry only a few leaves, and terminate in an umbel of flowers. Tbe two upper petals are very large, and bright rose with five crimson velns, wbile the three lateral ones are so small as to be almost indiscernible. Tbe species was introduced from the Taurus in 1855, and must be nearly hardy, for Sir Trevor Lawrence, Bart. (gardener, Mr. W. Bain), Burford, Dorking, exhibited a large and handsomely-flowered specimen that was lifted from tbe open ground and placed in a pot. Nevertheless, a plant on the rockery at Kew does not look very happy, but possibly tbe position is against it. (Award of Merit.)

Cyrilla racemiflora.—The world will ever remain young to those wbo bave not previously seen it. Although this pretty sbrub was introduced from tbe Southern United States in 1765 very few recognised it at the Drill Hall on tbe 13tb inst. The genus contains only two closely allied species belonging to tbe Cyrilleae, a small natural order differing from tbe Heatb family in having free petals, and tbe anthers opening by slits instead of pores. The lower half of each year's sboots is leafless wbile tbe leaves are more or less crowded at the top. The small wbite flowers are produced ln racemes, 2 in. to 4 ln. long, and having the appearance of being in a wborl from tbe fact that they are produced in the axils of tbe crowded leaves at tbe top of tbe previous year's shoots. We have thns a false whorl or cluster of narrowly obviate leathery leaves at the top of tbe brancbes, and a false wborl of drooping racemes of flowers about 4 ln. to 8 in. lower down. It is usnally classed as a greenhonse sbrub, but Messrs. J. Veitch & Sons, Limited, Chelsea, exhibited a basket of plants llfted from tbe open ground. (Award of Merit.)

Lonicera hildebrandiana.—All parts of this Honeysuckle are very remarkable. The oval, leathery, smootb and glossy leaves are of great size. Tbe flowers are produced in pairs in the axils of the lower leaves of the sboots, but at the apex of the same they become more or less cymose. They are about 6 in. long, the tube occupying the greater length, being tawny-orange, while tbe limb is more golden, the upper lip being entire and the lower one four-lobed. It was discovered ln the Shan Hills in 1888, at an altitude of 5,000 ft. above sea level, and might be expected to be hardy, bowever much its appearance may belie tbe fact. Tbis bas got to be proved by experiment, and a few more years are requisite. Some flowers were brought bofore the previous meeting, and shoots on this occasion, grown in tbe opeu, were sent by tbe Rev. H. Ewebank, who was then staying at Nymphet St. George, S. Molton. The flowers are distinctly scented and we ougbt to see this remarkable Honeysuckle in many gardens in the near future. (First-class Certificate.)

Carnation Sir R. Waldie-Griffith. — The flowers of this border variety are moderate in size, not bursting the calyx, sweet-scented, and of a bright orange scarlet. It bad a very attractive appearance and caught tbe fancy of a great many of tbose present. The flowers were culled from the open border and sent to tbe meeting by Messrs. Laing and Mather, Kelso, Scotland. (Award of Merit.)

Canna Mrs. G. H. Strohlein.—The foliage of tbis variety is bronzy aud handsome, while tbe ricb crimson flowers are produced in a dense globular mass. Tbey are notable for the great breadth of tbe segments. (Award of Merit.) Messrs. H. Cannell & Sons, Swanley, Kent.

Amaryllis Belladonna maxima.—Tbe flowers of tbis variety are very large, rich, warm rose, and produced in an umbel varying from eight to thirteen blooms. The variety is evidently very early, as September is the usnal month for the species in tbe open. (Award of Merit) Leopold de Rothschild, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton.

Sagittaria japonica fl. pl.—This is evidently closely allied to the British S. sagittifolia, but while retaining the general sbape all parts are very mucb magnified, being twice or three times as large. The flower stem usually, if not always, is kneed or bent near tbe top, while lt is straight in S. sagittifolia. Tbe flowers of the plant under notice are very globular and double. A large clump of the plant is growing ln the tank in the herbaceous ground, Kew, under the name of S. variabilis, a name given it by Engelmann. In its various forms it is a native of Europe, Asia, and North America. (Award of Merit.) Leopold de Rothscbild, Esq.

Sarracenia Dormeri.—While this was introduced with S. purpurea, it is very distinct and supposed to be a hybrid between S. flava and S. purpurea. The pitchers are 9 in. to 12 in. high, and green with purple red veins and netting, ultimately becoming much suffused witb purple. The lid is heavily marked witb crimson netting, and the hinge wholly of a bronze or metallic crimson brown.

It is bold and striking, and it is to be hoped will prove as hardy as S. purpurea. (First-class Certificate.) Messrs. R. Veitch & Son, Exeter.

GLADIOLUS DUC D'ABRUZZI.—Here we have one of the race of Lemoinei hybrids. The two lateral segments of the inner series are blue, with a central white blotch surrounded by a crimson band. The rest of the flower is streaked and shaded purple on a white ground. For this race the flower is of large size and handsome. (Award of Merit.) Mr. Maurice Pritchard, Christchurch, Hants.

GLADIOLUS LUMINEUX. — The flowers of this variety are both strikingly distinct and handsome, being large and primrose-yellow, with a large crimson-red blotch on the centre of each of the three lower segments. (Award of Merit.) Mr. M. Prichard.

Fruit and Vegetable Committee.

BLACKBERRY WILSON, JUNIOR.—The fruits of this Bramble are of great size, varying from globose to oblong, glossy, black, and handsome in appearance. They are very juicy, but mild in flavour compared with British Brambles. Some stems cut from the open and laden with fruit were about 6 ft. long. (Award of Merit.) Messrs. J. Veitch & Sons, Ltd.

PLUM EARLY YELLOW.—The fruits of this Plum are oval in outline, moderate in size, bright yellow and part freely from the stone. They possess but little flavour, but are notable as being amongst the earliest of the Plums to ripen, being ready to gather this year at Chiswick on July 17th. It will be serviceable for cooking purposes. (First-class Certificate.) Mr. J. Fraser, The Nurseries, South Woodford, Essex.

GOOSEBERRY HOWARD'S LANCER.—This is a large, oval, and finely downy, yellow berry, more or less netted with strong veins. To the casual observer they appear to be smooth, and the long bristly hairs are really absent. The flavour is very good, but the skin is rather tough, and on that account they should carry well to market. (Award of Merit.) Roger Leigh, Esq. (gardener, Mr. W. G. Woodward), Barham Court, Maidstone.

DWARF BEAN SURREY PROLIFIC.—The pods of this Bean are 6 in. to 7 in. long, if left to develop, and borne in clusters of two to six on a stalk. This and the other vegetables mentioned below were brought up from Chiswick, where they had been on trial, and had received × × × from the committee when examining them there, this award being confirmed by the granting of an Award of Merit at the Drill Hall. Mr. Alex. Dean, 62, Richmond Road, Kingston-on-Thames.

DWARF BEAN SMYTHE'S FAWN.—The pods of this variety are inclined to be curved, otherwise they are similar to the previous one. (Award of Merit.) Mr. Alexander Dean.

CABBAGE BEST OF ALL AND LITTLE QUEEN.—The first named is conical, and of fairly large size, the heart being surrounded by large, glaucous leaves. Little Queen is a small and nearly globular, good table Cabbage. (Award of Merit to each.) Messrs. Barr & Sons, 12 and 13, King Street, Covent Garden.

CABBAGE PRINCE'S IMPROVED NONPAREIL.—The heads of this variety are very hard, of small size, and shortly conical. (Award of Merit.) Messrs. Nutting & Sons, 106, Southwark Street, London.

POTATO EARLY JUBILEE.—Tuber pebble-shaped, white, slightly rough on the skin, early, and 3 in. to 4 in. long. (Award of Merit.) Messrs. Dickson & Robinson, Manchester.

POTATO EXPRESS.—Tuber pebble-shaped, widest at the head, white, smooth or slightly roughened on the skin, 2 in. to 3 in. long and ripening early. Award of Merit) Messrs. Sharpe & Co., Sleaford.

POTATO GLORY OF DENBIGH.—The tuber is 2 in. to 2½ in. long, pebble-shaped, white, and rather rough on the skin. (Award of Merit.) Mr. R. D. Hughes, 35, Middle Lane, Denbigh.

A Sweet Pea Screen.—A writer in the *Canadian Horticulturist* has a novel idea of window decoration. It is a Sweet Pea screen made by planting seeds in a box and then running the Peas up strings. If the flowers are picked off as soon as they fade, this should make a graceful shade during the summer and one of continuous bloom. We must take exception to one term used in the article describing this arrangement, and that is the reference to the ugly sunshine. It is taken from a ladies' paper, and judging by the phraseology, evidently written by one of the fair sex; but we think that it is even going beyond the "mannishness" so much coveted by many women to refer to the "ugly sunshine."

LEICESTER PARKS.

DURING a recent visit to Leicester I naturally strolled round the famous Abbey Park, and was well rewarded by seeing some good results from the diligent and experienced work of Mr. Jno. Burn and his assistants. Under glass were to be seen grand specimens of the Agave americana, Palms in variety, Seaforthia elegans, Cobaea scandens variegata, Araucaria excelsa, Dracaena indivisa lineata, the very old Rhyncospermum jasminoides, Scarlet Trumpet Honeysuckle (now seldom seen), Plumbago capensis and P. c. alba, full of blooms, the old time Caladium esculentum, Passiflora caerulea, Lapageria rosea, and a quantity of Clematis.

The broad sweeps of ground outside allow for grand beds to be formed, and Mr. Burn has done well in this direction. A glorious bed of Phloxes was quite a feature of the place; it comprised Neptune, Etoile de Lyon, the white Amazon, Paul Bert, Torpilleur, Brilliant, M. P. Carpentier, Moliere, Parthenon, Embarrassment, Cameron, and Huxley.

A variety of beds of Roses were doing well, the most noticeable plants being Merveille de Lyon, General Jacqueminot, Gloire de Dijon, Mrs. John Laing, Comte Raimbaud, La France, Augusta, Rigotard, Charles Lefebvre, and Her Majesty.

Pelargoniums galore looked very showy with an edging of Perilla nankinensis, whilst seedling Verbenas were edged with Cerastaum tomentosum. Beds of Helianthus were surrounded with Pentstemons, whilst Abutilons and Eucalyptus lent themselves to similar treatment.

The Abbey Park comprises about sixty-eight acres, and is only one of the several spaces under the charge of a particular committee of the corporation, there being also the Western Park, of which about 100 acres are devoted to the public use, the Fosse Park, the Spinney Hill Park, thirty acres, in the east end of the town, and the Victoria Park, seventy-eight acres in the south. In addition to these there are numerous recreation and football grounds and several miles of street planting.

Mr. Burn, the curator, has therefore plenty of work and responsibility, is to be congratulated upon his success, and fully entitled to the appreciation which the city authorities show him.—*F. A. C.*

THE ROCK GARDEN.

PLANTS IN FLOWER.

Erodium Manescavii.

OF the many species of Erodium or Heron's-bill, none of them, perhaps, exceed this in the size of the flowers, which are of a deep rosy purple, with a large white blotch on each of the two upper petals, surrounded and more or less netted with black. They are produced over a long period of summer, especially if the plant is growing in a moist part of the rockery. In light soil the plant soon goes to seed, and proves short-lived. This is a small matter, however, as seeds are generally abundantly produced, provided the birds can be kept from them till they ripen. The plant is a native of the Pyrenees and well worthy of a place on the rockery on account of its bold and showy flowers, produced in umbels on long stalks.

Parnassia palustris.

Of all the species of the Grass of Parnassus that are introduced to cultivation none of them are prettier than our native British plant, which is far more abundant in the north on wet moors than it is in the southern part of the island. It likes and must have a moist position if the grower is to retain the leaves all the summer and keep the plants healthy. The flowers of the earlier plants are now in perfection, and a succession will be kept up during the next month. The pale coloured veins appear like water lines running the long way of the petals; and alternating with the latter are hand-like structures with twelve to fourteen fingers, each tipped with a gland. This curious and beautiful flower will bear looking into. A peat bed on the lower part of the rockery and so constructed as to be retentive of moisture will suit the requirements of the plant. Where a bog bed already exists the conditions for its welfare are ready to hand.

Macrostomia echioides.

Gardeners are more familiar with this plant under the name of Arnebia echioides, or Prophet Flower. The bright yellow flowers with their five black spots are always interesting. Although the plant flowers early in the season the accession of rain starts a second growth, and that is already flowering, and will continue more or less during the next month, at least in the north. Cuttings with a piece of the older stem getting firm at the base will root more readily now than if taken during the heat and drought. The plant may also be multiplied by division in spring as growth is commencing. The late summer and autumn growth is even more vigorous than the early summer one.

Silene Schafta.

This Catchfly is often planted in situations that are too dry; and this being the case flowers are only sparingly produced for the reason that growth is thereby restricted. At the same time, the shoots being scanty and hard in the tissue, the propagator is unable to get anything like satisfactory shoots that will emit roots. On the other hand the plant grows and flowers much more freely where the situation is cool and moisture relatively plentiful during summer. There are more barren, that is, leafy, young shoots which can be rooted in sandy soil in a cold frame, or under a handlight, or better still under both, the handlight being valuable for retaining a moist atmosphere about those cuttings recently inserted, while those that are rooted, or partly so, in pots, may be stood anywhere in the frame to harden the tissues previous to removal from the frame altogether.

Polygonum capitatum.

Many of the species of Polygonum are mere weeds, some of which may be described as pretty, notwithstanding. Many of the introduced exotics are of altogether too gross growth for the rockery; but P. capitatum is quite exceptional in this respect. It is a slender plant creeping over and hugging the surface of the ground, the slender stems being rather thickly clothed with ovate leaves, ornamented with a purple band in the shape of a horse shoe. The flowers are small, pink, and arranged in compact, globular heads, and very pretty. The plant frequently proves short lived when planted out on the rockery, but this is unimportant seeing that it re-sows itself and comes up next spring if the soil is undisturbed. Seeds may be saved on purpose so as to perpetuate this interesting subject.

Hypericum moserianum.

The dwarf habit and large showy flowers of this garden hybrid entitle it to a place on the rockery, whatever other purpose it may be put to in the garden. As the flowers are slightly nodding they are seen to better advantage when growing on an elevated position a little above the level of the eye. They are in perfection when they first expand, just before the handsome red anthers burst. Owing to the creeping or spreading habit of the rootstock any required quantity of stock can be obtained by division of the clumps in spring.

Dianthus superbus.

Recorded evidence shows that this Dianthus was cultivated as long ago as 1596, having been introduced from continental Europe. The florists of the olden time as well as the present day seem to avoid a fringed flower that cannot be turned from the error of its ways and become rounded off at the circumference as if outlined with a pair of compasses. Notwithstanding their predilections this is really a very handsome species, the five lilac petals being cut into slender fringes nearly or quite to the bottom of the blade. No doubt it would take many generations of the plant, by seed sowing and selection, to develop a smooth-edged petal like a laced Pink, and personally I rejoice at its stubborn inconvertibility into a circular disc, which would spoil its natural grace absolutely. The flower as it exists is twice or three times the size of the original D. plumarius, domesticated many years ago by the florist. Like other Pinks that under notice is easily increased by cuttings.

Zauchneria californica.

The scarlet flowers and protruding anthers of this Californian perennial are not unlike those of a Fuchsia, to which it is related. Some growers have

a difficulty in cultivating it successfully, but this difficulty would largely disappear if it were planted among the stones of a rockery in a rather elevated position where the creeping underground stems may ramble at will and be kept rather dry in winter. Those that come in contact with the stones outlive the winter and come up freely in spring, whereas those in the open, especially in a heavy and wet soil, are liable to perish.

Rubus arcticus.

Few of the Brambles are really of an ornamental character, that is, compared with the number of them in existence. The subject of this note is herbaceous in character, and if not decidedly showy it is at least pretty and interesting. Like many other mountain plants it succeeds best when grown under cool and moist conditions. A peaty soil at the foot of the rockery where the sun shines only for a part of the day will meet its requirements admirably. The stems vary from 3 in. to 6 in. in height, are clothed with leaves consisting of three leaflets, and terminate in a solitary rose-coloured flower.—*Alchemilla.*

TRIALS AT MESSRS. WEBB & SONS' SEED FARM.

(Concluded from p. 819.)

After the party of visitors had inspected the flowers and vegetables as detailed in last week's issue, all proceeded to the cornfields adjoining to inspect some of the multitudinous trials being conducted. The corn in most cases was ready for harvesting; and the binder was hard at work in another field, while the corn was almost ready for stacking in some of the earlier fields.

Farm Crops.

Our intention here is merely to give a brief statistical account of the many trials of farm crops conducted by Messrs. Webb & Sons, Wordsley, Stourbridge, on their extensive seed farms at Kinver, in conjunction with purely garden products.

Mangolds extend to sixty-two trials, among them being Webbs' New Smithfield Yellow Globe, a sort which appears to be distinctly in advance of all others so far as can be seen at this early stage.

Of Swedes and Turnips, there are eighty-nine trials. At the time of the visit the stock seed of Swede and Turnip was harvested and stored in the large barns at Kinver.

Of Potatos, over 100 different sorts are growing, which include several seedlings of Messrs. Webbs' own raising.

Grasses and Clovers occupy innumerable plots, there being several new Clovers and other forage plants under trial.

Wheat numbers eighty-seven trials, representing Messrs. Webb & Sons' special crosses, and also many varieties obtained from foreign countries—from China to Peru. Many of these show very decided characteristics, which are certainly interesting and novel. There are also plots of the different sorts recently introduced by Webb & Sons, which, to the most casual observer, glancing down the rows, show unmistakable superiority in all points, notably Webbs' Mont Blanc White Wheat and Webbs' Standard Red Wheat. The variety named Mont Blanc is a beardless Wheat, producing very heavy heads, and having a fine appearance, as it stands of equal height all over the ground. Windsor Forest is another fine Wheat that attracted our attention, the white heads being of great length. Many of the foreign Wheats, some of them no doubt very hardy, have a peculiar appearance by comparison with those most favoured in this country. Very singular is a bearded Wheat, named Harrison's sans Barbe, with brown heads only 1 in. to 1½ in. long and very dense. A foreign Wheat, bearded, and covered with gray-blue down, and named Tain's Defiance, is even more strange in appearance, as it can be detected a long distance off.

Barley numbers forty-three trials; amongst these is one which is considered by experts to be a very valuable cross. It combines the productiveness and stoutness of straw of the Burton Malting, with the superbly fine quality of the Kinver Chevalier. A field of the latter coming under notice was very true to the type.

Oats include eighteen plots representing the best selections from Webb & Sons' trials of last year (numbering nearly 100 distinct varieties and cross breeds), one or two of which show such pronounced value as to merit a further growth for their qualities to fully develop

Glass Houses at Wordsley.

In the glass houses at Wordsley—three new ones are just being added—are thousands of plants of Webb & Sons' special strains of Gloxinias, Begonias, &c., which are being fertilised for seed purposes, whilst a multitude of seedling Primulas and other florists' flowers are following for the proper season. And in mentioning Gloxinias especially, it should be stated that there are here several seedlings which are being brought on, of great promise; they display both novel shades of colour and distinctive form.

Apart from the flowers in this department are to be seen many varieties of Tomatos growing in pots, and amongst them is a particularly fine new cross showing abundance of fruit and sturdy growth. The fruit, which hangs in profusion, is egg shaped, large in size, very firm in the flesh, and should prove a novelty of great value.

The Chemical Works at Saltney, Chester, are seven acres in extent. Here Webb & Sons manufacture artificial manures for both farm and garden crops on a scale which is unapproached by any other firm in the trade.

Gardening Miscellany.

CANNAS.

The majority of people admire these gorgeous flowers, and yet when they look at them closely they do not find anything remarkable about them beyond the fact that they are pretty, etc. A keener observer will notice that the flower is of a remarkable kind and differs from most others in its construction. It is in a very interesting stage of evolution and when examined it will be found that many of its curious petals are really stamens, or represent such, and as the centre of the flower is reached perfect stamens are found. A most simple instance of this is found in the Water Lilies. Starting with the outer whorl of petals and making to the centre will show every transition from petal to stamen, and in about the middle whorl it will be found that they are neither one nor the other, but both, and from this point the stamen gets more perfect as you near the middle. Botanically all the floral organs are but modified leaves. This may be particularly proved by examining the flowers of Rosa viridiflora where many of both the stamens and petals develop into green leaves. A careful observer may find numerous other instances.

PETUNIAS.

This genus of plants, so closely allied to the Tobacco plant, is too well known to need any cultural details, but there are several interesting points about the genus which may be of interest. It is owing to its affinity with Nicotiana that it bears the name of Petunia, having derived it from the Brazilian word *petun*—tobacco. It is supposed that only two species are concerned in producing the race of garden Petunias which we have at the present day. They are supposed to have been produced from P. nectaginiflora and P. violacea. Somehow the two colours will not mix properly, hence we see the curiously marked flowers. In some the purple colour predominates, in others the white will be the prevailing shade; but even when we have a pure white flower we must not be led to believe that the purple has been obliterated entirely, for it is still in the blood, and perhaps in the next generation may be more in evidence than the white. This is what the French call a false hybrid—that is, it appears to be a true species but is really a disguised hybrid. When saving seed of Petunias this fact should be borne in mind and it will perhaps be the means of saving a lot of disappointment.

OLEARIA HAASTII.

This belongs to a large genus of plants numbering nearly a hundred species, and is in our opinion one of the best. In habit and general appearance it is much like a small Olive, and from this it takes its name, from *olea*, an Olive tree. It is interesting botanically as being one of the few shrubby Compositae. The whole genus is indigenous to Australasia, sixty-three being found in the large island continent. It is well adapted to cultivation in or near towns, as it does not seem to be greatly affected by smoke, &c., and is therefore a most desirable evergreen, and as it will thrive in almost any soil it ought to be far more popular than it is at present. Those who wish to see the species mentioned at its best should visit Kew, where several large clumps are now in full bloom, and making a pretty feature with their wealth of small white heads of Daisy-like flowers. It may be easily propagated by cuttings taken when the growths are half ripened. It seldom exceeds 3 ft. in height, and to produce the best results should be grown in the most sunny position possible.

GYPSOPHILA PANICULATA FL. PL.

We have often spoken of the common form of this plant as exceptionally useful both for pot culture, border culture, and for all kinds of decorative work, and have many times said that it could not be beaten, but in this we were mistaken for the variety above mentioned is a most decided improvement. It has just the same habit and floriferous habit as characterises the old variety, but differs in being double. It is not often that real artistic beauty can be found in double flowers, but this is an exception as the individual blooms are so small, and are borne in such a graceful manner that they still retain the light and elegant appearance of the original type. It is quite new, and when shown recently at the Royal Horticultural Society's fortnightly meeting the committee recognised its good qualities, and gave it an Award of Merit. As the name denotes, the Gypsophilas are lime-loving plants, and to grow them to perfection, if the soil is not naturally of a calcareous nature it should be made so by the incorporation of mortar, lime rubble, &c.

SAPONARIA OFFICINALIS.

In our highly civilised times we do not think that at one time soap was an unknown luxury, and in fact is only quite a modern production. The question arises when this is pointed out, How did our forefathers wash themselves clean? Like in numerous other instances before art was brought to bear on the subject they looked to Nature for their various requirements. When Nature is looked into more deeply she will be found to be more beneficent than she at first appears to be, and if turned to will supply almost anything we need. The leaves of the above plant were found to be a good substance for eradicating grease and for general washing purposes as they will produce a lather which is very similar to that produced by our soap, and prove just as efficacious in the removal of dirt from the flesh. It is not a native of this country but has become naturalised. To bear out the above remarks it will be seen by anyone who takes the trouble to look it up that it is only found still in the neighbourhood of villages with a few exceptions, thus showing that it is most probably an escape from gardens generations ago. In districts where it is found it is known as Bouncing Bet and the Common Soap wort.

ASTEROIDEAE.

Probably no plants are more difficult to work on botanically than the Asteroideae tribe of Compositae. Bentham found that there were ninety genera, but the species were so closely allied to each other that it was almost impossible to separate them; and anyone who wishes to study the great doctrine of evolution which is now causing so much interest should set to work on this tribe at once, as they will find about 10,000 species and each runs into the other with such minute divisions that one cannot possibly find a better class of plants to work on. Asa Gray was a great worker on this family, and it is to him that Kew owes the arrangement of its large collection of Asters. He studied them closely in their own habitats and when on a visit to England he undertook the great and trying work of naming and separating the collection of Asters at Kew into their proper species. It is in the herbaceous ground in this establishment that the student will find food for the study of the subject.

LOBELIACEAE AND COMPOSITAE.

Botany as yet is only a very incomplete science, and to study it at the present day the student must accept many theories with very little foundation, and

must possess a very elastic imagination, and above all a sweet temper; for after perhaps having cherished a pet theory for some years something turns up which explodes it in a merciless manner, and for the next few years you may follow a theory diametrically opposed to the first one only to be suddenly pulled up by another discovery, which proves that you have been again on the wrong track, and so the science grows. To many it may seem a wide stretch of imagination that the two orders above named have been evolved, the one from the other, but such is the case according to the present day teachings of authoritative botanists. They have many characteristics in common when closely examined; for instance, they both possess syngenesious anthers, that is, they are united at the edges and form a tube, although their filaments are free. Another point in favour of the theory is that Lobelias and the Liguliflorae section of the Compositae are both well supplied with laticiferous vessels containing a milky sap. Lobelias are very dangerous, being very poisonous.

CAPPARIS SPINOSA.

Some years ago the flowering of the Caper Bush was considered no small feat horticulturally; but now that the specimen at Kew has become thoroughly established, under proper conditions the flowering of it becomes regular. The plant in question is planted against the low wall of the economic house. Here some unheated frames have been erected all along the foot of the wall to shelter various Cape bulbs and similarly tender things. The Caper Bush is not very high, being limited to the foundation wall of the house, but the branches extend on either hand till they cover an area of 10 ft. or 12 ft. The flowers are produced singly in the axils of the leaves, but they are very numerous, being freely produced on most of the branches. They are pure white with the exception of the outer half of the filaments, which are purple, and make rather a strong contrast. It is the plant which produces the capers used in flavouring and for making caper sauce.

NESAEA SALICIFOLIA GRANDIFLORA.

Yellow is such an unusual and unlooked for colour in the order to which this plant belongs that the connoisseur who beholds the above plant for the first time is somewhat non-plussed by it. The form of the plant and the shape of the flowers are closely similar to those parts of Lithrum Salicaria, the Purple Loosestrife. The similarity is so close that the beholder directly thinks of the last-named. N. salicifolia was first introduced to this country from Mexico in 1821, probably under the name of Heimia salicifolia which is still sometimes used for the plant. In its native country it is a subshrub growing to a height of 5 ft., but here the shoots generally die down to the ground and come up again like Lythrum. The stems of the plant under notice in the herbaceous ground at Kew are about 2½ ft. high and laden with large yellow flowers along a great part of their upper portion. The leaves are very similar to those of Lythrum, except that they are quite smooth, bright green, and arranged, either opposite, in whorls of three or on the upper part alternate. They closely resemble those of a Willow as the specific name indicates. The variety to which these notes refer differs from the type in having larger flowers. Altogether it is a very handsome plant and well worthy of inclusion in the most select of collections.

South African Floriculture.—The following is an extract from a letter from a gardener in that country:—"Some day in the far distant future this will be a great country, but at present one would think oneself transported back to the time of Noah; and as a fact Table Mountain is believed by the Boers to be the same that old Noah bumped against while on his memorable voyage around the world. However that may be, no improvements have been made since, except that they have several of the Twenty-third Street, New York, horse cars—they are old and decrepit now, but the name can be plainly read—used as trailers on the electric tram line. I wish you could see some of the floral work created by the florists here. In most cases it looks as if they had used a press to pack the flowers 'light and firm.'"

SOCIETIES.

EXMOUTH.—*August 13th and 14th.*

After something like fifteen years' grace, a summer show was again arranged for this well known resort, but unfortunately wretched weather marred the attendance on both days of the exhibition. It was held in a large marquee erected on the Manor grounds, the whole of which were illuminated at night with fairy lamps, and looked very pretty. The entries were not as many as could have been wished, still very little space in the tent was left unoccupied; but thanks are mainly due to the honorary exhibitors for this.

The non-competitors comprised Hon. Mark Rolle, Bicton, who sent a varied and bright collection of foliage and flowering plants, as well as twelve dishes of fruit, which included good Queen Pine, Sutton's Scarlet Melon, Violette Hative Nectarine, Crimson Galande, Dymond, and Grosse Mignonne Peaches, good black Hamburgh Grapes, Washington and Czar Plums, Morello Cherries, Lady Sudeley Apples, &c.

Mr. Godfrey, nurseryman, staged a large display of good Cannas, Celosias, Geraniums, Fuchsias, as well as a quantity of cut flowers, such as Phloxes, Carnations, Asters, Gaillardias, &c.

Mr. Street also put up a similar but much smaller collection, and included Grapes, Tomatos, Cucumbers, &c., the latter very fine.

There were only two competitors for a half circle group for effect, W. Davis taking first honours, though the second prize group contained some well flowered Cattleyas, Gloxinias, &c., but the arrangement was bad.

Mrs. Gordon won honours for six distinct Ferns; W. Davis for six Adiantums. Mrs. Gordon also led for black Grapes, as well as that for white. Fruit was not well represented, with the exception of Apples and Currants.

Table decorations were nicely done. Miss M. Harvey was placed first with a light arrangement of pink Sweet Peas and Carnations with Maiden Hair and Smilax for relief. Mrs. Hodgson was second, using Tritonias principally, intermixed with Gypsophila paniculata. Mrs. Tobin came in third, using Madame Crousse Ivy-leaf Pelargonium, Lilum speciosum album, lightened with Gypsophila.

Cottagers exhibited well in the vegetable classes, in fact, most of the produce equally as fine as that shown by amateurs. Onions, Carrots, Potatos, Beans, and Shallots call for special mention.

The greatest credit is due to Mr. Godfrey, the hon. secretary, upon whom the lion's share of work fell in promoting such an attraction at this time of year when the town is usually filled with visitors.

ONE AND ALL FLOWER SHOW.—*August 16th and 17th.*

Surely this admirable society has the clerk of the weather as one of their members, for they have members of every class, anyhow! They have so far been favoured by that mysterious gentleman by always having most propitious weather for their annual show, and there are not many societies who, on their fifteenth annual show, can boast of not one having experienced unfavourable weather. The Crystal Palace is often the scene of large gatherings, but of the number which we have visited none have we enjoyed more than those of the One and All gatherings. There is that jovial, good feeling all round that, although in the midst of strangers, one feels that he is surrounded by friends. The show quite deserves all the patronage it gets, as its supreme object is to develop a love of flowers and their cultivation among the working classes.

We should have liked to have given a fuller report but unfortunately we could not find the space for it, and when we say that within a few feet there was a mile of tables, and all these were stocked with garden produce of all kinds, readers can judge the magnitude of the exhibition and the space a full description would occupy.

A great feature of the show was the exhibition inaugurated by Lady Warwick. This was the first show of the kind ever organised in this country, and we believe that it is the nucleus of a great movement. We cannot give a full account of this movement here, but hope to put it before our readers at an early date, and we are sure that even if they are not co-operators, or even sympathisers with the cause, they will commend the efforts of Lady Warwick and her helpers, and give that help which she so much needs by propagating the cause of higher horticultural education for the working classes. All honour is due to organisers of this good work, and we heartily wish success to the movement, and the promoters may rest assured that we shall assist the good cause when in our power to do so.

A conference was held during the afternoon of the first day in the great restaurant of the Crystal Palace, and many influential people took part in the discussion and promised their assistance. Lady Warwick was in the chair.

Lady Warwick retired from the presidency of the Agricultural and Horticultural Association, and has been succeeded by that eminent agricultural worker, the Hon. Horace Plunkett.

On Saturday afternoon music and singing were additional attractions, and some idea of the class of concert given may be gathered from the fact that there were 5,000 voices in the choir.

Vegetables.

In Class I. for a collection of vegetables, some remarkably fine stuff was put on the boards. Tomatos, of which One and All Perfection was the chief variety, were exceptionally good. Leeks, too, were in fine form. The first prize was won by Mr. A. Basile, gardener to the Rev. O. L. Powels.

Carrots were very good, but too many had aimed at size, and not so much at quality. The smallest bunch was placed first, and was indeed well worthy of its position. It was exhibited by Mr. W. Emerton, Buckingham.

In the class for Cucumbers, size seemed to be again the object with the majority of the exhibitors, but, taken altogether, the exhibits were of a high standard, and a prettier brace of Cucumbers could not be wished for than those which obtained the premier position; they were exhibited by Mr. A. E. Kirtland.

Mr. Basile was well to the front again for nine Leeks, and easily carried off the first prize.

Onions were, as usual, a feature of the show, and those shown by Mr. R. Chamberlain, of Reading, gardener to F. W. Lonergan, Esq., not only contained our annual friend and companion of the Gooseberry —"The Big Onion," but were a collection of big Onions, and firm, too, beyond a doubt. They did not show the bottleneck feature too often met with in big Onions, but were perfect globes. Mr. Basile also exhibited some very fine stuff, and was well worthy of his position of second, although those in the third position, exhibited by Mr. W. Emerton, were not many points behind.

Mr. Basile was also first for the best nine Tripoli Onions. Peas, considering the time of the year, were very good, and the dish of pods shown by Mr. Chamberlain were not large but well filled, and the pods carried a bloom like that of Plums.

In the class for six dishes of Potatos, Mr. W. Emerton was placed first, but was closely run for that position by Mr. Basile. Mr. Emerton also carried off the first prizes in the classes for two dishes of white and two of red.

The collections of Salads were well grown and very effectively staged, Mr. A. E. Kirtland, of Oxford, showing a very tempting lot, and securing the first prize. There was not much to choose between this and the second prize collection shown by Mr. Emerton.

Mr. Basile was well to the front with Tomatos, and easily secured the first prize.

Fruit.

In the classes for single dishes of fruit, Pears and Plums were shown in very good form, especially the latter.

For five Peaches, Mr. W. Powell, gardener to C. T. Weatherby, Esq., Addlestone, was placed at the top of the list, and the sample of fruit which he exhibited fully entitled him to this position. Mr. R. Chamberlain also showed very good fruit, and was placed first in another class for Peaches. Both exhibits were well coloured, and the fruit of good substance. As neither of them was labelled, it was impossible to give the names of the varieties.

In the class for white Grapes, Muscats of Alexandria were exceptionally good, and those shown by Mr. T. Osman, gardener to L. J. Baker, Esq., Ottershaw Park, Chertsey, were as good as could be seen at any show in the country at this time of the year. Mr. W. Taylor, gardener to C. Bayer, Esq.,

Forest Hill, was a very good second with Buckland Sweetwater.

Black Hamburghs were much in evidence in the classes for black Grapes. The best bunches were put on the boards by Messrs. W. Taylor, W. Powell, and T. Osman. Melons were also well shown; the principal exhibitors of these were Mr. Reuben Bass, Bromley; Mr. W. Turk, Bromley; and Mr. A. Basile, gardener to the Rev. O. Powels.

In the class for six dishes of open air fruit, there were some fine collections to be seen, and one was inclined to be a trifle sceptical as to whether they were all actually grown in the open air, especially when on closer examination mealy bug was found, and in such a state as would not point to their having lived in the open air for any length of time.

Mr. T. Osman staged the best collection of fruit, his Peaches and Nectarines being grown to perfection. Muscats were also well up to the mark. Apples would be difficult to beat, and taken all round the exhibit was a very meritorious one.

Flowers and Plants.

Flowers were shown in great profusion and the numerous classes allowed for endless variety, which made the atmosphere heavy with the different scents. Mignonette seemed a favourite in every direction. Specimen plants were well grown, and many handsome plants were exhibited. Mr. F. Balt, Norwood, brought the best pot of Liliums, and, indeed, was worthy of more distinction than the first prize, as it was a most beautiful exhibit.

Mr. Charles Moody, Penge, exhibited a grand specimen plant of Ivy-leaved Pelargonium. Fuchsias were, as usual, great favourites, and many huge plants were exhibited, and all were very well flowered. Carnations and Picotees were both well represented, and, of course, the flowers of the day. Sweet Peas were to be seen everywhere. There were a great many entries in the decorative class, and some very pretty designs were executed. In the table decoration, Mr. F. B. Williams, Blackheath Hill, was easily first with a very light and elegant arrangement. Messrs. Dickson & Co., Covent Garden, showed far better taste in some of their wreaths than they did in their table work, as that was extremely heavy. Purple Sweet Peas were the only flowers used, and if one-tenth the amount of flowers had been used the effect would have been much better.

The epergnes were very good, especially that which was arranged by Mr. Chamberlain, Reading, which, for its superior style and the simple elegance of the flowers used, was as good an epergne as we have seen for some time. Needless to say, the judges did not hesitate to place it at the head of the awards. Mr. Chamberlain is a well-known exhibitor at this show, and, as on previous occasions, he made a good effort at "clearing the board"; for we noticed his name as first for six bunches of annuals; first for six bunches of hardy herbaceous plants; first for fifteen stems of Phlox Drummondi; first for Onions, Peas, Beans, bouquets and epergnes, truly an array of prizes to be proud of in one show.

Educational Flower Show Section.

Additional attraction to this year's show was the show inaugurated by Lady Warwick, which was held in conjunction with the One and All. The students from Lady Warwick's Hostel, at Reading, brought a large collection of flowers, fruits, plants, and vegetables, and were successful in winning the magnificent trophy offered by Lady Warwick. There was a tastefully arranged stand of miscellaneous stuff, in which we noticed, besides many well-grown plants, some very handsome Dahlias, the latest introductions in Sweet Peas, well-grown Melons (Highcross Hybrid being the chief variety), Ailsa Craig Onions, Lord Suffield Apples, useful sized Vegetable Marrows, and other general productions of a garden.

Not only is perfect gardening taught and practised in this establishment, but a very high standard of art is also cultivated, as was demonstrated by the taste with which everything was arranged. It was a real treat to see the way in which the tables for the decorative section were laid out. There was no crowding of flowers and foliage and in none of the displays of table decoration was more than a small handful of flowers and foliage utilised, although the tables measured 9 × 7 ft.

Miss May Crooke, in our opinion, gave the best effect, but the judges did not seem to appreciate her style so well as that of Miss Grace Robinson. Miss Crooke used Tritonias (Montbretias), Gaillardias, Marguerites, and Smilax. Miss Robinson used only yellow Coreopsis and light Rushes, with here and there a piece of Smilax.

Miss Lilian Helsal made a simple, though very effective, arrangement with Geums, using their own foliage.

Miss Magdalen Ellard showed very good taste in her arrangement, using Convallaria, Statice latifolia, a few Tritonias (Montbretias), and Asparagus deflexus.

Miss Rosamund Butler selected Sweet Peas for her arrangement, and made a much better effect than we have seen on many recent occasions when this flower has been used.

Miss Murray, an old student of this hostel, sent a large collection of vegetables from the place of which she has charge. The Tomatos and Marrows were specially worthy of notice.

The trophy offered by Lady Gordon-Lennox was won by the Metropolitan District Industrial School, Sutton, Surrey. The conditions under which this cup is offered ought to give a stimulus to higher horticulture in our villages, as it is to be awarded not to an individual exhibit, but to a collective exhibit shown by a society.

There was also the Countess Grey Cup, which has to be won under the same conditions. Bromley were the holders last year, but we have not yet heard the judges' decision as to which society has got it this year.

The magnificent cup offered by the Countess of Warwick was won easily by the students from the Reading Hostel.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends *the most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. W. E. Havill, Marpool Cottage, Exmouth, Devon, for his article on "Calanthe Veitchii," p. 814.

QUESTIONS AND ANSWERS.

Croton Leaves Spotted.—*H. P.*: The specimens sent are not suffering from any kind of disease. Possibly they might have been punctured by insects in the earlier stages of their growth, and the holes became larger as a result of the development of the leaves. We believe, however, that the damage is entirely due to drops of moisture being upon the young leaves in the morning when the sun came out strongly and scaled or burnt holes in them. The moisture may have got upon the leaves by condensation directly upon their surface or by drip from the roof of the house. Another supposition is that there are flaws or specks in the glass by which the sun's rays are focused and reflected upon the young leaves. To one or other of these causes the damage is due, so that you should search for the cause of it by examining the glass and so forth. We do not think that the damage happened recently, but rather when the leaves were quite young and tender. Another year we advise you to keep an eye upon the plants when their foliage is young and tender. See that there is no drip falling upon them from the roof, and that the moisture does not hang upon them in globules when the sun comes out in the morning. The glass should be examined at once to see that there are no specks or clear spots in it.

Lifting Fruit Trees in September.—*Apple*: September 29th is rather early to remove Apple trees, as they will still be in full leaf, though they should by that time have completed their growth in most cases. If the weather by that time is dull and cloudy or even showery, so much the better, as the trees in most cases would soon take to the fresh soil and live. Possibly you can lift them with balls of soil, and if so the operation would be more successful. If the roots do not lift with soil about them, the next best plan would be to wrap up the roots in a mat, piece of tarpaulin, or any other coarse fabric that would prevent the roots getting dried up. Before commencing to lift them, you should have holes prepared in the new ground, so that no time will be lost in transplanting them. By so doing, you will prevent the finer roots from getting dried up, and most, if not all, of the trees should grow in their new position. It all depends on the weather, which should be cool and moist.

Gardener's Situation in South Africa.—*C. R.*: No cheap book on Gardening and the Flora of South Africa has come under our notice. We should think Durban the most likely place to inquire about a local flora after you get there. We should doubt there being sufficient demand for such books to encourage the printing of them just yet. The "Flora Capensis" is an expensive book in several large volumes, and not likely to suit your purpose. With regard to your other questions your best plan would be to write a letter to the "Chief Clerk, Emigrants' Information Office, 31, Broadway, Westminster," from whom you would be able to get information regarding a guide-book for the journey, the fares and means of getting from the ship to the station at Durban, as well as other items By writing direct to the office you will probably get printed information in the form of circulars, &c.

The Sowing of Lawn Grass Seed in Autumn.—*A. F. W.*: It is true, as you say, that if the seeds are sown at the present time they stand the risk of depredation from birds, and it would take an immense amount of watering in order to make the soil sufficiently moist for the seeds to germinate. The best plan under the circumstances would be to wait till the present dry conditions give place to more moist and showery weather. We may get those conditions during next month, so that you should make every preparation to get the soil in proper condition and to sow when there is an appearance of dull and showery weather for a few days, at least. In all probability we shall get that some time during next month, and, if so, the grass will have plenty of time to make some headway before winter. The ground being still warm and the nights longer, with heavier falls of dew, the grass will come along rapidly.

Names of Plants.—*F. G. Brewer*: 1, Gomphrena globosa, an annual well worth growing and highly ornamental when well done. Save seeds. The Orchid is Miltonia spectabilis; the yellow flowers changing to red are Lantana Camara; the green flowers and leafy shoots were those of a Phyllanthus closely allied to P. pallidifolius, but not identical. Please number all flowers for naming.—*Interested, North Cornwall*: 1, The Aquatic Figwort (Scrophularia aquatica); 2, the Narrow-leaved or Pale Flax (Linum angustifolium), if the flowers are pale lilac. If the flowers are large and blue it is L. perenne. On another occasion when sending Linum, put a flower or two between a folded piece of envelope or note paper, and pin it to keep the petals flat.—*W.P.*: Veratrum nigrum (a good sample).—*C. F.*: Trachelium caeruleum (you can propagate it from cuttings as well as seeds. Of late years it has been very much raised from seeds.)—*W. T.*: 1, Spartium junceum; 2, Ceanothus Gloire de Versailles; 3, Clematis Flammula; 4, Erica cinerea; 5, Erica Tetralix.—*E. B. J.*: 1, Helianthus rigidus; 2, Helianthus multiflorus flore pleno; 3, Coreopsis grandiflora; 4, Eryngium planum; 5, Eryngium oliverianum; 6, Centaurea dealbata.—*R. M.*: 1, Mentha piperita; 2, Mentha viridis; 3, Mentha sativa; 4, Lysimachia punctata; 5, Lysimachia ciliata; 6, Verbascum nigrum.—*W. M.*: 1, Tagetes signata; 2, Saponaria calabrica; 3, Acacia lophantha; 4, Abutilon megapotamicum variegatum; 5, Abutilon Thompsoni; 6, Cineraria maritima; 7, Centaurea geminicarpa.—*W. Henry Brown*: 1, Litchrochia vespertilionis; 2, Polypodium pectinatum; 3, Asplenium ebeneum; 4, Tacsonia Van Volxemii; 5, Cestrum (Habrothamnus) elegans.

Communications Received. — E. Harris.—R. Chamberlain.—E. W. Greening.—G. C.—A. M.—E. C —X. Y. Z —Marks.—E. D. M.—A. J. B.—W. D.—D. D.—A. K.—R. M.—W. W.—A R.—C. F. (next week) —Tomas (next week).

TRADE CATALOGUES RECEIVED.

WILLIAM CUTBUSH & SON, Highgate Nurseries, London, N.—Border, Tree and Malmaison Carnations, Pinks, Cloves, &c.; also Retarded Bulbs and Roots; Special List of Show, Regal, Decorative, and Ivy-leaf Pelargoniums, Heliotropes, &c.; New Pea Edwin Beckett; Select List of Strawberries, Blackberries, &c.

E. H. KRELAGE & SON, Haarlem, Holland.—Dutch Bulbs.

WM. BAYLOR HARTLAND, Ard-Cairn, Cork.—Rare Daffodils and Rare Single Tulips.

B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.—Descriptive Catalogue of Bulbs, Roots, Forcing Plants, &c; also Catalogue of Hardy Trees, Shrubs, Conifers, Fruit Trees, Vines, Roses, &c.

VILMORIN-ANDRIEUX ET CIE, 4, Quai de la Mégisserie, Paris.—Catalogue of Flowering Bulbs and Strawberries; also Autumn Seeds.

HUGH DICKSON,

Royal Nurseries,

BELFAST.

ROSES,

FRUIT TREES,

CONIFERAE.

Splendid Stocks in the finest possible health, vigorous, well-rooted, and thoroughly well ripened. Catalogues on application.

Grower by Special Royal Warrant to H.M. the King.

As Planting Season will shortly be on now, Orders should be placed at once.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

Edited by J. FRASER, F.L.S., F.R.H.S.

SATURDAY, AUGUST 31st, 1901.

The Editorial and Publishing Offices are now at **4, Dorset Buildings, Salisbury Square, Fleet St., London, E.C.,** where all communications and remittances are to be addressed to the Proprietors.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, September 3rd.—Bicester Horticultural Society.
WEDNESDAY, September 4th.—Glasgow International Exhibition, Fruit and Vegetable Show (2 days); Milton and Sittingbourne (2 days).
FRIDAY, September 6th.—National Dahlia Society (2 days).

FRUITS IN SEASON.

The Fruit of the Hour.—A few weeks ago Strawberries and Gooseberries, at first in succession to one another, and then contemporaneously, monopolised the attention of the fruit-loving public; but both have given place to the Plum in its many forms, from the Sloe, Bullace and Damson to the Greengage, Victoria and Coe's Golden Drop, to be succeeded in turn by later ripening varieties. Greengages in great abundance have been selling at 2d. to 4d. per pound, and very good samples at the lower price. The chief regret is that most of them come from Continental sources. Victoria Plums of good quality are being retailed at 3d. per pound, even in first-class shops. They are to a large extent of English growth, for the variety has been largely planted, and this year the trees, wherever we have seen them, have been abundantly furnished, as they are most seasons. There are several other varieties in the market, and will be succeeded presently by Pond's Seedling, which also fruits well as a rule. The sale of these fruits in London alone must be enormous. At other periods of the year when fresh fruits are not obtainable, several of the varieties take the form of prunes, that is, dried Plums. Here again the foreigner scores, for we are practically dependent upon him for this article, except in the form of jam, till the next season's crop matures. Apples and early Pears are also abundant and find a ready sale. The former are with us from January to December, the summer season being now bridged over by Australian and Tasmanian supplies.

THE PROSPECTS OF DRIED FRUITS.

THE question has often been raised why we do not dry at least a portion of our own fruit as they do on the Continent, particularly in France, and likewise in California. The answer is that we lack the sunshine enjoyed in those countries. We get heat and drought it must be admitted in all conscience, but when the former is analysed it is found that our insular skies are too much befogged or obscured with haze, vapour or mist which deprives us of the actinic and all powerful rays of the sun. We do not get the bright and continuous sunshine which in the course of four or five days enables the Californian fruit grower to convert his Plums into prunes. Evaporators heated by artificial means, have been invented to enable us to overcome this difficulty. One of these machines stood at Chiswick, in the gardens of the Royal Horticultural Society for some years, and for all we know it may be there still. Many trials were given it when first set up, but the conclusions come to were that the cost of drying the fruits by fire heat was too great to make the machine a success financially. Another machine has been standing idle for some time at Swanley Horticultural College, and similar reasons are given for its disuse. We have heard of small machines that seemed to answer admirably when used to dry the surplus fruits in private establishments. Their owners spoke enthusiastically of them and regarded them as useful adjuncts to a garden. If the fruits had to be purchased, possibly the additional expense of drying them would make it more economical to buy the dried fruits of the foreigner. We hope, however, that machines will yet be devised that will dry fruit cheaply enough to take their place on the market.

A rumour is current that a salesman and others in connection with Covent Garden Market are presently to start work with a new patent evaporator that will stone as well as dry the fruit. Hitherto what stoning was done has been accomplished by hand, making the finished article rather expensive. Prunes have for many years, however, been dried with the stones in them. Our opinion is that fruit drying to become a financial and commercial success must be done on a large scale, so as to reduce the labour necesssitated in attending small machines that dry relatively a few fruits at a time. This has been found so in the case of jam-making and similar industries. With the growth of the fruit industry in this country it will become almost imperative that we should discover some means of preserving all surplus and perishable fruit, for London requires not merely a supply during the short harvesting season, but to be fed all the year round.

The Neglected Mulberry.—In many private gardens we have at different times come across a Mulberry tree, some of them of great age and generally remarkably productive. They seem to be a remnant of former days when Mulberries were more in vogue. A dish of them, when perfectly ripe, black as jet and shining with a lustrous glitter, is not unattractive when set on the table as a dessert fruit. When perfectly mature the fruits greatly lose the acidity, peculiar to them for some time after they become red and relatively soft, so that when black we think they might enjoy greater popularity for dessert purposes. We see no reason why surplus fruits should not be converted into preserves, in various ways that might suggest themselves to those who are experts in this particular art. Even their wonted acidity would commend itself to many who enjoy a somewhat acidulated tart or pie, whichever name may be given the same. Many would no doubt enjoy Mulberries immensely in a preserved form, if some new fangled name were given it so as to obscure the original. One old tree at Syon House existed for over 300 years. More vigorous and younger trees fruit heavily in the garden of Sir Trevor Lawrence, Bart., also at Falkland Park, in Kew Gardens and elsewhere, yet most of the fruits are allowed to fall to the ground or to be eaten by birds. The tree itself seems perfectly adapted to town life, as there are not a few even in the more populous parts of London, such as Westminster, Walworth and Vauxhall. The fact that the tree is deciduous is greatly in its favour.

A Plea for the British Bramble.—The wild Raspberry if introduced to cultivation would produce fruits of a relatively superior character, at least on individuals selected from those that are known to fruit well in a state of nature. The improved varieties already in cultivation preclude the necessity of resorting to the wild one. It is altogether different with the Bramble of which there are a hundred or over, more or less well marked forms. Some, like the Dewberry and its allies, produce fruits consisting of a few large grains, and offer little temptation to the fruit grower. There are many species and varieties, however, that produce berries of really handsome size even on crowded bushes which have to compete with all other forms of vegetation. Would-be cultivators could not do better than inspect the Brambles growing upon their employers' estates, and either lift them or, what is better, layer the tips of the long canes of the current year. When rooted, these could be transferred to the garden, and planted in well prepared ground in sunny or fully exposed positions. After these get thoroughly established they will fruit abundantly and very profitably occupy the space allotted to them. If two or more species or varieties have been transferred to the garden they might be crossed with the view of improving them. There is no telling what could be effected in this way. The flavour of well matured British Brambles is greatly superior to some of the greatly boomed American Brambles imported to this country. Ordinarily the bushes might be trained to trellises of various forms; but with the view of hastening the ripening of the fruits a plantation might be made on a sunny slope facing the south where such exist.

Is it True?—Many of our readers have doubtless been enthusiastic over the works of Florence Marryat, and if they had known what her impressions of a gardener were they would appreciate her works much more. Here is an extract from her writings—"A love of flowers indicates a refined and elevated mind. One seldom, if ever, meets a coarse and brutal gardener. We look from Nature up to Nature's God."

Cherries have been the best tree crop this year.

The Gooseberry Cobham, which was recommended for an Award of Merit at a recent meeting of the Royal Horticultural Society, is likely to become a general favourite. The Fruit and Vegetable Committee are of opinion that it is identical with Gunner, an old variety possessing considerable merit.

Topiary Work.—The *Midland Counties Herald* for August 15th has a very good article on the above subject, and gives ominous hints about it again finding favour, and suggests that a league should be formed to check this contortion. We entirely agree with them, for while we like to see a few specimens as remnants of the old style we should be sorry to see it reinstated in its old position.

More Heat.—By a series of deductions from past observations and reports, Mr. Serviss, a lecturer on astronomy in America, advances some very fascinating theories. They are more fascinating than welcome, as he prophesies that the terrific heat experienced this summer will be continued for four years. Time and space will not allow of details as to how he made this discovery (?) but our old friends and associates of the electric trams, the sun-spots play a conspicuous part in the theory. He is only a speculative theorist, and while we shall be sorry for his erroneous deductions we shall be glad to escape another summer like the past one.

Mushrooms.—Mushrooms are very plentiful this year, especially in the north, and the lovers of this fungus may look forward to some palatable breakfasts for some time to come. As many as 1,000 baskets a day are being sent from some districts. The *Morning Leader* says "that while Mushrooms are very acceptable to us in town, there is no question that the best way to enjoy them is to turn out from the cosy farmhouse into the fields in the early morning and gather them fresh from the dewy earth. Besides getting them much more freshly, a zest is given to one's appetite which is well nigh impossible to the town dweller."

The Garden City.—People have many ideas of settling the growing bogey—the housing question. Some strike high, some are nonsensical, others are worth consideration. One of the highest ideals of these people is to build a garden city—a city entirely new and built with numerous gardens and open spaces intersecting the houses. The city is not to be built in patches as various builders choose to put up houses, but is to be laid out on a gigantic plan and all built at once, with sanitary arrangements of the most perfect kind. A great conference has been held at Bournville to discuss the question, and we venture to say that before this beautiful blending of houses and gardens is really accomplished there will be many more discussions and many adjournments. Prominent members of the London County Council are taking part in the scheme as well as influential members of Parliament. If this scheme comes to perfection it will be a veritable Utopia for gardeners. But who is going to finance such an undertaking?

The Recent Hailstorm at Hawick.—Dr. Hamilton, Hawick, forwarded to Professor Geikie, University of Edinburgh, specimens of a material found in the centre of some hailstones which fell at Hawick on the 10th inst. The Professor replied as follows:—"The specimens are as you surmise, cinders. Doubtless they were swept up from the railway or some other source. I cannot remember of any quite similar case, but during thunderstorms queer things are sometimes showered down. I remember a fall of perch taking place at Airdrie some years ago. They were swept up from a pond in the neighbourhood. 'Falls' of herring have often been recorded, and so have 'showers' of haddocks! Grain has been carried up from threshing floors in Morocco, and brought down again as 'showers.' Probably the manna of the Israelites was of the nature of an esculent lichen stripped from trees and distributed during a storm. Anyhow a so-called fall of manna took place at Herat while that place was being besieged—and the starving garrison was in that way relieved. Similar falls of manna have often been recorded as having taken place in Persia and other parts of L. Asia. The 'manna' was found to be an esculent lichen, and was traced to its source by a French botanist."

Those who suffered loss during the recent hailstorms, if they did not belong to the Hailstorm Insurance Company, doubtlessly wished that they did.

Buckwheat for Fowls.—This is an excellent food for fowls, and is used in large quantities on the Continent for that purpose. It fattens the birds with amazing rapidity, and produces a good coloured flesh, and is also credited with largely improving the flavour of the eggs.

Dangers of Spraying.—At an inquest held on the body of James Gordon Ballee at Ballymena, Co. Antrim, on August 23rd, it was found that deceased had met with his death in a remarkable manner, and in a manner which it will be well for gardeners to note. He had been engaged in spraying Potatos during Monday and Tuesday. On Tuesday night he was taken ill, and although two doctors were in attendance, he quickly sank and died. It was found that the unfortunate man had been poisoned while spraying with a sulphate of copper solution, probably through absorption.

WASPS

Are a perfect plague with us this season, and doubtless other parts of the country are no less troubled. It does not seem to be generally known that there is a very cheap and effectual way of getting rid of these pests. I refer to a strong solution of cyanide of potassium. Any chemist should be able to make it up. What I have found very effectual costs one shilling for a quart bottle. The mode of procedure is to take a piece of cotton wool, about the size of an egg, soak it in the solution, and place on the hole of the nest, care being taken to see that there is but one exit for "Mr. Wasp." Should the solution be weak, it may perhaps be necessary to pour half a wineglassful of the liquid into the mouth of the hole, when I guarantee not one single wasp will escape. I must warn all users of this wasp exterminator, of the great care they must exercise in the handling of it, as it is a deadly poison. I may also say that a small quantity of sulphuric acid added to the water makes the cyanide of potassium much easier to dissolve. When the nest is a hanging one, if a quantity of paraffin oil is poured over it and a light applied, that particular nest will trouble no more.—*C. Blair, Binny, Uphall, N.B.*

MARANTA MAJOR.

This is one of the most useful of a beautiful genus of ornamental leaved plants, its very graceful habit making it a most useful plant for decorative purposes. M. major is a tufted plant, the leaves springing from the rootstock in two's and three's, and it has slender pale brown footstalks which are from 2 ft. to 3½ ft. high supporting an oval leaf of variable size, the blades of which are of various shades of green, ranging from about 5 to 9 in. long and from 2 to 6 in. broad. Its leaves are produced continuously all the year round, and the plant has a very robust constitution, enduring the changing temperature of a dwelling house without any injury for a long time. This in itself commends it to those who have a lot of furnishing to do. It delights in a strong heat, and also an abundance of moisture, and thrives extremely well in a compost of equal parts of peat and loam with a little sand added to keep it porous. It should be carefully drained, as the plants require water freely. Several of the species as arundinacea, nobilis, and ramosissima, are cultivated largely for the starch which is obtained from their tubers. This comes into commerce under the name of Arrowroot. Most of the species are natives of South America.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

ASPIDIUM FALCATUM.

This is one of the best Ferns for furnishing purposes and for this reason is largely grown by some nurserymen. Its fronds are thick in texture and of a glossy dark green colour, from which it gets its name of "Holly Fern." The length of the fronds varies from 1 ft to 2 ft. and about 8 in. broad. The pinnae are about 4 in. long by 1½ in. in breadth, and irregularly toothed and sharply pointed. In Battersea Park a bed of this and Asplenium bulbiferum with a ground-work of Isolepis gracilis may now be seen, and has a most graceful and unique appearance. It needs protection in the winter and succeeds best in a mixture of fibrous peat and loam, and for pot culture it should have good drainage. Unlike some Ferns it can only be increased by spores, or by division of old plants which are both rather slow processes. The spores should be sown in pans of very fine soil and with good drainage; the pans should be placed in shallow saucers of water and kept shaded on bright days. As soon as the young plants are visible they should be pricked off into similar pans and kept close and shaded until they have formed fronds, when more air and light may be admitted. This is a very interesting process but is very often disappointing to the cultivator who may find his plants, when sufficiently grown, to be another quite distinct from what he expected.—*F. W. M.*

MONTBRETIAS.

At the present time, when the supply of Iceland Popples, Sweet Peas, Sweet Sultans, Gypsophila, &c., so much in vogue for table decoration is getting scanty, gardeners are often perplexed when called upon to supply the demand. To such I would recommend the Montbretias, a group of Iridaceons plants at present in full beauty. The graceful racemes of yellow, orange or red flowers, last well when cut, associate well with all kinds of foliage and are therefore admirably adapted for the purpose in view. Montbretias grow well in any good garden soil, preferring, however, a sunny position. Planting may be done from November to March. The old varieties, M. crocosmiflora, M Pottsi, and its variety grandiflora, though well worth a place in any garden are now surpassed by many varieties in commerce. The undermentioned having come under my notice I can confidently recommend:—Gerbe d'Or, a fine variety with clear yellow flowers; Etoile de Feu, one of the very best, large orange scarlet and yellow flowers; Rayon d'Or, large flowers, golden yellow, perhaps the best of all the yellow varieties; Transcendant, a charming variety, with large orange red flowers.—*E. C.*

TROPAEOLUM TRICOLORUM.

This is one of the prettiest of our spring-flowering greenhouse plants and should find a place in every garden. Those who have tubers of it should pot them at once. Soil containing two parts rich loam, one part leaf soil and a sprinkling of sand, is best for them. If the tubers are large, about four or five in an 8-in. pot will make a grand plant; if small, pot accordingly. Press the soil firmly and leave the tubers about an inch below the surface. Place them in a cold frame and shade from the sun. If potted in damp soil they will only need syringing twice a day to keep them moist until growth starts, when they should be watered through. Wire balloons or sticks should now be attached to the pots, and the shoots trained over them, taking care to furnish the bottom of the balloon first. At the end of September the plants will need to be taken into the greenhouse, where they should be given a cool, airy position, in full sun. They will need careful watering in the dull weather and will want the growths trained often. In spring, when well rooted, give weak manure water occasionally until the flowers appear. After flowering gradually lessen the water supply until the growth dies down, and then keep quite dry until next August.—*E. Brown, The Gardens, Nostell Priory, Wakefield, Yorks.*

THE SCHIZANTHUS WISETONENSIS,

A new, dwarf variety of the somewhat well-known old sorts, may be grown in the open in sheltered positions, but cultivated as a pot plant, leaves little to be desired, for a more showy yet tasteful and artistic plant cannot be imagined. Innumerable flowers, much resembling an Orchid (hence the name, "Poor Man's Orchid"), carried on a very bushy Grevillea-like plant, presents a mass of colour in either white, yellow, pink, or rose and brown flowers. Many of the readers of The Gardening World will doubtless remember the bank of flower in these shades as exhibited by Messrs. Hugh Low & Co., Bush Hill Park, at the Temple show. S. wisetonensis may be propagated either by seed or

cuttings, but to obtain plants to flower from March to July, the former sown during August and September is far more advisable. Should a later sowing be desired it is better to let the short days pass before sowing. If the seedlings be pricked off into thumb or 72-pots as soon as germinated, they soon repay a little care and assume the proportions of young plants, and if grown in a rich, open soil will need a shift in four to six weeks' time. Treated as a Cyclamen or Primula—but always with plenty of air—during the winter months, the plants show their bloom buds towards the end of February, and during the long flowering period furnish unexcelled material either for decorative or cut work.—*C. J. L.*

FRENCH HONOUR TO MR. M. J. SUTTON.

On Tuesday morning, the 20th inst., M. Rey, on behalf of the French Ambassador, turned up at Reading for the purpose of conferring an honour upon Mr. Martin John Sutton, head of the firm of Messrs. Sutton & Sons, and to present him with the insignia of the Order. M. Rey came quite as a surprise and wished the employees to be gathered together, and the spacious building was well filled with such as could be got together upon such short notice. The following extract from *The Times*, August 21st, gives a brief account of what took place:

"On behalf of his Excellency, M. Cambon, the French Ambassador, M. Rey, Officier d'Academie, yesterday, at the Abbey Hall, Reading, in the presence of a large assembly, presented to Mr. Martin J. Sutton, head of the firm of Sutton & Sons, the insignia of the *Ordre du Mérite Agricole* as a further recognition by the French Government of Mr. Sutton's successful efforts in the improvement of grass and arable husbandry in France and England, and especially in the advancement of agricultural education in both countries. Mr. Sutton was decorated with the Cross of the Legion of Honour by the President of the French Republic in 1878 for international services rendered to agriculture."

After briefly stating the object of his mission and congratulating Mr. M. J. Sutton on the occasion, M. Rey asked to be allowed to tender to him and his family most hearty thanks for their generous and continuous support in helping the promotion of good feeling and friendship between England and France. After reading the letters of the French Government and the French Ambassador, M. Rey then pinned the insignia of the Order on Mr. Sutton's left breast. Mr. Sutton, in a speech, declared his surprise at the unexpected honour and expressed his thanks to the President of the French Government, their Ambassador, and to M. Rey. The latter rose again and stated that many Frenchmen were engaged in business with the Messrs. Sutton. Although M. Cambon, the Ambassador, was unable to be present, his Excellency promised that as soon as business arrangements would permit he would fulfil his promise to visit Reading and inspect the premises of Messrs. Sutton in order to show sympathy with their work in England. He would that evening write to the French Government, conveying Mr. Sutton's kind words to the same. They knew that Messrs. Sutton had always been friends of France, and they felt there should always be friendship between the two nations. Mr. Leonard G. Sutton and the Rev. F. L. Weale, the vice-president of the French Club in Reading, were present, and also spoke.

GLADIOLI FROM LANGPORT.

Those who make a point of attending the Drill Hall meetings of the Royal Horticultural Society are familiar with the magnificent strain of Gladioli grown by Messrs. Kelway & Son, Langport, Somerset. The other day we were surprised and curious to learn the contents of a box of sufficient length to contain a Long Tom. It did contain Long Toms, but they were Gladioli of the gandavensis type, consisting only of flowers and the naked portion of the stems, so that they must have been considerably longer when growing.

Taking the varieties at random, we consider Empress of India a very handsome sort, with large, rosy-pink flowers, flaked with scarlet towards the margins. The stem carried nine open flowers and ten buds. The brightest one was William Kelway, having large, brilliant, orange-scarlet flowers that would be noticeable for a long distance in the garden. The three lower segments were mottled with crimson on a white ground, adding greatly to the beauty of the flower. The stem carried nine flowers and eleven buds. The deep rosy-scarlet flowers of Miss Wood were flaked with crimson towards the edges. As a light variety, Lady Wimborne is a first-class flower of its type, being blush-white, flaked and shaded rosy-lilac, especially on the outer segments.

Of great vigour was Félicité, carrying thirteen flowers and ten buds. The three upper segments were white, flaked with salmon-pink at the edges, and two of them formed a canopy, as it were, over the violet anthers. The lowermost segments were pale yellow, with a purple-red feather or blotch on the centre. The buds were decidedly yellow. Another decidedly handsome flower was Lady Llangattock, of a light salmon, deepening towards the edges, the lower one or two being pale yellow with a purple-red feather. The main stem carried eleven flowers and eight buds, while a branch arising below the flowers carried eight or ten buds.

The rich crimson-scarlet of Laco was also very telling, the white band on some of the lower petals making a fine contrast. Molesworth was notable for the great size and number of its rosy, crimson-flaked flowers, of which thirteen were fully expanded, and twelve in the bud state, making twenty-five in all, and not a bad harvest from one corm, being beaten only by Lady Llangattock with twenty-nine. The darkest of all was Wellington, a maroon-crimson flower with violet anthers and purplish stems. It carried eighteen flowers and buds.

Our selection of half-a-dozen from the above lot would include Lady Wimborne, Wm. Kelway Empress of India, Félicité, Lady Llangattock, and Laco, all of which are of the first water for garden decoration or exhibition.

Until we had made our notes of them very few were allowed to become aware of their presence; but quite an uproar of applause greeted their appearance when exposed to view with a demonstration of all arms, but what were they among so many? Some of the buds knocked off in transit were put in water, and having expanded by the following day were intended for buttonholes, but we believe the ladies of the establishment ultimately became the possessors.

THE SCALDING OF GRAPES.

With the kind permission of the Editor, I would crave space to make a few remarks *re* our experience with Lady Downes Grape, as regards scalding. Our house here is direct south, consequently we have to be very smart with the ventilating. This year our house is better than it ever has been. As soon as the berries were thinned we shaded our house, a lean-to by the way, with tiffany as far as the ventilators. The tiffany was bound with stout tape and rings inserted; these in turn were fastened on to nails that had been driven into the rafters at regular distances. It was never taken off till the berries commenced to colour. We left a chink of air on all night, but kept the house warm so as to prevent the berries becoming cold before the morning, as they condense moisture if they get cold. As a result our house is better this year than it ever has been, though we have had a few scalded berries, but nothing as compared to previous years. I believe the weather is a very important factor in the scalding of this variety, as it seems to scald sooner on warm oppressive days, especially so when the air seems full of electricity.—*T. W. Dollery, The Gardens, Whitburn, Sunderland.*

I had thought of writing a few remarks upon this subject before, having had a few berries of this variety scalded myself; but after carefully considering the matter I came to the conclusion it had been caused through a misfortune of my own, as I well remember an incident which occurred the day before discovering the scalded berries. The house here is a lean-to, facing full south, and one day after dinner it came over very dull, and about three o'clock I went and shut up and damped, and in less than a quarter of an hour the sun blazed out for the remainder of the afternoon which must have driven the temperature up over ninety; but to have given air again the result would of course have been worse. The next day at closing time I discovered what had happened. I do not mean to say that the temperature running to this after closing would be too much for some varieties, as on this occasion there were Foster's Seedling and Black Alicant in the same house and not touched. This occurred with me at the end of the stoning season, or about a month before commencing to colour; but it only lasted about a week for as soon as discovering it I left 1½ in. of air on all night, and did not damp down so soon. Though I firmly believe that all the mischief was done at the same time, only those that were not caught quite so badly were longer in showing it, and since reading Mr. Mayne's remarks upon this matter I am still more fully convinced of its cause, that is, if I understand him rightly, that he had the shading on before the malady commenced. Do I understand him that the amount of air mentioned by him was left on all night, and it still continued? as I had come to the conclusion that this was the only remedy. I am of opinion that if the temperature never, with this variety, exceeded 80° at closing with early airing, that scalding would be nil. Surely some of our older craftsmen have found a remedy, as it has always been troublesome more or less.—*W. Waite, Southfields.*

Kitchen Garden Calendar.

August is a month in which many kinds of vegetable seeds require sowing to produce crops during the winter and early spring. The following are some of the chief things to be attended to during this week.

Angelica.—These plants have now about finished the ripening of their seed and as it requires sowing immediately it is ripe no time should be lost in getting the bed ready for it. The seeds should only just be covered.

Borage for late use should also be sown at once if not already done.

Cabbage.—Those who have not already sown their early Cabbage should lose no time in doing so now. Red Cabbage also should be sown now.

Carrots.—On a warm border a sowing of some good early variety of Carrots should be made for early spring use.

Cauliflowers should be sown now, choosing a place where they will be protected from the most severe weather.

Chervil.—If a successional crop is required it should now be got in without delay.

Corn Salad.—In the south it is not too late to make a final sowing of this but it should be done immediately.

Endive.—The last sowing should be made this week. As the ground becomes empty they should be planted out from the seed beds of the earlier sowing.

Lettuce.—This is the best time to sow the main crop of this valuable subject. A warm sheltered border should be selected and the bed should be carefully prepared.

Onions.—Successful sowings may be made at intervals for winter use. Attend to the drying and housing of the standing crop.

Spinach.—The last sowing for the main winter crop should be made not later than this week.

Turnips.—For producing fine young roots in the spring, a sowing of some good variety should be made this week.

Peas.—It has been a trying season for Peas right from the first crop, and those which are now endeavouring to bear a late crop are having a hard struggle, and unless they are supplied with abundance of water and the soil is kept well loosened and mulched with manure they are almost sure to fail. Peas are a luxury at this time of the year and they are a luxury which has to be dearly paid for too.

Herbs.—Continue to gather herbs as they are fit, taking care that they are clean and dry at the time of gathering.

Shallots.—In the south it is time now that these were out of the ground, treat them in the same way as the Onions, that is, lay them out on a sunny walk so that they may ripen thoroughly.

Those plants which have been planted out recently should be attended to in the way of watering. Seeds sown at this time of the year should be sheltered from the direct rays of the sun when they are in a young state. Until they germinate it is as well to keep the beds covered with a mat but look at them every day to make sure that it is not allowed to lay on them a day after they germinate.—*K.*

The Crop of Apricots on wall trees is good in most parts of the country.

Hints for Amateurs.

THE season is fast approaching when it will be time to transplant trees, and this week I intend to write a few hints on the subject of ornamental trees for the garden. Like as in the soft-wooded denizens of our gardens there are just a privileged few trees which are grown to the exclusion of all others, not because they are the best, but because they are the only ones which are considered within the means of an amateur's pocket. As I said when speaking on this subject relating to flowers, the sooner the idea is done away with the better it will be for the appearance of the garden. There are such a large number of trees and shrubs which are superior to those now generally grown and yet of the same price that it is difficult to make a selection.

Golden Privet.—Where can a brighter and more suitable shrub for the front garden be found than this? All the year round it is an object of beauty, and yet few people dare to ask the price of the plants. The impression is that they are too choice for their means, but inquiry would show that it is one of the cheapest shrubs for ornamental planting, and for a few shillings a fine batch may be obtained. Its cheapness is easily accounted for, as it strikes so easily from cuttings that an enormous stock can quickly be raised from a good bush. It grows quickly, and taken all round is one of the best shrubs the amateur can grow. When once planted it requires no other attention beyond occasional watering in very dry weather and the use of the knife to keep it in shape.

Berberis Darwinii.—The Barberry tribe produces many fine garden shrubs, and this is one of the best of them. In the spring, when it is in bloom, it is almost safe to say there is no other plant to equal it for beauty. It grows to 6 ft. or 7 ft. high, and the branches, which are clothed with tiny dark coloured evergreen leaves, form a dense arching mass. The flowers are of a beautiful orange-yellow colour, and in the spring the bush is literally crowded with them. As the leaves are small it makes an excellent shrub for a garden which is subjected to dust. It will grow in any ordinary garden soil and will quickly become established and make a fine bush. When growing in a light rich soil it will often bloom again in the autumn. It can be propagated by layering.

Weigela rosea.—This is another very pretty shrub and should be grown in every garden where partial shade can be given. It delights in light shading, but objects to being crowded. As the name denotes, the colour of the flowers is of a beautiful rose shade. It makes a pretty bush, and when grown in good soil it will attain the height of 10 ft. It has to be seen to be fully appreciated, as no words can adequately describe its beauty. It requires careful pruning in the early spring before it commences to grow, as at that time it is best to dispense with as much of the old wood as possible. The stock may easily be increased by propagating from the suckers, which are freely produced. The cost of the shrub is very low and well within the means of even the artisan.

Rubus fruticosus rosea plena.—The merits of this beautiful Bramble are not sufficiently known, or it would be seen oftener than at present even if it does cost a trifle more than some of the other shrubs; but small plants may be obtained very cheaply, and like its sisters, the Wild Brambles, it is a rampant grower and a most profuse bloomer. It is usually at its best at this time of the year, and for several weeks past it has been an object of admiration to the visitors to Kew Gardens. An ideal way of growing it is in a bed in the centre of the front garden. Drive in two or three stout stakes about 6 ft. high, and up these train the main shoots of the young plants, and after this has been done allow them to choose their own method of growth. In a year or two a fine clump will be produced, whose beauty when in bloom will be unsurpassable. As may be seen by the bushes in bloom now at Kew it is not much affected by dry weather. The blooms are perfectly double and rosy red, and in general appearance much resemble double Daisies. Owing to its resemblance to double red Daisies it is often catalogued as Rubus bellidiflora. Shoots may be easily layered at this time of the year if they are put in moist light soil.

Cerasus Pseudocerasus.—The Japanese double Cherry is one of the most free flowering bushes or trees we have in the spring, and where the soil is fairly deep amateurs should endeavour to grow it, as a more showy specimen cannot be wished for than this is in the months of April and May, when its branches are laden with masses of lovely pink flowers. It is a fairly quick growing plant and well suited for town gardens. A form may be obtained which produces a good stem and grows well as a standard. Space will not allow me to mention more, but I shall deal with the subject again later on. If amateurs who intend to lay out money on trees this autumn will only spend it on these few mentioned they will produce an effect difficult to beat.—*Hortus*

Correspondence.

Questions asked by amateurs on any subject pertaining to gardens or gardening will be answered on this page. Anyone may give additional or more explanatory answers to questions that have already appeared. Those who desire their communications to appear on this page should write "Amateurs' Page" on the top of their letters.

How to Grow Hyacinths in Pots.—*Streatham*: The soil should be of a light nature and the pots must be well drained. The bulbs should then be potted up lightly, just allowing the crown to appear above the soil. If the soil is pressed down tightly the growing roots will lift up the bulb insead of penetrating into the soil as they ought to do. After they have been potted up and watered they should be buried in moist ashes. Treated thus, they will soon fill the pots with roots, and when they start to push their leaves they should be taken out of the ashes and gradually exposed to the light, and then brought along either in the greenhouse or in the living room window. The richness of the soil does not much affect this season's bloom, as the nutriment which is to produce this season's flower was mostly stored up in the bulb last year. This fact should be borne in mind if the bulbs are to be saved, as after this year's flower spike has been produced the plant will begin to store away nutriment for the next year's effort. To asssist it in this work it should be kept well supplied with water and manure until the leaves begin to ripen, when water should be gradually withheld.

Wintering Small Carnations.—*S.*: A little frost will not hurt them, and they ought to do all right in a frame if you cover them with mats during the severe weather. Plunge the pots to the rim either in ashes or cocoanut fibre. Give all the light and air possible and attend most assiduously to the keeping of the plants clean and all the decaying matter picked out. Damp, you will find, is a far worse enemy to be guarded against than cold, and unless well attended to the grower often suffers considerable loss from this cause.

Asparagus plumosus Failing.—*N. B.*: The plant is probably starved, and we should advise you to rest it until the spring and then turn it out from the large pot, and after shaking much of the old soil from the ball divide it and pot it up again into 6-in. pots, using a rich, leafy soil and a good addition of sand. This, we think, will put new vigour into your plants, and if kept for a few weeks in a warm, moist house and have frequent light sprayings from the syringe, they will soon throw up new growth and may then all be potted into the big pot again or allowed to stay in the small ones, just which is most desirable. Red spider often causes the plants to look in ill-health, and perhaps this was partly the cause of the condition of your plant. But if it has been in the pot as long as you state it certainly deserves a shift.

Begonia Gloire de Lorraine. — *Harris*: This Begonia, you will find, does best in a warm house, at least, it produces much larger plants when grown thus, and blooms well all through the winter if given a temperature of 60° to 65°. It may be grown with ease in a cool greenhouse, but when grown cool it forms a much shorter growth and the plant is altogether smaller, but it still retains its free flowering characteristics. Plants may be obtained very cheaply from any good nurseryman. When buying in plants see that you have an understanding as to how they have been grown, as they are very susceptible to sudden changes.

Two Best Double Violets for Frames.—*Buckley*: We have seen numerous varieties tried, but none have given better satisfaction all round than the two old favourities, Marie Louise (dark) and Neapolitan (light).

A good Bulb Firm.—*C. P.*: We have many letters asking us the names of firms to be answered through these columns. If you wish for information on that point we will do our best to advise you in special cases, but a careful look down our advertisement columns will generally supply the information you need, and you have only to send a post card to the firms advertising and they will send you by return of post catalogues and price lists of their specialities.

Chimonanthus fragrans grandiflora.—*W. W.*: From the description which you give of your tree we think it must be the above beautiful plant. There are few trees that bloom in the depth of winter and what there are none are more fragrant than this. We recommend all our readers who do not possess a specimen of this to procure one as soon as possible. It likes a S.E. wall and a sheltered position. The blooms last a long time after the shoots have been cut and fill the room with a most refined scent. You may propagate your plant by layering it.

Are Crimson Rambler Roses Hardy?—*Query*: This is a question which we are often asked, so for the enlightment of those of our readers who are still in doubt we will again say that no danger need be apprehended from cold as they stand the winter as well as any other Roses and are, in fact, quite as hardy as the hardiest of the family. They do not seem to make their way into the amateurs' gardens as they ought to do as they are now to be obtained very cheaply, and no Rose is a quicker grower or a more prolific bloomer. They thrive best in a deep rich loam; for covering arches they are indispensable.

The Best Position for Pyrus Japonica.—*M.*: Some choose to make a separate genus of this and call it Cydonia japonica, but according to the *Genera Plantarum* Pyrus is correct. You will find that a sheltered wall facing the S.W. will suit the tree as well as anywhere. If the trees are grafted on the common Quince you will have little difficulty in training them. We should not advise you to grow the white variety unless you have a very sheltered position as it is often a very shy grower.

When to make a new Strawberry bed.—*G. J.*: You cannot choose a better time than the present for this purpose. If the ground has not been already deeply dug and manured it should be done so at once and lightly trodden down again before the plants are put in, as a loose soil by no means sults them. Allow 2 ft. between the plants and 2½ ft. between the rows. This seems a lot of room but the plants are greatly benefited by it, and it has the advantage of allowing Lettuces, etc. to be grown between the rows It the autumn is dry attend carefully to the watering or the plants are bound to suffer.

To make Bordeaux Mixture.—*Fungus*: Bordeaux Mixture is made by dissolving half a pound of blue stone (sulphate of copper) in two gallons of water and then slaking half a pound of good stone lime in the same quantity of water. The two are then mixed thoroughly together and allowed to stand at least twenty-four hours before using. It is extremely poisonous and great care must therefore be used in its application, and except in their very early stages it should not be used on vegetables nor on fruit which is to be gathered a short time after.

Lavender Cuttings.—*Dictum*: Now is the best time to take your cuttings. They should be inserted in sandy soil and placed under a handlight until the spring, or you can shelter them in your window during the winter.

The Apple Crop generally is not so good as it was last year.

A ONE AND ALL EXHIBIT.

Our illustration of one of the exhibits at the recent One and All Show at the Crystal Palace gives some idea of the artistic manner in which the exhibits were arranged. This exhibit was brought by Mr. R. Chamberlain, gardener to F. M. Lonergan, Esq., Reading. It was in a class for a miscellaneous collection of fruit and vegetables arranged for effect. The varieties exhibited were: Grapes, Black Hamburg and Foster's Seedling; Melon, Hero of Lockinge; Peaches, Dymond; Nectarines, Balgowan; Figs, Brown Turkey; Apples, Red Astrachan; Tomatos, Perfection; Potatos, Ideal; Cauliflower, Autumn Giant; Cucumber, Blair's Prolific; Peas, Autocrat; Onions, Ailsa Craig; Table Plants, Caladiums, Crotons, Cocos weddeliana and Grevillea robusta. Mr. Chamberlain knows well how to make a selection for such an exhibit, as may be judged from the varieties which he chose. The arrangement was light and effective and we venture to say that many other first-class shows would be greatly improved if more of the collective exhibits were encouraged.

Mr. R. Chamberlain's Exhibit at the One and All Show, Crystal Palace.

SOCIETIES.

SHROPSHIRE HORTICULTURAL.—*August 21st and 22nd.*

This gigantic floral fête has again passed off successfully and it is with pleasure that we note its steady growth. Already it is one of the first shows of the world, and in a very short time it bids to be *the* first. The society has a firm footing and as it offers over £1,000 in prizes it draws a tremendous competition, and the competition becomes keener every year. Last year there were 2,175 entries; this year the number reached 2,377. Last year there were seventy-one entries in the open classes for groups and specimen plants; this year the number has risen to 98, and in fact there was an increase in all the entries except fruit, and here there was a slight falling off, but when one reviews the past season this is to be expected. As in previous years, the arrangements for the general amusement of the visitors were most lavish. The following are the prizewinners in the more important classes:

As the first prize was £25, the class for twenty stove and greenhouse plants, not less than twelve in bloom, drew some very handsome exhibits. Mr. J. Cypher, Cheltenham, was the most successful, and Mr. T. Sutton Timmis, Liverpool, was next, winning the second prize of £20; the third prize, £15, was won by Mr. W. Vause, Leamington.

The class for a group of miscellaneous plants in and out of bloom, to occupy a space of 300 ft. was also the scene of keen rivalry, but like in the previous big class, Mr. J. Cypher was at the top; Mr. G. H. Kendrick, Edgbaston, put up a magnificent group and well deserved his position as second. The third prize group, which was very few points behind, was exhibited by Mr. W. Finch, Coventry. For a group of ornamental foliage plants to occupy 300 ft., G. H. Turner, Esq (gardener Mr. J. Thompson), Derby, was placed first. Mr. Cypher had to be content with second place in this class, but his was, nevertheless, a very fine exhibit; the Earl of Canarvon (gardener, Mr. J. Read), Burton-on-Trent, was third.

Magnificent specimens were exhibited in the class for thirty stove and greenhouse plants, pots not to exceed 10 in., not less than twelve in bloom: Lord Harlech (gardener, Mr. T. Lambert), Oswestry, was the most successful in this class, followed for second place by Mr. J. Cypher, and for the third by T. Sutton Timmis, Esq. (gardener, Mr. B. Cromwell).

Erica marnockiana, exhibited by Mr. J. Cypher, was judged to be the best specimen greenhouse or stove plant. A plant of the same Erica also took the second prize; it was exhibited by Mr. Vause; Mr. Finch won the third award.

Ferns were well represented in the class for six exotics. Those exhibited by J. H. Staney, Esq. (gardener, Mr. T. Stevenson), Wellington, were deserving of the position as first; G. Burr, Esq. (gardener, Mr. A. Jones), Oaklands, was a very good second, and Mr. J. Barker, Shrewsbury, third.

The class for six Dracaenas was the scene of some keen competition. Mr. Lambert succeeded in carrying off the highest award; Capt. H. Butler, Shotton Hall, sent some very beautifully coloured specimens and was placed second, and Mrs. Darby, Adcote Hall, third.

Specimen Coleus were well shown; also Fuchsias and Geraniums.

Messrs. B. R. Davis & Sons, Yeovil, Somerset, were first for six Begonias, and Mrs. Warren, Highfield House, Shrewsbury, first for twelve Gloxinias.

The twelve table plants exhibited by A. Henderson, Esq. (gardener, Mr. W. L. Bastin), Farringdon, Berks, were awarded the highest award in their class, and were very neat and elegant little plants. Mr. T. Lambert brought the best collection of thirty miscellaneous plants. Mr. Cromwell ran a very close second; Capt. H. L. Butler was third. Certain classes were exclusively set apart for "Salopians." The principal one was for a group of miscellaneous plants, to occupy a space of 150 ft. The prizes were well competed for and the first was won by F. Kydersley, Esq. (gardener, Mr. W. Phillips). Mr. H. H. Hayhurst was second, and Mrs. Swan third.

Mr. T. Lambert staged the best specimen half-dozen stove and greenhouse plants in this section.

Cut Flowers.

Some exquisite designs were put up in the class for the best floral arrangement in a space 12 ft. by 5 ft. Messrs. Jones & Sons, Shrewsbury, were the most successful exhibitors, and in addition to the first prize of £15 they were awarded the Silver Cup given by the Royal Horticultural Society of London. Messrs. Perkins & Sons, Coventry, made a very pretty display and were placed second. Messrs. R. Tucker & Son, Oxon, were third.

Messrs. Jenkinson & Son, Newcastle, were well to the front with bouquets, and exhibited many admirably executed designs. Messrs. Perkins & Sons were second, but in the class for bouquets with Orchids excluded they were first and Mr. J. Kirk, Oxford, second.

Feather weight bouquets brought out several elegantly worked out designs, Mr. John Kirk was the most successful exhibitor. Mr. Cromwell was well to the front in the class for twelve bunches of stove and greenhouse flowers, Orchids excluded.

Dahlias, of course, were much in evidence and made a very effective display. Messrs. Keynes, Williams & Co., Salisbury, were successful in winning the highest award in the nurserymen's section.

In the class for a collection of Cactus and decorative Dahlias to occupy a space 15 ft. by 5 ft., Messrs. Campbell & Sons, High Blantyre, carried off the highest award and Messrs. Jones & Sons, Shrewsbury, the second.

It is late in the season for Roses, but the class for a collection filling a space 8 ft. by 5 ft., to be shown

with their own foliage, brought out some surprisingly good exhibits. Messrs. D. & W. Croll, Dundee, were placed first; Messrs. Townsend & Sons, Worcester, were a very close second; and those shown by Messrs. Perkins & Sons were not far removed as third.

Hardy flowers were well represented. Messrs. Harkness & Son, Bedale, Yorks, were at the top in the nurserymen's section, followed by Messrs. G. Gibson & Co., Bedale, and Kerr Bros., Dumfries, for second and third places.

Messrs. Harkness & Son were also first for a collection of bulbous plants, Gladioli and Liliums figuring very conspicuously in the exhibit.

Carnations were well shown and we were pleased to note that all dressing was excluded, and they were shown in their native "costumes." Messrs. Campbell & Sons, High Blantyre, Mr. W. B. Vernon, West Frankton, and Mr. A. Watts, St. Asaph, were the three chief prize winners.

Messrs. Harkness & Son were first for eighteen spikes, distinct, of Gladioli; Messrs. Gibson & Co. were second; and Mr. W. E King, Leominster, third.

For twenty-four blooms of show or fancy Dahlias, in not less than eighteen varieties, Mr. S. Mortimer, Farnham, was placed first and Messrs. Keynes, Williams & Co. second.

For twenty-four Cactus Dahlias the positions of these two rivals were reversed.

Messrs. B. R. Davies & Sons were the most successful exhibitors in the class for a box of Begonia blooms. All the blooms were of the highest quality and were greatly admired.

For twenty-four bunches of hardy flowers, annuals and shrubs excluded, in not less than two varieties, to be tastefully arranged, Messrs. Harkness & Son were easily first; they were also first for twelve bunches.

Messrs. Campbell & Sons were at the top of the list for twelve distinct Carnations, also for twelve distinct Picotees.

The Eckford Silver Challenge Cup, to be given for the best thirty-six varieties of Eckford Sweet Peas was withheld. Mr. Eckford also offered many money prizes for Sweet Peas.

Mr. Robert Sydenham, Birmingham, also gave several money prizes for Sweet Pea exhibits.

Wild flowers were well shown and were very effectively arranged.

Fruit.

Fruit has always been a feature of the Shrewsbury Show, and it is a common expression when viewing a good exhibit of fruit to say, "Fit for the Shrewsbury Show." Although there was a slight falling off in the entries of this year as compared with those of last, there were some most tempting displays, and the same high standard of quality was maintained. The decorated dessert tables were again the chief object of interest. The tables in this class are limited to 10 ft. by 4½ ft. Fifteen dishes only of fruit are allowed. Lady Henry Somerset (gardener, Mr. G. Mullins), Eastnor Castle, Ledbury, had the honour of securing the premier position. Grapes in this were a special feature, especially the Muscats of Alexandria. Brown Turkey Figs were also shown in fine form. It was a fine table of fruit, but surely Pears ought to be represented as a dessert fruit. Sir J. Pease, M.P. (gardener, Mr. McIndoe), Hutton Hall, Guisborough, was a very good second, and ran very near for the first place, as there were only three points between them, the first gaining 115 and the second 112. Mr. McIndoe evidently knows how to grow Melons, as some extra fine fruit were to be seen in this class.

The Earl of Harrington (gardener, Mr. Goodacre), Elvaston Castle, Derby, was the owner of the third prize collection.

Mr. Goodacre evidently places quality before quantity in his method of Grape growing, for the quality was as high as it possibly could be, but the size was somewhat below the average size for bunches seen at this show.

Lord Barnard (gardener, Mr. Tullett), Raby Castle, Durham, was fourth. The fruits were very good, but, in our opinion, the method of staging lost many points.

Twenty dishes of fruit are difficult to get together in most establishments, and this class is therefore exclusively for a few with wide means. Twenty distinct varieties are sufficient to keep most exhibitors from this class, but when the stipulations are read it makes it even narrower in its radius. For instance, Pines, Strawberries, Raspberries, Bananas, Monsteras and the Granadillas are excluded. Mr. Mullins was the proud winner of the first position in this difficult class, but his collection very much lacked variety, as only four kinds of fruit were put up. The total number of points gained for this exhibit was 130. Mr. Goodacre was not far behind, as he scored 125 points, and if some of his bunches of Grapes had been of a trifle higher standard, he would doubtless have beaten Mr. Mullins. Pears were well represented in this exhibit. Nearer still were the second and third, as there was only the difference of one point These were shown by Mrs. F. Need (gardener, Mr. Jones), York House, Great Malvern.

J. Martin, Esq. (gardener, Mr. R. Cairns), Balruddery, Dundee, was fourth. The number of points scored was 120. Many were doubtlessly lost through the Grapes being unfinished.

The Executors of the late J. Corbett, Esq (gardener, Mr. F. Jordon), Droitwich, won the first prize in the smaller class for twelve dishes of fruit. The Plums and Figs were very fine. Lord Bagot (gardener, Mr. Thomas Bannerman), Blithsfield, Rugeley, was second. These were the only two exhibitors in this class, which is remarkable when the first prize was £10 and the collection within the scope of such a large number of gardeners. The competition for the highest position in the class for twelve bunches of Grapes in not less than four varieties is always watched with interest, and this year there was no lack of antagonism. The result of the judging showed Mr. Cairns at the top of the pole with ninety-six points. Scotland also claimed the second prize, it being awarded to Messrs. D. & W. Buchanan, Kippen, Stirling. The number of points which this exhibit gained was eighty-three; the third prize collection gained eighty-one, it was exhibited by Lord Hastings (gardener, Mr. Shingle), Melton Constable. Mr. Mullins also exhibited in this class and with 75 points was awarded the fourth prize.

Muscats of Alexandria were well shown by Mr. Bannerman in the class for four bunches; J. C. Waterhouse, Esq. (gardener, Mr. Hall), Presthury, Macclesfield, was very close for second place, staging Muscat of Alexandria and Madresfield Court. Black Hamburghs were in fine form in the class for three bunches; Lord Trevor (gardener, Mr. W. Daws), Brynkinalt, Chirk, was first. In the class for three bunches of Muscat of Alexandria some very good, well-berried, tapering bunches were shown, especially in the first prize exhibit shown by Mr. W. Nield, Holmes Chapel, Cheshire.

Mr. J. C. Waterhouse was the most successful exhibitor in the class for two bunches of Madresfield Court.

Mr. W. Nield won the first prize for three bunches of white Grapes.

Lord Hastings sent the first prize exhibit in the class for two bunches of Black Alicante.

Single Melons, to be judged by flavour, were well shown, and were the scene of some very close and difficult judging.

Single dishes of fruit were well represented and the classes all well filled. Space will not allow of all the classes being dealt with, so the smaller ones we leave omitted.

Vegetables.

Several of the leading seedsmen offered prizes of a substantial nature for collections of vegetables grown from their seeds. As is quite a usual thing, Mr. Beckett, gardener to Lord Aldenham, was well to the front, and performed "the hat trick" with first prizes offered by Messrs. Sutton & Sons, James Carter & Co. and Webb & Sons.

In the class for prizes offered by Messrs. Murrell & Co., local seedsmen, Sir W. Honyman, Bart. (gardener, Mr. Birch), Christchurch, was the most successful. Mr. R. Sydenham also offered prizes for separate dishes of vegetables.

In addition to these there was a large number of classes provided by the society, but somehow the prizes are not so large as they deserve to be compared with the other sections, thus giving little encouragement to growers to exhibit their produce.

Miscellaneous.

There were a large number of honorary exhibits, and to give a detailed description of them would occupy pages, therefore we can only give a list of the recognitions which the committee bestowed on them.

Gold Medals:—Messrs. Rivers & Son, Sawbridgeworth, for a collection of orchard house trees in fruit in pots; Messrs. Davis & Son, Yeovil, for a collection of flowering Begonias; Messrs. Dobbie & Co., Rothesay, for a collection of Pentstemons; Messrs, Hartland & Son, Cork, for a collection of double Begonia, Gladioli, and Pelargonium blooms; Messrs. Hobbies, Ltd, Dereham, Norfolk, for a collection of Dahlias, Begonias, Gloxinias, &c.

Small Gold Medals:—Messrs. J. Peed & Son, Norwood, for Caladiums; Messrs. Smith & Son, Worcester, for a collection of miscellaneous plants; Messrs. Jones & Sons, Shrewsbury, for a collection of Sweet Peas, &c.; Mr. Myers, for a collection of Zonal Pelargoniums; Messrs. Dicksons, Ltd., Chester, for a collection of herbaceous plants and cut flowers; Mr. S. Mortimer, Farnham, for a collection of Dahlias; Messrs. Webb & Sons, Stourbridge, for a collection of Sweet Peas, Gladioli, Gloxinias, vegetables, &c.; Mr. E. Murrell, Shrewsbury, for a collection of cut Roses; Mr. L. J. Ching, Enfield, for a collection of Ferns.

Silver Gilt Medals:—Mr. J. H. White, Worcester, for miscellaneous collection; Mr. Eckford, Wem, for a collection of Sweet Peas; Messrs. Jarman & Co., Chard, for a collection of flowers, fruit, and vegetables; Messrs. Hinton Bros., for a collection of Sweet Peas, &c.

Silver Medals:—Mr. H. Deverell, Banbury, for a collection of herbaceous cut bloom; Messrs. Gunn & Sons, Birmingham, for a collection of Phloxes; Mr. W. L. Patison, Shrewsbury, for a collection of Violas.

Special prize to Messrs. Prichard & Sons, Shrewsbury, for a collection of Japanese trees.

Certificates:—Mr. Trowndrow, Malvern Link, for a new variety of Scarlet Geranium; Mr. S. Mortimer, Farnham, for new Dahlia, Spitfire; Messrs. Hobbies, Ltd., new Dahlia, Miss Grace Cook.

HORSHAM HORTICULTURAL.—*August 22nd.*

The annual event of this society was held on the above date in an exceedingly pretty and convenient ground, called "Springfield," London Road, by the kind permission of Mr. W. Hull, of The Crown Hotel.

The weather was of an ideal character for a flower show, and all circumstances seemed to conduce to a most satisfactory and successful day.

There was a great number of entries, and the majority of the classes were well represented. The general condition of the exhibits, indicated by their good colour, particularly the vegetables, that the district of Horsham had been more fortunate in the matter of moisture than a great many parts of the southern counties.

Fruit and vegetables were distinctly the best features of the show, so far as competitors were concerned, and there were some large and excellent exhibits of honey and matters identified with its production and preservation. The following embraces the principal results:—

One of the features of the show was the circular groups of miscellaneous plants. Some very pretty effects were obtained, and the quality of the plants on a whole was good. The first prize group was put up by Mr. T. Sparks, gardener to Mrs. Alleard, Wimblehurst. Mr. P. Daney, gardener to Mrs. Creyke, Holbrook Park, secured the second prize; and the third prize went to Mr. E. Lawrence, gardener to T. Oliver, Esq., Tanbridge.

Mr. Lisney, gardener to Mrs. Adlereron, Broomhall, was at the top of the awards for four Begonias in bloom.

Mr. T. Sparks occupied the same position in the class for four fine foliage plants. There was some keen competition in this class. The other two prizes were won by Mr. Mausbridge, gardener to Mrs. McConnell, Roffey Place, and Mr. E. Lawrence.

Mr. Lawrence also carried off the highest award for four Palms, distinct. The honour of first position for four Caladiums fell on Mr. Sparkes. He maintained this position in the class for a single specimen fine foliage plant. Mr. Lawrence also exhibited a fine specimen in this class and was placed second. Exotic Ferns were well grown, especially those exhibited in the first prize collection by Mr. Sparkes.

Some fine Pelargoniums were shown. Those which won the first prize were grown by Mr. Murrant, gardener to W. Tintoff, Esq., Horsham.

The first prize for Fuchsias also went to Mr. Murrant. Dahlias were much in evidence and the blooms of a good quality. Mr. Sparks and Mr. T. Daney were the two chief prize winners in the Cactus section, and Mr. R. Whittington, Cranleigh, and Mr. H. Carter, Horsham, the two chief in the class for double Dahlias.

Mr. R. Hubbard, Roffey, was first for twelve spikes of Gladioli; Mr. R. Curtis, Rudgwick, was second; and Mr. Daney third. Sweet Peas were well shown by Mr. Sparkes, who secured the first prize for twelve bunches. Those shown by Mr. M, Burafield, Denne Parade, and Mr. R. Hubbard, were very fine and secured for their respective producers the second and third prizes. It is late now for Roses, but in the class for twenty-four blooms, dis inct, Mr. Harris, Denne Park, made a grand display and was deserving of the position of first. Mr. Lawrence secured the first position in the class for twelve Roses, distinct.

For eight dishes of fruit Mr. Daney was first, followed by Mr. H. Harris and Mr. J. Webb for the other two awards.

Mr. Holloway, Slinfield, won the first prize for a dish of Nectarines. Mr. Hubbard occupied the same position for a dish of Peaches.

Mr. Harris showed the best two bunches of black Grapes, and Mr. Daney the best two bunches of white. Mr. Harris was also first for a dish of Cherries.

The best dish of Pears was shown by Mr. T Brown.

Mr. J. Carter was the most successful exhibitor in the class for dessert Apples.

Mr. Holloway's was the best Melon shown, although those exhibited by Mr. W. Dickens and Mr. J. Vaughan were of a very high standard.

Vegetables were well shown, especially in the cottagers' classes. Potatos were remarkably good.

The decorative section brought out some very neat and pretty designs, and was a field for much keen competition.

ROYAL HORTICULTURAL.—*August 27th.*

THERE was a very poor meeting at the Drill Hall last Tuesday and much floor and table space was unoccupied. There were only a few exhibits of Orchids, and if Gladioli had been taken from the other exhibits there would have been but little left worthy of note, except the group of Alocasias sent by Mr. Russell, who we believe is making a speciality of this fine stove genus.

Orchid Committee.

H. T. Pitt, Esq. (gardener, Mr. F. W. Thurgood), sent a pretty little group of Orchids which included some very fine Cypripediums, Oncidiums, and Odontoglossums. (Silver Banksian Medal.)

Floral Committee.

Messrs. Barr & Sons, Covent Garden, staged a large collection of well flowered spikes of Gladioli over a groundwork of Pteris. The collection included many strikingly pretty varieties and novelties. Amongst them we noted G. Soffrano, a straw colour with carmine throat and prettily crimped segments. Hercules also showed a very pretty waving of the margins, the colour was a fiery crimson. Phoebus, also a crimson, was very fine; Nympe de Fontainbleu, a white shaded with lilac and with carmine marks in the throat, was a most attractive variety. Cronstadt, a lilac, with deep rose markings; Carnation, white, heavily marked with rose on the margin, and Mdme. Auber were also much admired. Messrs. Barr & Sons also had a collection of herbaceous cut bloom and a few pans of Nymphaea. N. James Brydon was very good, it was a bloom of good substance, and the colour a very deep carmine-rose. Sagittaria japonica was also shown. Amongst the herbaceous stuff Phloxes played a conspicuous part. (Silver Gilt Banksian Medal.)

Messrs. John Laing & Sons, Forest Hill, S.E., brought a group of Caladiums, which included some very fine varieties. In the centre was a collection of extra fine Streptocarpi. We also noted a pan of their new bedding Begonia Bavaria. The most striking Caladium which we noted was Golden Queen; it was a light green well suffused with gold. Louis A. Van Houtte, a rich velvety crimson, was also very striking. (Silver Flora Medal.)

Mr. John Russell, Richmond Nurseries, Surrey, exhibited a group of Alocasias—plants unfortunately very little seen of late. Many beautiful varieties were in the group, all being worthy of mention. Argentea and Mortefontanensis were well shown, and ought again to appeal to those who saw them to take up their cultivation once more. If all the others are neglected, Rodigasiana ought to find a place. (Silver Gilt Flora Medal.)

Mr. A. Wade, Colchester, staged a showy little collection of Liliums, Tritomas, Sweet Peas, and general herbaceous stuff. For the time of year the Peas were exceptionally fine. (Silver Banksian Medal.)

Scotland produces a pretty display of Heather, but Messrs. Maurice Young & Son, Milford, Surrey, have applied art to nature, and their collection of hardy Heaths was the centre of attraction at the show. Erica vulgaris flore pleno was an exquisite double variety with rosy-lilac flowers. We also noted the beautiful Irish Heath with its large chaste white bells; this is a beautiful little plant, known under the name of Menziesia polifolia alba, and ought to appeal to all plant lovers. Erica cinerea, which made a background for the boxes, was also very fine and beautifully coloured. (Silver Banksian Medal.)

Messrs. Harrison & Sons, Leicester, made a pretty display with Sweet Peas and a very showy collection of Dianthus. We noticed in these latter brightly coloured plants the beautiful variety D. imperialis flore pleno.

Mr. Maurice Prichard, Christchurch, Hants, sent up a collection of herbaceous plants, which included the most showy of that family now in bloom. Amongst them we noted Phygelius capensis, Gentiana asclepiadea, Scabiosa caucasica, Helenium grandicephalum striatum, Delphinium Zalil, and many other varieties. Boltonia laevigata, Polygonum baldschuanicum, and many fine spikes of Gladioli. (Silver Flora Medal.)

Fruit Committee.

Messrs. S. Spooner & Sons, Hounslow, exhibited a collection of Apples and a few boxes of dessert Plums. Williams' Favourite looked very tempting; Lady Sudeley made a very bright show and for appearance it would be difficult to find an Apple to surpass it; Beauty of Bath and Red Quarrenden also made a very good display. Amongst the Plums were Belgian Purple, Belle de Louvain, Early Transparent, Prince of Wales, Gisborne, and Denniston's Superb. (Silver Knightian Medal.)

Messrs. James Veitch & Sons, Ltd., exhibited a collection of early dessert Apples and Pears. In this exhibit we noticed baskets of Early Strawberry, which would have looked better had they not been polished. Devonshire Quarrenden, Lady Sudeley, Beauty of Bath, Irish Peach, Astrachan, Duchess Favourite (also favoured with a polish), Early Julian, Worcester Pearmain, and Transcendent (Crab). In the Pears we noted Jargonelle, Beacon, and Williams Bon Chrètien. Currants and Plums were also represented by a few baskets. (Silver Knightian Medal.)

FLOWER SHOW, GLASGOW.—*August 28th & 29th.*

By Telegram.

It would be quite impossible to give anything like a detailed description of this Exposition during a short week's visit. I will therefore confine myself to record a day's walk round the open air portions.

Firstly, however, as to its position, here I can do no better than quote the words used in Mr. Chas. P. Watson's useful publication, which are:—"The site of the exhibition is situated in that sylvan vale known, for generations, as Kelvingrove. From the lower part of the Exhibition grounds, to some little distance beyond the once famous Pear Tree Well, roughly describes the area of Kelvingrove. There, in time past, on the banks, by the devious windings of the Kelvin, were groves of forest trees and thickets of Hazel and Hawthorn bushes. The ravines, rocky scaurs, and gentle grassy slopes, of this favoured part of the Kelvin valley, presented a charming variety of striking and romantic scenery. In ancient times it was a pleasant spot, verdant, amid the encircling moorland; in still-remembered happy days the scene of such juvenile felicities, as bird-nesting, fishing, and the gathering of nuts and wild flowers; and to those of riper years the scene of quiet woodland walks, amid the soothing influences of Nature, in one of her loveliest aspects. To Thomas Lyle botanist and poet, the author of the world-famous song, "Let us haste to Kelvingrove," it was pre-eminently the place of wild flowers. He loved to enumerate and describe their variety and beauty, and he wove them into his verses, of which the following are examples:

The clustering Hawthorn, fondling o'er the Rose,
Shading the modest Violet in its turn;
While the bright Campion all her beauty shows
Above the sparkling bosom of the burn.
Unnumber'd flowers, bestrewn by Nature's hand,
In fair luxuriance bud and bloom around;
While Fancy reigns and smiles upon the land
Above and round this consecrated ground.

In such a situation of rolling land, broken by trees and bushes, the Exhibition buildings stand out harmoniously. The larger ones do not crowd and dwarf the less imposing structures, and among the trees the white buildings rise with glittering domes and bannered turrets, presenting a picture upon which the eye rests with delight."

We naturally made our first call at the Press Pavilion, which had been erected gratuitously by Messrs. J. Boyd & Sons, of Paisley, as a specimen of their handicraft, and which, in conjunction with the pretty little glasshouse erected close by, helped to show the various styles of temporary as well as permanent buildings this firm are adepts at.

The Press Pavilion is surrounded with a selection of growing plants sent and planted by Mr. Hugh Dickson, Royal Nurseries, Belfast; these plants are the cynosure of the Glasgow ladies, who are constantly enquiring as to their destination after the Exhibition. We were glad to hear that Mr. Dickson has booked some good orders.

Close by is the Japanese section, where Messrs. Yamanaka & Co., of 68, New Bond Street, London, who here show a big collection of the miniature trees, which readers will remember seeing at the Temple Show in May last. They also exhibit a Japanese summer house of their designing, which is a conspicuous feature in the grounds.

Next is a collection of plants staged in Messrs. Boyd's glasshouse by Messrs. M. Campbell & Son, of High Blantyre; amongst Ferns, Palms, Lilies, Pelargoniums, Fuchsias, and Gladioli, the specimens of Physalis Francheti, with their big red bladders, excite the most attention.

There are, of course, many lawns sown with Austin's Lawn Seeds, and containing the well-known notice that they have been cut with Ransome's Lawn Mowers; beds galore, of Dahlias, Rhododendrons, Cannas, Picotees, Carnations, Pelargoniums, Violas, &c.

Messrs. W. & T. Samson, Kilmarnock, have surrounded the Russian section with a neatly arranged border of Conifers, intersected with good blooming Asters.

Messrs. Skinner, Board (F.R.H.S.) & Co., of Bristol, have erected a glasshouse of 40 ft. by 20 ft. by 15 ft. on their patent wire extension system; the light character of this particular system is very advantageous, and will eventually do away with the wooden business.

The Irish pavilion has been surrounded with some good decorative plants sent by the well-known Mr. T. Smith, of Newry, most of his specimens doing credit to the "ould counthrie."

The steep lawns, which run the length of the "Industrial," are kept in order by Shank's Mowers, and this firm is also responsible for the entire lavatory arrangements.

Messrs. Charles Buick & Sons, Alloa, whom we have previously seen exhibiting flower pots at the Belfast show, are here with pots, seed pans, and Fern stands of most pleasing designs.

Mr. A Pollock, Tarbolton, sends a noble array of rustic garden houses, lawn seats, chairs, tables, plant tubs, Palm stands, and flower vases, for which he seems to be getting a ready sale.

Messrs. Smith & Simons, West George Street, Glasgow, have tastefully decorated the undulating lawns on the north side with choice Coniferae.

A magnificent specimen of rockwork has been erected by Messrs Pulham & Son, Finsbury Square, London, and is a source of great commendation even to this well known firm.

Mr. David W. Thomson, Edinburgh, has decorated the northern side with some sweeping beds of Rhododendrons, which caused great interest and satisfaction in the earlier days of the Exhibition; whilst now his beds of Coniferae interspersed with Gladioli and edged with prolific flowers of Viola are a source of much attraction.

Messrs. Austin & McAslan, Mitchell Street, Glas-

gow, also have some grand beds of Hollies, Acers, and Ivies.

Messrs. A. & J. Main & Co., Ltd, Glasgow, have made a most valuable honorary exhibit in the shape of iron railings round all enclosures.

Messrs. Cunningham, Fraser & Co., Comely Bank Nurseries, Edinburgh, have also helped very effectively to decorate the grounds with Rhododendrons, Hollies, &c.

The general arrangements of the beds and lawns reflect great credit on the skilful landscape gardener who carried them through, Mr. Whitton, we believe.

As an extra attraction to the International Exhibition, the executive have added a two days' flower show. This is a great success, drawing valuable exhibits from some of the best English, Irish, and Scotch horticulturists. A considerable stretch of canvas covering an area of 30,000 ft. and divided into four tents, with about 15,000 ft. of staging, has been specially erected. The entries have far exceeded expectations with the result that the committee have been obliged to make use of the French Pavilion to stage a quantity of the British plants.

Some further idea of the magnitude of the show may be conveyed by mention of the fact that fifteen judges have been engaged, though the show is limited to plants and flowers.

Exhibits not for Competition.

Prominently placed is the collection of plants from Messrs. James Veitch & Sons, Ltd., Chelsea, London. Of course their exhibit attracts the usual attention. It comprises fifteen varieties of Crotons, of which Prince of Wales and Warrenii are amongst the best; fifteen var. Dracaenas, Goldieana, Doucetti, lentiginosa, and lineata variegata ranking high; Alocasias —Sanderlana, Argyrea, Martin Cahuzac and Watsonii; Anthuriums, Aralias, the grand Acalypha Macafeeana, Cocos weddeliana, Caladiums in variety, Ficus, Marantas, six Nepenthes of different strains, Java hybrid Rhododendrons, and many other plants. The arrangement of the group under the skilful direction of Mr. Heal left no desire ungratified.

Messrs. Hugh Low & Co., Bush Hill Park, Middlesex, make a good display of their first-class Cocos, Phoenix, Ericas and Crotons with some good forms of Cattleya gigas, C. Harrisoniae and C. Leopoldi, two rich forms of Oncidium Mantonii, four splendid specimens of Dracaena Doucettii, with some rare Nepenthes. The whole were arranged by Mr. Heaton Nichols in the form which meets with such approval in England.

Messrs. J. Hill & Son, Barrowfield Nurseries, Edmonton, have sent a collection of their fine Ferns, the like of which have probably never before been seen in Glasgow. It comprises Adiantum Bausei, Capillus-Veneris imbricatum, bessonianum, Davallia tenuifolia Veitchii, alpina, foeniculacea, fijiensis, elegans, and many other varieties. Tree ferns in number, including Cibotium Scheidii, Platycerium grande, Willinckii and aethiopicum, with several Polypodiums and Gymnogrammes, Nephrolepis, &c.

Messrs. Wallace & Co., Kilnfield Gardens, Colchester, make a display of their famous Lilies, with some specimen Gladiolus and a few Galliardias.

Messrs. Thos. S. Ware, Ltd., Feltham, Middlesex, stage a good collection of Begonias from their Bexley Heath Nurseries, the most meritorious being Mrs. Andrew Tweedie, Queen Alexandra, Mrs. James Portbury, Mrs. S. Pope, Mr. Samuel Pope, Lord Rosebery, Prince of Wales, Miss Alice Tait, Princess of Wales, Duke of York, Lady White and Sir Thomas Acland.

Messrs. Laing & Mather make a small display of golden Privets and seedling Carnations.

Messrs. Brown Bros., Uddingston, show Carnations and Violas.

Mr. John Forbes, Hawick, has a grand array of Cactus Dahlias, Carnations and his Begonia Caledonia backed by some well-grown hardy flowers.

Mr. Henry Eckford, Wem, has Sweet Peas well in evidence.

Mr. Amos Perry, Winchmore Hill, has a long stretch of tanks containing choice Water Lilies in thirty-five varieties with a bank of herbaceous flowers.

Mr. Charles Irvine, Jedburgh, gives a good array of Phloxes and Pentstemons.

Edwardian Ware is shown in style by Mr. Edwards, of Arnold.

Mr. A. Lister, Rothesay, exhibits Dahlias, Violas Sweet Peas, &c.

Hobbies, Ltd., Dereham, have grand forms of Dahlias very tastefully arranged.

Messrs. Dobbie & Co., Rothesay, also exhibit splendid specimen Dahlias.

Pure Ichthemic Guano contributes a tasty table of plants.

Messrs. Austin & McAslan, Glasgow, make a very fine arranged group of foliage and flowering plants.

Messrs. Smith & Simons, Glasgow, send another group consisting of Palms, Crotons and Lilies.

The Ichthemic Guano, Ipswich, make their tins of specialities look somewhat inviting by a surrounding of Palms and other foliage plants.

Competitive Exhibits.

The sensational event was the £20 prize for a group of plants. There were four entries and required much judging. Mr. John Gault, gardener to Baille Carswell, Pollokshields, was the winner. Mr. Hugh Dickson, Belfast, came second, and Messrs. R. B. Laird & Sons, Edinburgh, third. For group of miscellaneous plants 10 ft. in diameter, Mr. Thomas Hall, William Wood, Kennishead, was first; Mr. Adam King, Millersneuk, Lenzie, being second.

Mr. Alexander Jack, of Roselle, Partick, won first for twelve stove or greenhouse plants, Mr. John O'Neil, 35, Crawford Street, Partick, following close for six stove or greenhouse plants. Mr. Jas. Bishop, Craigdarrock Cove, took first, Mr. John O'Neil again being second. Mr. John Gault was first for four Crotons. Mr. Landsborough, of Beechwood, Bearsden, second. For twelve glasses Carnations or Picotees, Mr. David Walker, Kilmarnock, was first. Mr. Adam Knight was first in the class for four Dracaenas, Mr. Landsborough second, and Mr. Jack, third.

Mr. George Mair, nurseryman, Prestwick, took honours for forty-eight spikes Gladioli in thirty-six varieties, Grand Vainqueur, Thais and Vermilion being the best sorts. Messrs. Harkness & Sons, Bedale, are second, Atlas and Grand Rouge being very good. Mr. J. W. Carnegie, Prestwick, fell third. For twenty-four spikes Gladioli, Mr. J. W. Carnegie stepped to first place, Mr. Adam Brydon is second, and Mr. James Bishop third.

Mr. Jas. Rowatt, of Glassford, rolled in top with twenty-four varieties Pentstemons, Mr. J. Stewart, of Lennoxtown, coming next.

Floral designs proved a great feature, Messrs. Perkins & Sons, Coventry, taking first; Messrs. W. Harley & Sons, 369, Sauchiehall Street, Glasgow, second.

Mr. Adam Knight ranked best for eighteen table plants; Mr. Collin Muir, Westwood, Busby, was second.

Mr. Malcolm Campbell, Gordon Street, Glasgow, was first for six bouquets and six baskets of cut flowers. Messrs. Jones & Sons, Shrewsbury, come second; Mr. John Gault, third. Shower bouquets are good, Messrs. Perkins & Sons taking first, Malcolm Campbell second, and Miss M. Campbell third.

For a collection of Carnations and Picotees, 8 ft. by 6ft., Messrs. Campbell & Son, Blantyre, are first with a good lot, Trojan, The Gift, The Shah, and R. H. Measures being amongst the best. Mr. Whitehead, of Selkirk, is second, Mr. Charles Freeland, of Larkhall, bringing up the rear.

Messrs. Jas. Cocker & Sons, Aberdeen, lead for 24 bunches hardy herbaceous flowers. Mr. Young follows, with Mr. Storrie, of Garngaber, Lenzie, third. Mr. Adam Brydon scores first for twelve bunches cut flowers; Mr. Colin Muir is second, and Mr. Patrick Robinson third. A further account will appear in next week's issue.

READ THIS.

A WEEKLY award of 5s. will be made by the proprietors of THE GARDENING WORLD, to the person who sends *the most interesting or valuable item of news* upon passing events likely to interest horticulturists at large; hints containing suggestive facts of practical interest to gardeners or growers of plants, fruits, or flowers; successful methods of propagating plants usually considered difficult; or *any other topic coming within the sphere of gardening proper.* The articles in question should not exceed 250 words and should be marked "Competition." The address of the winner will be published. The Editor's judgment must be considered final. The communications for each week should be posted not later than *Monday* night.

The prize last week was awarded to Mr. F. Ross, Strathtyrum Gardens, St. Andrews, N.B., for his article on "Freesias," p. 830.

PHOTOGRAPHS OF PLANTS. — The proprietors would be pleased to receive photographs of interesting plants from correspondents with a view to reproduction in THE GARDENING WORLD. They need not necessarily be large ones, but such as would prove interesting and instructive to readers. Those representing *individual* plants would be more acceptable than photographs of *groups*.

QUESTIONS AND ANSWERS.

Increasing a Rare Lime Tree.—*C. F.*: One of the oldest and best methods of increasing the Lime tree is by layers, the operation being performed in autumn and winter. This will be easy enough if your tree is still young, or if some of the branches can readily be brought in contact with the soil. Get some rich light soil containing a fair proportion of leaf mould, and incorporate it with the natural soil, or if that is heavy, take it out to the depth of a foot so as to get the new material on a level with the soil or nearly so. This will economise watering considerably during droughty periods. Next procure some strong wooden pegs, and having made a tongue by an upward cut as in layering a Carnation, proceed to peg down the shoots into the new soil. The peg should be pushed into the ground so as to keep the tongue open. By next autumn the layers will have rooted sufficiently to be removed from the parent tree, and transplanted to nursery lines or planted where they are intended to remain. If you would like to try grafting you should do this in spring, using specimens of the common Lime for stock.

Names of Plants.—*E. C. H. D.*: 1, Lythrum Salicaria rosea; 2, Mentha arvensis.—*Marks*: 1, Rudbeckia purpurea; 2, Sedum Rhodiola; 3, Sedum Telephium; 4, Helenium grandicephalum striatum; 5, Verbascum nigrum; 6, Linaria repens alba.—*D. D.*: 1, Galtonia candicans; 2, Cuphea platycentra; 3, Lythrum Salicaria; 4, Epilobium angustifolium album; 5, Digitalis ambigua.—*E. C. H. D.*: 1, Matricaria inodora; 2, Anthemis Cotula; 3, Fumaria capreolata Borraei; 4, Gnaphalium uliginosum; 5, Oenothera biennis; 6, Ruta graveolens.—*E. D. M.*: 1, Hedysarum multijugum; 2, Buddleia globosa; 3, Lobelia splendens; 4, Lobelia cardinalis.

Renovating a Lawn.—*Tomas*: If the bare portions are neither very numerous nor very large the method you propose will answer very well; but we should break up the surface with a fork before adding the fresh material. The latter should be spread evenly over the existing grass as well, but not to a depth that will bury the grass, otherwise that will get destroyed in part or wholly. On the other hand if much of the ground is bare it seems to us that a better plan would be to renew the whole by seed sowing. In such a case it should be dug equally all over to the depth of a foot, breaking it up finely with the spade and removing the roots of bad weeds. Apply the fresh soil to the surface, tread or roll it all evenly, and finally make it perfectly level with the rake. The ground will then be ready to sow during September on the advent of showery weather. The warmth of the soil will assist germination and encourage good growth before winter.

What is the Wireworm?—*E.C H.D.*: What you have been told is quite correct. The so-called wireworm is the larva of a beetle, or in other words wireworms are the larvae or grubs of certain beetles, belonging to several allied genera and numbering about seventy species. Some are rare, while many do not feed on the roots of cultivated plants. The most common and destructive are Elater lineatus, E. sputator, E. obscurus, and Athous haemorrhoidalis.

Communications Received. — Henry Heath. — C. B. G.—J. Peed & Son.—R. Wallace & Co.—J. Veitch & Sons.—J. Carter & Co.—Dickson's, Ltd.—Hogg & Robertson.—D. W. Thomson.—Webb & Sons.—F. A. C.—H. D.—E. M.—R. S.—D. W.

TRADE CATALOGUES RECEIVED.

FISHER, SON & SIBRAY, LTD., Royal Nurseries, Handsworth, near Sheffield.—Catalogue of Bulbs and Flower Roots.

HARLAN P. KELSEY, Tremont Building, Boston, Massachusetts, U.S.A. — Stuartia pentagyna and Cypripedium spectabile.

JOHN RUSSELL, Richmond Nurseries, Richmond, Surrey.—John Russell's Bulb Catalogue.

HOGG & ROBERTSON, The Royal Seedsmen, 22, Mary Street, Dublin. — Robertson's Irish Grown Bulbs.

ALEXANDER CROSS & SONS, LTD., 19, Hope Street, Glasgow. —Choice Flowering Roots; also List of Horticultural Fertilisers and Fumigants.

ED. WEBB & SONS, The Royal Seed Establishment, Wordsley, Stourbridge.—Webbs' Bulb Catalogue for 1901.

FRANK DICKS & Co., 66, Deansgate, Manchester. —Bulb Catalogue.